

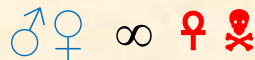
Gestalt Genesis

—

Day Million

From an Atari 1040ST to a Windows 10 PC
A Holistic Intellectual Sandbox
Game of Interstellar Civilization

*An Adult Literary Game
for the Deep Blue of Civilization*



***The most fundamental function of civilization
is the creation and control of its own reality.
Nothing is more important.***

By Charles W. Phillips (*Nemo/Necuno*)
A Tendentious Pedant

Plato: Allegory of the Cave Book VII, Republic

[Socrates:] And now, I said, let me show in a figure how far our nature is enlightened or unenlightened: --Behold! human beings living in a underground den, which has a mouth open towards the light and reaching all along the den; here they have been from their childhood, and have their legs and necks chained so that they cannot move, and can only see before them, being prevented by the chains from turning round their heads. Above and behind them a fire is blazing at a distance, and between the fire and the prisoners there is a raised way; and you will see, if you look, a low wall built along the way, like the screen which marionette players have in front of them, over which they show the puppets.

[Glaucou:] I see.

And do you see, I said, men passing along the wall carrying all sorts of vessels, and statues and figures of animals made of wood and stone and various materials, which appear over the wall? Some of them are talking, others silent.

You have shown me a strange image, and they are strange prisoners.

Like ourselves, I replied; and they see only their own shadows, or the shadows of one another, which the fire throws on the opposite wall of the cave?

True, he said; how could they see anything but the shadows if they were never allowed to move their heads?

And of the objects which are being carried in like manner they would only see the shadows?

Yes, he said.

And if they were able to converse with one another, would they not suppose that they were naming what was actually before them?

Very true.

And suppose further that the prison had an echo which came from the other side, would they not be sure to fancy when one of the passers-by spoke that the voice which they heard came from the passing shadow?

No question, he replied.

To them, I said, the truth would be literally nothing but the shadows of the images.

That is certain.

Ten Aspects of GestaltGenesis-DayMillion

On the immediate surface, GestaltGenesis-DayMillion (“GGDM”) is a big over-complicated internet-based science fiction space game – it’s a sandbox game.

GGDM is also a work of macrosociology, attempting to describe the large structures of civilization.

GGDM is also a conversation about human civilizations – like good literature, GGDM engages the participants in a conversation, rather than passing through or over them.

GGDM is also a peer-to-peer graduate course in the humanities.

GGDM is also an educational tool, providing a platform for people to follow up on the hundreds of subjects mentioned in the game.

GGDM is also a personal journey from the Cold War to the Post Millennial world.

GGDM is the adult table of civilization.

GGDM is a magnum opus by default, an obsession, a lifetime conversation.

GGDM is for the future, not about the here and exactly now, but living in the twilight zone between the present and where we need to go.

GGDM is emergent.

“Well the one thing I would say – and I say this to people – I never realized how big it was. Everything’s so (unintelligible) like, you know the orders are so massive.... This is involving death and life and so many things. ... So it’s far more responsibility. (unintelligible) The financial cost of everything is so massive, every agency. This is thousands of times bigger, the United States, than the biggest company in the world. The second-largest company in the world is the Defense Department. The third-largest company in the world is Social Security. The fourth-largest – you know, you go down the list.... It’s massive. And every agency is, like, bigger than any company. So you know, I really just see the bigness of it all, but also the responsibility. And the human responsibility. You know, the human life that’s involved in some of the decisions.”

– Transcript of AP Interview with President Donald Trump, April 23, 2017 ¹

History: Almost all of the major problems of early 21st Century United States trace back to the first half of the 20th Century. Although that should be obvious by now, it is always worth thinking about the ripple effects of history and unintended consequences.

The Prohibition on Alcohol in the United States, by way of the 18th Amendment to the Constitution passed on December 3, 1917 (taking effect on January 16, 1920, repealed December 5, 1933), came about as a result of a late 19th Century religious revival that developed into a very vocal and determined minority who democratically stormed the legislatures. The Prohibition (and the minority behind it) clashed with established and deeply rooted Western male traditions of cigarette smoking and alcohol consumption. The result was the development of the heavily armed gangsters of the Prohibition; the Prohibition created the modern form of organized crime in America. When alcohol was no longer prohibited, the illegal drug trade took over.²

The stock market crash on Black Monday (October 29, 1929), the result of irresponsible lending practices by the banks and run-away speculation in the stock market, led to two different effects which are still with us today. To prevent any further market crashes of the same type, the government determined to regulate Wall Street and created the SEC and the brokerage industry has been forced to create a trade organization as well, to self-regulate (i.e. NASD/FINRA). Banks also needed regulation by the government. Today, Wall Street and bank regulation, as well as financial abuses and scandals, continue to be regular news and a hot item for debate separating conservatives and liberals.

The other effect of Black Monday was the destroy the American myth of economic independence; millions of workers, living payday to payday, suddenly became unemployed and sunk to poverty as a result of actions and events of which they never knew and had no control. Charities, the traditional safety net, were overwhelmed. The government therefore, decided that it would henceforth provide social safety nets, taxpayer funded, and this is the origin of public welfare programs, Social Security Benefits, and most of the ‘entitlements’ that consume a large part of the Federal Budget. Once the safety nets were installed, they could not be removed even in prosperity, in fact, they were expanded by later politicians, and costs have spiraled upward. In early 21st Century, across the world, and especially in the United States, the social safety net, entitlements, remain one of the most contentious and paralyzing policy debates.

Historical coincidences?: In 1868 in Japan, the Meiji Restoration of the Emperor brought an end to the Shogunate and embraced Western technology after Commodore Perry's Expeditions (followed by the European powers) forced Japan to end two-and-a half centuries of isolation. In 1871, after defeating the French in the Franco-Prussian War, Wilhelm I declared himself Emperor of Germany, converting a federation of states into an Empire, creating the Second Reich. Both of these events, less than three years apart and half a globe away, were very important in the hindsight of WWII, and generally, of WWI and the early 20th Century. If China is (and should be) included, the defeat of China in the Second Opium War in 1860 (which was known in Japan) and the storming of Beijing is the third major 19th Century event of import to the early 20th Century.

The history of the first half of a century is set in motion in the middle-latter half of the previous century; what events of the late 20th Century will dictate the history of the millenniums? And so it will be in GGDM, every decision sets the history for many turns hence.

“The path that leads to Truth is littered with the bodies of the ignorant.”

– Miyamoto Musashi

¹ Citation: “Yet this style, if the underlying subject matter be not comprehended and mastered by the speaker, must inevitably be of no account or even become the sport of universal derision. For what so effectually proclaims the madman as the hollow thunder of words – be they never so choice and resplendent – which have no thought or knowledge behind them?” [Cicero reporting the words of Lucius Crassus as repeated to him by Gaius Cotta, meaning it might just as well be fiction, probably is, but the point is still worthy and well-made] – Marcus Tullius Cicero, *Of Oratory* (55 B.C.), Bk. 1 (trans. E. W. Sutton and H. Rackham) from Patricia Bizzell and Bruce Herzberg, The Rhetorical Tradition (1990), p. 207.

² Commentary: See for example, references to this in the original 1972 Godfather movie to the new wave of organized crime.

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2112 Absurd Words

“The brain has evolved from the inside out. Deep inside is the oldest part, the so-called brain stem. It conducts many of the basic biological functions including the rhythms of life like heartbeat and respiration. The higher functions of the brain have evolved in three successive stages according to a provocative insight by the American biologist Paul MacLean. You see, capping the brain stem is the so-called R-complex, “R” for reptile. It’s the seat of aggression, ritual, territoriality and social hierarchies. It evolved some hundreds of millions of years ago in our reptilian ancestors....

*Surrounding the R-complex is the limbic system or mammal brain. It evolved some tens of millions of years ago in ancestors who were mammals all right but not yet primates like monkeys or apes. It’s a major source of our moods and emotions, our concern and care for the young. And then, finally, on the outside of the brain **living in a kind of uneasy truce with the more primitive brains beneath, is the cerebral cortex** evolved millions of years ago in ancestors who were primates. This is the point of embarkation for all our cosmic journeys.*

The cerebral cortex where matter is transformed into consciousness. Here, comprising more than two-thirds of the brain mass is the realm both of intuition and of critical analysis. It’s here that we have ideas and inspirations. Here that we read and write. Here that we do mathematics and music. The cortex regulates our conscious lives. It is the distinction of our species the seat of our humanity. Art and science live here. Civilization is a product of the cerebral cortex.” – Carl Sagan, Cosmos, Episode 11 (emphasis added)

Having worked through a full final edit of the rules, I admit that reading the rules to GGDM might be a tedious exercise and the fullness of GGDM might be overwhelming. I even admit that I am tired of working on it, and mentally exhausted from the sustained push to the finish. It is not likely that anyone will actually ever play this game; in this at least, I have failed miserably as a game designer, if one assumes that games are made to be played. And this is one reason why I am charging for the game exactly what it is worth; nothing.¹ What, if anything, I have succeeded in doing here, remains to be seen. There may be something special here, but more likely, it is complete mediocrity and the project’s intellectual horizons, old news to the *avant garde*.²

I have to admit that what I am doing is massively complex. I sometimes forget that because I have been doing it for so long; the final edit process has revealed to me that even I have sometimes forgotten or misremembered details of procedures and parts of the rules, or where I put specific quotes, references or commentaries (thank goodness for word search!). The final edit process brought me back to the full, completeness, and holistic complexity of GGDM. I can only now imagine the hill that players must climb to play GGDM.

This is probably a good place to remember Thorngate’s Postulate of Consumerate Complexity: “*It is impossible for a theory of social behaviour to be simultaneously general, simple or parsimonious, and accurate.*” (Warren Thorngate, University of Alberta, Canada, 1976).

“The existence of Evil is no perplexity to [Aristotle’s] soul; it is accepted as a simple fact. Instead of being troubled by it, saddened by it, he quietly explains it as the consequence of Nature not having correctly written her meaning. This mystery which has darkened so many sensitive meditative minds with anguish he considered to be only bad orthography.” – George Henry Lewes

The final version of GGDM represents a youth of thinking and writing through evolving cycles of this project (but you get to read it in a few hours). It occurred to me in the last couple of years that if I were to lose the files, any or all, constituting GGDM before it is published in final form, I would not be able to start over again; it would be the end of my life, essentially.

There is a risk in taking a lifetime – whether or not I intended to do so – to complete an intellectual project; there were – and still are – many possibilities every day that could have sent or could send this entire work into the void. It is amazing that I was able to preserve the work from one computer file format to another unbroken for over a quarter century; in this, it is a point to ponder how many inchoate works (both potentially great or probably not so great) have been lost to humanity since the beginning. I have been very fortunate to live in the stability and wealth of the United States in this time and place; many others do not have the opportunity I have been given to write a work spanning a lifetime. As Yamamoto Tsunetomo stated regarding the famed Forty-seven Ronin (aka, the Ako Vendetta): “By thinking that you must complete the job you will run out of time.”

One of my main struggles over the years is deciding what sort of thing I am writing; what sort of thing is GGDM? Is it a game, a philosophical work, a work of macro-sociology, a theory of humanity, a metaphysics, a warning, a simulation, what is the point? It’s kind of vague, GGDM manages to be all of those sometimes, possibly intriguing, but probably convincing as nothing. The one sort of thing that I know that GGDM is not: GGDM is not a very good argument, does not make a very good argument in any formal or empirical sense. The best argument of GGDM is a weak, sort of fuzzy argument, a sort of metaphysical macro-social mush – on a sunny afternoon, there might be a few vaguely interesting ideas if it matters at all – and I have to avoid trying to make GGDM into a convincing argument or it will never finish.

The reader may feel that GGDM is engaged in a constant assault on their intellect. In this, I am unapologetic: Any education or experience is always an assault on our current and previous selves.

*“Where do we go from here, now that all of the children have grown up
And how do we spend our time, know’n no one gives us a damn”*

– Alan Parsons Project, “Games People Play” (1981) ³

Although I agree with Carl Sagan’s statements on most things – he is omnipresent in GGDM, and I admire his casual eloquence, he and I are very different creatures. Mr. Sagan viewed the universe with wide-eyed wonder, projected optimism, and was apparently very stung by the criticisms of his colleagues for his speculations and his popularity with the public. Mr. Sagan’s deep awe at cosmic evolution and optimism for humanity seem to me like the time of our youth when

we didn't know that our parents told us white lies, that history was sugar coated, and that the preacher at church really didn't know anything about God, or much else.

The one important point that Carl Sagan never seems to understand in all of his musings – or would never admit on television or in print if he did – is that the universe is not a wondrous playground for human intellect, rather it is a prison into which we are born without our consent (as are all other creatures on Earth, except that we happen to be – we think – more sapient than other species on Earth; that would be an amusing inquiry or absurdist bit of fiction to explore: Why would anyone consent to being born?). Some of our science now suggests that we live in a sort of hologram, which if true, is but a shadow of some other reality, thank you Plato! The universe is not our friend, if anything it simply annoys and alienates us; this is not to say that there is some higher being or malicious intent (sorry Descartes), very likely, it's just bad consequence.

Humans have always seemed to sense that there is something wrong with this universe, or that we are wrong for this universe, this sense has become more pronounced in modern times.⁴ Can you feel it, the cognitive dissonance of our existence *hic et nunc*? Do you think it inconceivable that something should evolve or occur naturally that is hostile to or wrong for the environment in which it occurs?⁵ What is cancer? Perhaps if you believe there must be a balance to things in the universe – and there is some circumstantial and anecdotal evidence to this point – then GGDM is part of the ontological balancing of Carl Sagan.

My relationship to the universe, and to humanity, is doubtless passive-aggressive – with a galactic negativity bias, and the more I work on GGDM, the less I care what anyone thinks of it. Thus, in the end, it appears that I am really writing GGDM for myself and that has always been the truth of it, probably for all writers. Burro Schmidt probably felt the same way. I won't have to worry about popularity. I have expressed my thoughts to the best of my ability, ground the arguments to the finest points, combed and curled the words, like any of the esteemed essayist and scholars of the past and time will tell in what sense, if any, they are correct, or useful, or they will be discarded and forgotten. Mr. Sagan would appreciate this idea at least. Most likely, "I have plowed the sea."⁶

This work isn't about today; I will pass, gladly so, into the nothing. My life is an absurdism, my youth gone, GGDM is all that remains to be finished. When the howling of today's critics abates, there will be the silence of centuries; the existential void.

"How much science fiction is being published now that's set in worlds that are better than ours? Not that have bigger shopping malls or faster space ships, but where the characters are morally superior, where the society works better, is more just? Not many. It becomes difficult to do it, and that's a feedback relationship with what's happening in the culture, with science fiction being the minor note. People don't credit it anymore! Not just better gizmos and more virtual reality gear, but better societies. People don't believe the future will be a better place. And that is very scary."

– Norman Spinrad, "Norman Spinrad: The Transformation Crisis," *Locus Magazine*, February 1999 ⁷

¹ Commentary: I may be the Uwe Boll of game design: I make other game designers, bad or otherwise, feel better about themselves that at least they didn't design GGDM. My response to criticism will be much different, however.

² Commentary: Consider, for example, that I was not aware of Edward Soja until early 2018. Could there be a more compelling fact of my intellectual ignorance?

³ Commentary: I was reminded of this song while watching the Pixar classic short, "Geri's Game." I was obsessed with this song as a young teen, in 1981-1982, I was reading Asimov's Foundation Trilogy, and this song remains associated in my mind with the Foundation books and Hari Seldon's psychohistory. I was in some sense, old, when I was young. But I am not young when I am old. It doesn't work that way, except for the Ancient One.

⁴ Citation: See Aldiss discussion of Toynbee, 2 Patents.

⁵ Commentary: For those who are wondering at this point about my mental health, I simply don't care; what matters only is that you understand this point. The college-educated reader will begin arguing about social supports and coping mechanisms to help the individual handle the petty annoyances of daily life. But all of that is irrelevant to this particular issue with the universe: Why would one need brakes if there is no need to stop? The need for brakes is indicative of the underlying problem – that is, that you need to stop, just as the fact that humans need social supports and coping mechanisms to deal with the daily stupidity quotient of the universe is indicative of the underlying problem – that our sapience has a metaphysical or cognitive dissonance with the universe in which we came to be.

⁶ Citation: Simon Bolivar.

⁷ Commentary: GGDM is not utopian – score one for understatement! Survival instinct of small furry mammals evolved into sapience magnifies to negativity bias, the defining mark of humanity. We wonder about the person who is smiling all the time. It seems logical that this would be true on any planet where life evolved to predators and sapience. One of the ideals of human utopian fiction is serene happiness from certainty of meaning.

EXODUS 20

AND GOD SPAKE ALL THESE WORDS, SAYING...

THOU SHALT NOT KILL.

**AND MOSES SAID UNTO GOD, COULD YOU REPEAT THAT MORE SLOWLY, FOR I AM BUT A SQ
+13?**

AND GOD SAID UNTO MOSES,

THOU SHALT NOT COMMIT ADULTERY.

**AND MOSES SAID UNTO GOD, I THINK YOU ARE BREAKING UP, YOU ARE LOSING ME,
CAN YOU REPEAT MORE SLOWLY FOR I AM BUT A SQ +13...¹**

AND GOD SAID UNTO MOSES,

THOU SHALT NOT STEAL...

**AND THE PEOPLE STOOD AFAR OFF, AND MOSES DREW NEAR UNTO THE
THICK DARKNESS WHERE GOD WAS.**

¹ Commentary: For human purposes, God does not need to be “a SQ +50 Superbeing,” rather, as Robert Freitas points out, “messages transmitted across an SQ gap of 10 points or more cannot be very meaningful.”

SHARD: I. Prime Mover

Jupiter, Neptune, Minerva, and Momus

ACCORDING to an ancient legend, the first man was made by Jupiter, the first bull by Neptune, and the first house by Minerva. On the completion of their labors, a dispute arose as to which had made the most perfect work. They agreed to appoint Momus as judge, and to abide by his decision. Momus, however, being very envious of the handicraft of each, found fault with all. He first blamed the work of Neptune because he had not made the horns of the bull below his eyes, so he might better see where to strike. He then condemned the work of Jupiter, because he had not placed the heart of man on the outside, that everyone might read the thoughts of the evil disposed and take precautions against the intended mischief. And, lastly, he inveighed against Minerva because she had not contrived iron wheels in the foundation of her house, so its inhabitants might more easily remove if a neighbor proved unpleasant. Jupiter, indignant at such inveterate faultfinding, drove him from his office of judge, and expelled him from the mansions of Olympus.

Translated by George Fyler Townsend. Aesop's Fables (p. 71). Amazon Digital Services, Inc..

The Miser

A MISER sold all that he had and bought a lump of gold, which he buried in a hole in the ground by the side of an old wall and went to look at daily. One of his workmen observed his frequent visits to the spot and decided to watch his movements. He soon discovered the secret of the hidden treasure, and digging down, came to the lump of gold, and stole it. The Miser, on his next visit, found the hole empty and began to tear his hair and to make loud lamentations. A neighbor, seeing him overcome with grief and learning the cause, said, "Pray do not grieve so; but go and take a stone, and place it in the hole, and fancy that the gold is still lying there. It will do you quite the same service; for when the gold was there, you had it not, as you did not make the slightest use of it."

Translated by George Fyler Townsend. Aesop's Fables (p. 23). Amazon Digital Services, Inc.

The Lion and the Bull

A LION, greatly desiring to capture a Bull, and yet afraid to attack him on account of his great size, resorted to a trick to ensure his destruction. He approached the Bull and said, "I have slain a fine sheep, my friend; and if you will come home and partake of him with me, I shall be delighted to have your company." The Lion said this in the hope that, as the Bull was in the act of reclining to eat, he might attack him to advantage, and make his meal on him. The Bull, on approaching the Lion's den, saw the huge spits and giant caldrons, and no sign whatever of the sheep, and, without saying a word, quietly took his departure. The Lion inquired why he went off so abruptly without a word of salutation to his host, who had not given him any cause for offense. "I have reasons enough," said the Bull. "I see no indication whatever of your having slaughtered a sheep, while I do see very plainly every preparation for your dining on a bull."

Translated by George Fyler Townsend. Aesop's Fables (pp. 62-63). Amazon Digital Services, Inc.

The Charcoal-Burner and the Fuller

A CHARCOAL-BURNER carried on his trade in his own house. One day he met a friend, a Fuller, and entreated him to come and live with him, saying that they should be far better neighbors and that their housekeeping expenses would be lessened. The Fuller replied, "The arrangement is impossible as far as I am concerned, for whatever I should whiten, you would immediately blacken again with your charcoal." Like will draw like.

Translated by George Fyler Townsend. Aesop's Fables (p. 16). Amazon Digital Services, Inc.

Excerpts from Joseph P. Laycock, Dangerous Games: What the Moral Panic over Role-Playing Games Says about Play, Religion, and Imagined Worlds (2015), pp. 218-219, 220-221, 239-240

As [Brandon] Cooke points out, any model or symbolic order by which one might make sense of the world – including language – begins with the imagination. There can be no mental concept of evil unless it is first imagined. This is a problem for authors like Larson, Brown, and Schnoebele whose theology and politics are firmly located in “the religion of fear.” Religious literature attacking role-playing games is often festooned with pentagrams and descriptions of human sacrifice. By the theology these critics employ, the artist who created the comic strip *Dark Dungeons* was actively engaged in Satanic occultism. An artist could draw the evil Ms. Frost – the teacher, dungeon master, and priestess of Diana – only if he encountered a demonic force in the spiritual realm, visualizing it well enough to give it material form through his art.

For this reason, more mainstream Christian critics of D&D concede that it is acceptable to imagine evil in at least some circumstances. In a more nuanced Christian critique of D&D, Presbyterian theologians Peter Leithart and George Grant ask whether a Christian actor can play Iago or Mephistopheles. Much like Plato, they conclude that mimicking evil is acceptable for educational purposes, but discourage fictional narratives that appear to celebrate corruption. This leads to a more sensible discussion of what kinds of fantastic narratives might be acceptable. Most, but not all, Christians who oppose fantasy role-playing games approve of Lewis, Tolkien, and even traditional fairy tales. The original version of Jack Chick’s tract *Dark Dungeons* contained a footnote to the text in which the preacher urges the congregation to go home and burn D&D books and any other occult books. The footnote read: “Including C.S. Lewis and Tolkien, both of which can be found in occult bookstores.” However, current versions of the tract contain no such reference. It is easy to see how a conservative evangelical like Jack Chick would assume that if D&D is Satanic, then Lewis and Tolkien must be Satanic as well. And yet most anti-D&D crusaders praise these writers. Leithart and Grant urge their readers to fill their homes with Lewis and Tolkien as well as Shakespeare, Milton and Chaucer. The arguments of moderates, who advocate Tolkien and Lewis while condemning fantasy role playing games, are more revealing than those of religious critics who condemn all fantasy as demonic. Moderate religious critics struggle to articulate why wizards, magic and demonic antagonist are acceptable in some fantasy narratives but not in others. The reasons they cite are inconsistent, suggesting the presence of hidden fears and desires underlying their suspicion of the imagination.

The erotics of fear are apparent in these critiques. Leithart and Grant as well as Abanes clearly *enjoy* fantasy. In fact, all of these critics must be drawn to fantasy at some level or they would direct their energy toward other issues. And yet fantasy is somehow inherently threatening. The real threat of fantasy is not that it depicts evil as triumphant or that slight variations in the portrayal of magic will lure audiences into demonic occultism. Fantasy is threatening because it provides a means of “beyonding.” The imaginary worlds of fantasy novels and role playing games allow audiences to mentally step outside their own worldview and look back on it. Not only does this kind of agency threaten the power of hegemonic movements; it also inspires doubts in the moral entrepreneurs themselves. As Jason Bivins wrote, “The religion of fear’s most pressing concern is that the monster may lurk within as well as without.” For these reasons, the door to fantasy can be safely opened only if it is certain that the other side is still thoroughly Christian. However, to simply state that fantasy is dangerous because it leads to critical thinking would reveal the presence of hegemony and thereby undermine it. The arguments presented by Ankerberg, Weldon, Leithart, Grant, and Abanes serve as cover to conceal the mechanisms of hegemony as well as their own doubts about how indulging in their love of fantasy might challenge their faith.

To truly prevent the beyonding effect of fiction, it is necessary to claim that the imaginary worlds are not, in fact, imaginary but another part of reality. The moral panic over role-playing games employed a hermeneutic of fantasy that framed imaginary worlds not only as real but as part of a demonic threat. This a hermeneutic has a long genealogy in the West dating back to at least the Puritans.

Christian critics have sometimes taken the position that the imagination is inherently heretical because “reality” is an expression of God’s will, and therefore imagining any alternative reality is an attempt to rebel against God’s plan. In the 1980s, moral entrepreneurs were fond of quoting “John,” the gamer interviewed for an article in *New West*. John was quoted as saying: “The more I play D&D, the more I want to get away from this world. The whole thing is getting very bad.” Leithart and Grant commented on this quote: “In a very dramatic way, D&D reinforced John’s hatred for life as ordered and given by God.” This is a peculiar comment for Christian theologians to make. Longing for a better world is arguably the essence of Christianity. Traditionally, Christianity has regarded the world as fallen to sin and fundamentally flawed. What is really at stake here is not proper reverence for God but control. Or rather, submission to the hegemony has become synonymous with submission to god.

Leithart and Grant go on to write:

In summary, Scripture encourages leisure, play and even role-playing though always within the limits of moral Law. In the context of these standards, however, our imaginations find true freedom. Like the sheep to which the Scripture so often compares us, our freest play is within the fold. Outside, there is only bondage of fear that allows for no real leisure.

For all of their condemnation of modernity, the claim that reality is ipso facto God’s plan for us is a modernist theology. It has far more in common with the Enlightenment philosophy of Gottfried Leibniz, who argued that this must be the “best of all possible worlds,” than with the theodicy of Augustine, who believed that evil exists because while God is incorruptible, his creation is not. The strange theology suggested here appears to be simply a means of attacking the autonomy that role-playing provides. Here role-playing is condemned precisely because it entails a kind of freedom that Leithart and Grant regard as heretical. Anyone who has read George Orwell’s *1984* will recognize their claim that freedom is actually bondage. Hegemonic rhetoric often presents propositions that are logical contradictions.

Others who have analyzed the panic over role-playing games have reached similar conclusions. Daniel Mackay, drawing on the work of Roland Barthes, notes that role-playing games are potentially threatening to the social order:

Perhaps this is why much of the hostility and aggression against role-playing games in the United States has come from the religious right, which accuses role-playing games of being avenues to satanic worship and occult practices. The religious right is really at war with an alternative social world in which “men give meaning to things.”

Isaac Bonewitz in the preface to *Authentic Thaumaturgy*, his book on realistic occultism in fantasy role-playing games, identifies role-playing as a dire threat to hegemony and the religious right:

Obviously, a hobby that teaches young people how “reality” is a socially constructed concept, that many people have had different religious and magical ideas over millennia, that one faith’s demons are another faith’s deities, and that anyone can easily invent their own religion (complete with “infallible” scriptures), is going to be a direct threat to wealthy and powerful men who would rather not let such “dangerous” knowledge spread.

The preacher's kids and their friends will, of course, continue to read and play fantasy games whenever their parents aren't looking. Perhaps when enough young people have learned the tolerance, flexibility and creativity that becoming a good game player requires, the Greyfaces who've built their empires of anger, hatred and fear, will finally fall – and the real Illuminati will be able to rejoice!

Bonewitz' tone is gleeful and almost messianic. However, his advocacy of playing role-playing games as a form of resistance to hegemony is not very different from Gramsci's advocacy of learning Latin.

As the font of new possibilities, the imagination is inherently threatening to those who seek to preserve order and the status quo – whether they are kindergarten teachers, Victorian pedagogues, the religious right, or a Fascist government. However, maintaining order by closing off the secondary worlds of fiction and fantasy comes at a terrible price. Cognitive scientist now know that the imagination does not weaken children's grasp on the real world but is actually a mechanism through which the world is rendered sensible. If we abandon our capacity to create new worlds, other capacities are diminished as well. Our facilities for reason, art, and abstract thought of all kinds begin with our ability to step outside the world as it is given to us and discover it anew. A Christian like Tolkien would argue this is not a heretical faculty but our divine right as subcreators.

- **Commentary:** It seems *almost* beyond imagination now that there was such a public brouhaha over fantasy role-playing games in the 1980s and into the early 1990s (but no fundamentalist objection apparently to military miniatures games, board wargames, and games like Monopoly, Easy Money, etc.). According to the pundits, Dungeons & Dragons (“D&D”) was the end of American youth, an existential threat to the future of the country, and/or a sign of the end of times. I had a subscription to Dragon Magazine for a couple of years starting in 1990 and also bought some older issues to add to my collection; all together, I have about 50+ hard copies stretching from #113 to #213, plus a few others. Additionally, all of the issues of Dragon Magazine are available for free in PDF on annarchive.com. In those days, Dragon Magazine regularly included arguments about “Christian gaming,” and especially the controversy over TSR's poor decision to remove demons, devils and angels (or rather, to rename them) from AD&D 2nd Edition. Oddly, there are two specific situations that I remember from Dragon Magazine that I cannot now locate:
 - ✓ An editorial or article where TSR belatedly admitted “we caved in” to pressure from religious fundamentalist who would never buy or read D&D books and that they had betrayed the paying customers who bought their books, who have no problem with demons, devils and angels in the game, and who constitute the player base of D&D.
 - ✓ A public response to a letter allegedly sent by religious high school students asking the editors questions about D&D as if D&D were a religion. The ruse was transparent; they were trying to bait the editors of Dragon Magazine (an organ of TSR) to say things in response that could be used against D&D (or construed as satanic or occult). The editors saw through it and took the high road, pointing out the purposes of education and encouraging the students to do research.

I spent a couple of days looking for these articles, but it seems as if they occurred in an alternate reality. But in the process, I located the text excerpted above, which excellently reprises the situation; noting however, that the outline or form of the arguments offered by Mr. Laycock are the same as those previously used against religious injunction or repression of sexual activities and carnal desires (even within a marital relationship): conspiratorially suggesting that the clergy or “moral entrepreneurs” were secretly terrified of their own sexuality and carnal desires, and desired to deprive everyone else of the same, and that doing so was a means of establishing socio-moral control and hegemony over society, gaining for them political power and wealth. Such arguments are difficult either to prove or to dismiss entirely, and so remain, especially in light of the Church's recent (and long history of) scandals.

On the other hand, the religious right didn't do themselves any favors arguing over D&D, they came out looking like fools. If Nick Spencer's assertions are correct, the brouhaha over D&D played significantly into the cause of modern atheism rather than bringing more people, especially youth, to the church. The religious right does not seem to have learned from the experience, they just find another boogiemán.

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“To bake an apple pie, you must first invent the universe.” – Carl Sagan

“The Cosmos is all that is or ever was or ever will be. Our feeblest contemplations of the Cosmos stir us – there is a tingling in the spine, a catch in the voice, a faint sensation as if a distant memory, of falling from a height. We know we are approaching the greatest of mysteries... The size and age of the Cosmos are beyond ordinary human understanding. Lost somewhere between immensity and eternity is our tiny planetary home. In a cosmic perspective, most human concerns seem insignificant, even petty. And yet our species is young and curious and brave and shows much promise. In the last few millennia we have made the most astonishing and unexpected discoveries about the Cosmos and our place within it, explorations that are exhilarating to consider. They remind us that humans have evolved to wonder, that understanding is a joy, that knowledge is prerequisite to survival. I believe our future depends powerfully on how well we understand this Cosmos in which we float like a mote of dust in the morning sky.” – Carl Sagan, Cosmos, p. 4

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Humbug: I don’t know anything about “*there is a tingling in the spine, a catch in the voice, a faint sensation as if a distant memory, of falling from a height*” – maybe when I was young – but when I think about the Cosmos now, I usually get angry, sad, depressed, disgusted, alienated. Mr. Sagan must be living in another cosmos as noted in 2112 Absurd Words, *supra*.

Smokos and Nag-a-Ram: Merriam-Webster online dictionary Editor’s Note to Definition of *cosmos*: “*Cosmos* often simply means ‘universe.’ But the word is generally used to suggest an orderly or harmonious universe, as it was originally used by Pythagoras in the 6th century B.C. Thus, a religious mystic may help put us in touch with the cosmos, and so may a physicist. The same is often true of the adjective *cosmic*: Cosmic rays (really particles rather than rays) bombard us from outer space, but cosmic questions come from human attempts to find order in the universe.” Thus are there any cosmic questions except the ones humans ask? Can there be a concept of objective, inherent cosmic questions?

- ✓ “The universe – a vast expanse of space and matter. It includes all that we see, and all that we know. Since the beginning of time, we have wondered how it came to be? A gloriously orchestrated plan? A chance series of events? Or something much, much dumber?” – Opening Narration, “Ice Age: Scrat Spaced Out” (animated short, 2016).

Six Pieces of Parchment: Moses and his brother were in a cave on Mt. Sinai; Moses, having just received the Word of God, was tasked with writing down the story of creation he had received from God. Moses began reciting, “Approximately fourteen billion years ago, there was a big bang...” His brother interrupted, “Moses, we only have six small pieces of parchment! Can we shorten this?” Moses sighed, “Oh, very well. Write this down then. In the beginning God created the heavens and the earth. Now the earth was formless and empty, darkness was over the surface of the deep, and the”

- ✓ I do not believe I invented this story. I think I read it long ago, I have it associated in my mind with Isaac Asimov, possibly it was in *Microcosmic Tales*. But I cannot seem to find the source now. Biblical text was adapted from an online Bible.

“Did you know Voltaire was the first to suggest that the universe was created by a gigantic explosion? ... And then Goethe was the first to suggest that spiral nebulae were swirling masses of stars. We now call them galaxies. It’s kind of funny how often new concepts of science find their first tentative forms of expression in the arts.” – John, The Man from Earth (2007) ¹

Crack in the Door: The only Voltaire work I have read was Candide (1759), in college long ago (after 1759). But considering that Aristarchus of Samos suggested that the Earth went around the sun (heliocentrism), it is not beyond possibility that Voltaire might have suggested the explosive origin of the universe. Carl Sagan discusses Aristarchus in *Cosmos*, Episode 7.

Big Bang Theory: In the beginning of our current universe was the Big Bang. At the moment of the Big Bang, the old universe was destroyed by the contradiction of its truths and falsities, and the new universe was created; at the moment of the Big Bang, the truths and falsities of the new universe were defined in the form of the physical laws of the universe. In the moments following the Big Bang, the truths were absolutely true, and the falsities were absolutely false; however, as the universe expands outward at greater than the speed of light over eons, the truths become a little less true and the falsities become a little less false.

In the first moments of the new universe, it was absolutely true that all things in the universe had a physical form, and nothing more or less, and that nothing could travel faster than the speed of light. Except that the universe itself may have been expanding at faster than light speed.

As the universe expanded, the physical laws changed slowly so that more and more complex molecular structures developed until eventually, structures developed which were ‘more’ than mere physical forms. These we call Life, and over time, greater structures developed which were more than just feeding and reproductive drives, these we call Intelligent Life.

In the first moments of the new universe, it was absolutely true that nothing could travel faster than the speed of light (except apparently the expansion of the universe), and nothing new could exist which did not previously exist in another form in the universe at the time of the Big Bang. As the universe expands and the laws weaken, Intelligent Life bends the local universe to its own reality, and it becomes possible to travel faster than light. At first, the first scientists to begin to understand the universe in a technological-scientific manner, noticed that apparently information travels faster than light in certain limited circumstances, but later, it is found to be possible for Life and Matter to travel faster than light if you just know the right ‘tricks,’ i.e. Faster Than Light (FTL) technology develops. And interstellar culture, the mixture of Intelligent Life Forms that should never have met, becomes possible, then becomes Real.

- ✓ “We live in a universe that is, by some estimations, too good to be true. The fundamental constants of nature and the cosmological constant, which drives the accelerating expansion of the universe, seem ‘fine-tuned’ to allow galaxies and stars to form. ... Why do these numbers, which are essential features of the universe and cannot be derived from more fundamental quantities, appear to conspire for our comfort? One answer goes: If they were different, we wouldn’t be here to ask the question. This is called the ‘anthropic principle,’ and if you think it feels like a cosmic punt, you’re not alone. Researchers have been trying to underpin our apparent stroke of luck with

hard science for decades. String theory suggests a solution: It predicts that our universe is just one among a multitude of universes, each with its own fundamental constants. If the cosmic lottery has played out billions of times, it isn't so remarkable that the winning numbers for life should come up at least once." – Kate Becker, "Does Science Need Falsifiability?" NOVA, February 11, 2015.

- ✓ "I think the real interest in arguing Boltzmann Brains is as a lesson in caution – caution in arguing probabilities before really understanding the prior assumptions. In this case, there is no evidence that the Big Bang arose from a random fluctuation." – Matt O'Dowd (City University of New York), "Are You a Boltzmann Brain," PBS Space-Time Channel, April 26, 2017.
- Or Just a Blown Lightbulb: Entertain for a moment the idea that the universe is a holographic projection of sorts; an idea that has gained traction and the fascination of physicists and philosophers. See e.g., Michelle Starr, "Is the universe a 2D hologram? Fermilab intends to find out," August 26, 2014, CNET, and Nick Bostrom, "Are You Living in a Computer Simulation," *Philosophical Quarterly* (2003), Vol. 53, No. 211, pp. 243-255, both quoted in 1 Information, p. 1327, *infra*. Philosophers will talk about what it means, regardless of whether it is objectively true or otherwise, while physicist will attempt to find out if it is objectively true, and leave the 'meaning' to everyone else. Thus the divide of modernity:
 - ✓ "Where religion addresses ontology, science is concerned with ontic description." – Michael Robbins, "Atheists Used to Take the Idea of God Seriously. That's Why They Mattered." *Slate Magazine*, July 8, 2014.

If the universe is expanding, are 'pixels' being added to the hypersphere or whatever to compensate, and if so, how? Think of a television screen, envision how the picture loses definition if you either get too close, or if an old movie is projected on a screen that is too large. If 'pixels' are not being added to the universe, then it will lose cohesion as it expands?

- ✓ "In recent years, the search for the fundamental laws of nature has forced us to think about the Big Bang much more deeply. According to our best theories – string theory and M theory – all of the details of the laws of physics are actually determined by the structure of the universe; specifically, by the arrangement of tiny, curled-up extra dimensions of space. This is a very beautiful picture: particle physics itself is now just another aspect of cosmology. But if you want to understand why the extra dimensions are arranged as they are, you have to understand the Big Bang because that's where everything came from." – Neil Turok, "The Cyclic Universe," *Edge* (edge.org), May 16, 2007.
- Moonwalking to the Stars: Most people assume, without thinking, that the laws of the universe have always been the same since inception. It's a model that makes things simple, just simply rewind the universe clock using current knowledge of physics, and the movements of the stars, back to the beginning. It gets several orders more complicated if we discovered that the universe hasn't always had exactly the same physical laws – that there is a kip in the clock – because it would be very difficult to determine, experimentally, what changed, what was before. We have stuck with the model because, for the most part, it is correct, but not exactly correct, we have not been able to explain everything.
 - ✓ People think we walk by pushing against the Earth. Science tells us that we walk by pushing against the Earth, which then pushes back against us propelling us forward.

This is one of the reasons why walking on concrete is faster than walking on grass; the push-pushback is more efficient. This seemingly trivial difference is a critical shift in frames from a human-centric view of walking to a view of walking that is part of a more complex interaction with the environment. Think for a moment the effect of this simple, yet not simple, cognitive difference? Likewise, it seems that human existence requires us to push against the universe so that the universe pushes back.

“Query: what are the three parts of wisdom according to philosophy? To be wise one must know what is real, what is good, and how to think. These three parts of wisdom correspond to the three parts of philosophy, namely Metaphysics, Ethics, and Logic.”

– Robert Wesley Angelo, “The Origins and Branches of Philosophy,” captured July 29, 2018 from <https://www.roangelo.net/logwitt/philosophy-origin.html>

Fourth Question: In the early 20th Century, Albert Camus added a fourth question:

- ✓ “‘There is only one really serious philosophical problem,’ Camus says, ‘and that is suicide. Deciding whether or not life is worth living is to answer the fundamental question in philosophy. All other questions follow from that’ (MS, 3). One might object that suicide is neither a ‘problem’ nor a ‘question,’ but an act.” – Stanford Encyclopedia of Philosophy article, “Albert Camus.”

It is not clear to me into which of the three traditional questions or areas of philosophy the question of suicide belongs to the exclusion of the others. One could stuff part of it into each, but the whole discussion will never fit correctly under any of the three questions. I do therefore, believe it is a fourth question, and in that sense, Albert Camus accomplished something extraordinary in the history of philosophy. I believe that Albert Camus did state a problem because it must be decided whether or not to act (i.e. commit suicide) and how does one go about that?

“...since philosophy is divided into three branches, which respectively deal with the mysteries of nature, with subjects of dialectic, and with human life and conduct...”

– Marcus Tullius Cicero, *Of Oratory* (55 B.C.), Bk. 1 (trans. E. W. Sutton and H. Rackham) from Patricia Bizzell and Bruce Herzberg, *The Rhetorical Tradition* (1990), p. 209

Endnotes.

¹ **Commentary & Citation:** I have not found any direct evidence to support this movie dialogue’s assertions, but this *might* be close: What better cure for a mechanist view of the universe than a big frakk’n explosion to start things?

- ✓ “In the last fourteen years of his life, Voltaire ... showed a keen interest in biological subjects, especially those having to do with the nature of generation. He supported the doctrine of preformation, the popular eighteenth-century view that all organisms had preexisted before the Creation... The belief that the clockwork universe had been created by an intelligent and all-powerful God demanded that God’s involvement in the creation of living creatures play a fundamental role in explanations of their generation. For there was always the danger in the mechanist world view that God as Creator might be a superfluous entity and *that matter and motion themselves might be responsible for all of the phenomena of the universe*, including creation of life and the existence of the human soul.” – Shirley A. Roe, “Voltaire Versus Needham: Atheism, Materialism, and the Generation of Life,” *Journal of the History of Ideas*, Vol. 46, No. 1, Jan. - Mar. 1985, pp. 65-87 (emphasis added) (preview page on <https://www.jstor.org/stable/2709776?seq=1>).

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“Let me say quite categorically that there is no such thing as a fuzzy concept... We do talk about fuzzy things but they are not scientific concepts. Some people in the past have discovered certain interesting things, formulated their findings in a non-fuzzy way, and therefore we have progressed in science.”


– Rudolf E. Kálmán

The Fuzzy Game Engine: The core concept of the GestaltGenesis-DayMillion (GGDM) game rules is the ability of players to collectively change the game, to shape the game universe, and the emergent playing experience. Unlike most other game systems, particularly those of computer moderated games or most high-end manufactured board and card games, the rules of this game are not eternally absolute in any sense and the system is not ‘closed’ or ‘contained.’ Even victory is negotiable. Such a system requires a different approach to playing this game, and perhaps greater effort than many players are used to putting forth in systems where the rules are absolute and externally defined (i.e. the printed rule book or computer game program).

GGDM is a space opera wargame, with a strong Nomic element introduced and interwoven into the game. Or perhaps it’s a Nomic in the form of a space opera wargame; either could be true. The vehicle for the Nomic element of the game is the Interpretations by which players manipulate the game reality and change the rules. Other players may not like the way the rules or game reality are being manipulated or changed, and try to change the game in another way. So, in the end, GGDM is also a wargame, of sorts.

- ✓ Although Merriam-Webster online dictionary uses the word “fantasy” in the definition of *space opera* – fantasy settings have certainly tried space opera, e.g., D&D and Magic the Gathering – *space opera* in GGDM is treated as a sub-genre of *science-fiction literature*.
- ✓ “The two essays that make up the fourth section of the book, ‘Psychopolitics’ and ‘Science Fiction,’ address an issue that has long concerned Spinrad in his fiction as well as his criticism: the militaristic power fantasies that seem inherent in SF’s most basic narrative structures. He tells the story of how he nearly bludgeoned readers with irony in The Iron Dream – only to find the novel placed on the American Nazi Party’s recommended reading list.” – Gary K. Wolfe, “Writers as Critics,” reviewing Norman Spinrad’s Science Fiction in the Real World, *Science Fiction Studies*, Vol. 17, November 1990.
 - It would be an interesting dynamic if some players/positions in GGDM wanted to play it as a vast interstellar wargame while a majority of the players/positions did not (call them the *Spinrad faction*) desire a wargame. But it would be hard to say no to the wargamers once the shooting starts! See additional discussion in *The Come As You Are Party*, 1 Combat, p. 932, *infra*.¹
- Fuzzy Logic: Fuzzy Logic is defined as “a system of logic in which statements can be true, false, or any continuum of values in between.”² Fuzzy logic represents the way humans think as opposed to the way computers ‘think’ or operate. The classic example of fuzzy logic is the traffic light, which has red, amber and green signal lights. The red light clearly means stop, so in binary terms, it is assigned a “0” value. The green light means go, so in binary terms, it is assigned a “1” value. What then does the amber light mean? Slow down because the light is going to change to red in the near future. But it is neither a stop nor a go, neither “0” nor “1.” Modern traffic control systems are built on fuzzy logic.

Alternatively, imagine you had a bucket full of red and blue balls. Not all red balls are exactly red, or the same color of red, or the same hue or texture red. The same is true of the blue balls. A computer asked to sort the balls would not be able to do it, because not all balls are “true red” as define in the computer’s operating parameters, nor are all of the balls “true blue” as define in the computer’s operating parameters. A human would have little problem in sorting the balls, because a human is not strictly logical or strictly limited, a human can recognize ‘sort of red-ish,’ pink and ‘sort of blu-ish,’ powder-blue balls and sort them appropriately. A more complex computer program might accomplish the same, eventually, but in doing so, the operational definitions of red and blue have to be widened for the computer to do this, so that red is less ‘true’ and blue is less ‘true,’ and thus the computer acquires a sort of ‘fuzzy logic’ through human intervention, the computer becomes ‘more intelligent.’

- ✓ What is blue is both objectively true in terms of light frequencies and true also as a matter of subjective judgment or even social consensus in terms of range, shade, hue, etc. deviance that is still considered “blue.” That we called certain light frequencies blue is purely arbitrary, we might instead have called them  and it would have been just as well, if unpronounceable. What you consider blue is to you absolutely true, while others might violate your absolute truth (or even social consensus) of what is blue by what they proclaim as blue or not blue.³
- Things that are True, Things that are False: The game rules are considered to be absolutely True, and things that directly contradict the game rules are absolutely False. For example, if there were a rule, ‘Starships may not travel at a speed of greater than 2,’ that would be absolutely True. Any other statement, such as ‘Starships may travel at a speed of 3’ would be absolutely False. The concept of pairs of absolutely True and absolutely False statements is the touchstone of the Interpretations that players create during the game; each Interpretation will require absolutely True and absolutely False statements that define the Interpretation, within the rules governing creation and operation of that kind of Interpretation. The absolutely True and absolutely False statement of any Interpretation may not directly contradict any game rule or previous Interpretation, but obviously, they don’t have to completely agree with the game rule or previous Interpretation either. But they do have to be reasonably close, and not in complete contradiction. It is thus that slow change occurs.
 - ✓ Generally, these rules, especially as applied to News Events later, are intended to curb or prevent retcon (retroactive continuity) in the game. History in the game should not flow from the future into the past. It is necessary and desirable in the long-term play of a game that participants generally avoid turning the game into a comic book serial or pulp fiction, where the past is changed to fit the current scheme. However, it’s all a bit fuzzy.
- Matters by Degrees: The game rules are each considered an absolute Truth (“each” being a complete rule or sentence, as necessary), and each Interpretation is defined by absolute True and absolute False statements but they are not the ‘whole truth’ of anything, rather, they serve as a structure from which the fuzzy logic of the game players works. Absolutely True or False statements cannot be directly contradicted by other statements (otherwise they are not “absolute”) but they can be modified by other Absolutely True or False statements. Players must take care when issuing Absolutely True or False statements as truths and falsities cannot be simply discarded or ignored when no longer convenient.

‘No absolutes. There are exceptions in varying degrees to any rule.’

– Steve Blass (Pirates Broadcaster), May 8, 2019, talking about baseball pitching and hitting

A priori Truth Function: There is little or no relationship between the amount of ‘truth’ in anything and its value toward human understanding; patently false things can be useful as well.

- ✓ Often the converse of something is more useful in understanding the something; e.g., compatibilism is perhaps best understood by reading the criticisms of the anti-compatibilist. The same is true of fallibilism/infallibilism and probably also criticism of the Theory of Relativity. Perhaps this is the refuge of a lesser mind, since others must have understood it initially in order to criticize or oppose it?

GGDM may still be useful covering the bottom of the bird cage.

- ✓ I have written in GGDM what I think. You may of course, disagree with me – I am not Jesus, Muad’Dib, or Buddha – but only if you have read what I have written. Even if you disagree, there may still be value in what has been written here.

Absolutely True Mechanics: The concept of absolute True and absolute False statements is merely a game mechanic. I, the game designer, personally tend to regard ideas, statements, and such as more or less probable, creditable, believable, or useful. Belief in absolutely True or absolutely False statements, principles, and such are simply not useful outside of very limited contexts. Most statements, ideas, or beliefs contain some element of truth, or at least enough truth to be useful toward an understanding of the subject or issues they address.

- **Judgment:** Understanding the truth or falsity of anything is an act of judgment, that is, sapience, even when the matter is purely empirical. Animals, especially cats and dogs, seem to be able to sense in some immediate situations when you are attempting to deceive them; whether this is a judgment on what we are trying to show them, or a clue from our body language is debatable. But in any event, sapience is not something confined to higher cognition, rather, it appears to be an evolutionary development, an adaptive and enhanced survival trait (related possibly to group problem solving). Now, the ability to handle truth and falsity as an abstraction, as an object onto itself, is another matter entirely confined to humans and their machines, a level of sapience akin to understanding zero as a numerical operator.
- **Relatively Absolute:** The 2018 board game Cryptid has an interesting take on the concept of absolute truths. The object of the game is to find the location (lair or habitat) of a creature on a hexagonal map with different types of terrain, to which is added one colored pair of one standing stone and one abandoned shack (to act as additional terrain features) for each player, in different map locations. Each player is given one statement about the location of the creature’s habitat that is *absolutely true*, e.g., the habitat is within 2 spaces of a standing stone or the habitat is not in a woods or swamp, or the habitat is within 1 space of water. Each player does not know the statements of the other players. Players ask questions of each other about whether the creature could be in a particular hex and the other player answers yes or no based on their ‘absolutely true’ statement.

Because the players do not know the statements of the other players, another player may answer yes or no to a location that would be different than your answer (based on your statement) if you had been asked; that is, the answers of other players to the question might well violate your absolutely true statement because it is unknown to them. Absolute truth in this is peculiarly both relative and universal, because in the end, there is only one space on the board – the actual habitat – that collectively satisfies all of the absolutely true statements individually known by the players.

“I would like to comment briefly on Professor Zadeh’s presentation. His proposals could be severely, ferociously, even brutally criticized from a technical point of view. This would be out of place here. But a blunt question remains: Is professor Zadeh presenting important ideas or is he indulging in wishful thinking? No doubt Professor Zadeh’s enthusiasm for fuzziness has been reinforced by the prevailing climate in the U.S. – one of unprecedented permissiveness. Fuzzification, is a kind of scientific permissiveness; it tends to result in socially appealing slogans unaccompanied by the discipline of hard scientific work and patient observation.” – Rudolf E. Kálmán

Endnotes.

¹ Commentary & Citation: Imagine this: You are hired to write a Christian spirituality/‘faith-based’ movie or a movie suitable to be shown on Hallmark channel or for some holiday special. To do so, you must create drama without violence, destruction, explosions, or introducing anything weird (all of which was normal in Saturday morning cartoons I watched growing up; there is a Looney Toons video on YouTube of Wile E. Coyote, 80 explosions in 11 minutes). It is difficult to create drama, let alone an adventure film, without violent conflict, mishaps, gadgets. Violence is adventure and gives a visceral edge to dramatic situations in between explosions and gunshots. Yet it is apparently done regularly, because the categories of films described above do exist, there is a Hallmark channel, there are holiday movies, and there are Christian spirituality/motivational movies. *Viewed in this light*, the typical militant sci-fi, fantasy, old Western movie, post-apoc movie, big screen space opera, or badass cop/special forces/espionage movie seems a lesser grade of writing. As Clint Eastwood said of Westerns, “The morality is in the gun play.”

- ✓ Now, could a game of GGDM be played without interstellar wars, revolutions, extinction? Without an arms race? Would such a game be boring, would players drop from the game, or go back on their pregame agreement and start a big war? Is there anything in GGDM that is interesting other than big space battles?
- ✓ Babylon 5, for all of its fine attributes, was about big space wars, there was one before the series, there were many during the series, and there are hints of still more after the series. Just about all of the big space movies and sci-fi movie franchises required war and violence; e.g., Star Wars, The Matrix, Battlestar Galactica, the Aliens and Predator movies, Star Trek in all its incarnations, Star Gate in all its spinoffs to keep the audience engaged and punctuate the drama. Some, like Independence Day or Ender’s Game are unapologetically all in on the battles, explosions, sometimes in a not-to-be-taken-too-seriously sense and others with a profound message embedded. However, there are some different creatures out there, following the example of Close Encounters, Powder, etc. but even Arrival and Contact had to have at least one explosion each.

² Citation: Merriam-Webster’s Collegiate Dictionary 11th Ed.

³ Commentary: Personal experience: I complimented a young lady attorney many years ago (um, about 20+) on the striking color of her pink dress. She responded in a very offended manner, “It’s fuchsia!” Well, ok then, it’s fuchsia! I wasn’t getting anywhere there, obviously, so I left and did something else. *Whatever*, I really don’t care.

- ✓ In 2020, I encountered a design website article whose title is, “What color is fuchsia?” See previous discussion of the colored balls.

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“On the contrary, he made it clear that the business of the philosopher was to make ideas available, and not to impose them on people.”

– T.H. White, *The Once and Future King* (1958) ¹

Philosopher: A man who is convinced that the universe doesn't give a damn what he thinks or wants, and who expects to be ridiculed or ignored by his own, is a philosopher, free to speak what seems true. For whom does he write?

Any honest philosopher knows that the world (or even their own people) would not be better off being ruled by them. The distinction is notable; the aggressors of World War II were not seeking to make the world better by ruling it, but rather, to benefit themselves and their peoples by domination of the world. This is true of almost all aggressors in history; few have the good of the world in mind. It is thus that conquest is usually considered incompatible with the philosopher, who should not be confused with radical ideologues or imperialists.

“For decades, biologists spurned emotion and feeling as uninteresting. But Antonio Damasio [Prof. of Neuroscience, University of Southern California] demonstrated that they were central to the life-regulating processes of almost all living creatures. Damasio’s essential insight is that feelings are ‘mental experiences of body states,’ which arise as the brain interprets emotions, themselves physical states arising from the body’s responses to external stimuli. (The order of such events is: I am threatened, experience fear, and feel horror.)

*He has suggested that consciousness, whether the primitive ‘core consciousness’ of animals or the ‘extended’ self-conception of humans, requiring **autobiographical memory, emerges from emotions and feelings**. His insight, dating back to the early 1990s, stemmed from the clinical study of brain lesions in patients unable to make good decisions because their emotions were impaired, but whose reason was otherwise unaffected – research made possible by the neuroanatomical studies of his wife and frequent coauthor, Hanna Damasio. Their work has always depended on advances in technology. More recently, tools such as functional neuroimaging, which measures the relationship between mental processes and activity in parts of the brain, have complemented the Damasios’ use of neuroanatomy.”*

– Jason Pontin, “The Importance of Feelings,” MIT Technology Review, June 17, 2014 (emphasis added)

The Work of the Mind: Thinking and feeling have long been a subject of discussion in lay epistemology and behavioral sciences (e.g., “Do we think feeling or feel thinking?” August-September 2016 thread on Quora), can you think something is wrong without feeling something is wrong? Can you feel love without an object of affection? Can you think badly of or have a bad opinion of something you love?

- ✓ “Thinking and Feeling are one of the preferences used in the Jungian Type Inventory. The naming is unfortunately a bit archaic as thinking is more than thought, and feeling is not about being overemotional or fluffy. They are about how we decide: through logic or through considering people.

Thinking: Thinkers decide based primarily on logic, and when they do so, they consider a decision to be made. They tend to see the world in black and white and dislike *fuzziness*. Perhaps because people are so variable, they focus on tangible things, seeking truth and use of clear rules. At work, they are task-oriented, seek to create clear value. Interacting with them tends to be brief [sic] and businesslike. They may be seen as cold and heartless by Feelers.

Feeling: Feelers decide based primarily through social considerations, listening to their heart and considering the feelings of others. They see life as a human existence and material things as being subservient to this. They value harmony and use tact in their interactions with others. At work, they are sociable and people-oriented and make many decisions based on values (more than value). They may be seen as unreliable and emotional by Thinkers.” – “Thinking vs. Feeling,” changingminds.org (emphasis added).

- ✓ “The distinction between thinking and feeling (cognition and emotion) is obviously a fundamental one in relation to what the mind does. One of the themes that I’ll develop in ‘What Is a Mind?’ is the notion that feelings present problems. That is, they represent needs; they represent demands upon the mind to perform work. Feelings make us aware that something unexpected (or something unpredicted or something uncertain) is occurring. When I say that feelings represent demands upon the mind to perform work, what I mean is that they represent demands on thinking.

The work of the mind is thinking. Thoughts are ways of dealing with feelings. In the primary case, in the standard situation, feelings come first. Thoughts are ways of dealing with feelings – ways of, as it were, thinking our way out of feelings – ways of finding solutions that meets the needs that lie behind the feelings. The feelings come first in both a hierarchical and a chronological sense. A little neonate (newborn mammal) has no thoughts to speak of, to begin with; it is a little bundle of feelings. Thinking derives from learning, that is, from experience. The apparatus for thinking then works on the material we have internalised, from the solutions we’ve experienced, as to how our needs can be met in the world. These solutions are, of course, initially provided by caregivers. (That is why parenting is important.) On this basis, thinking gradually develops and teaches us how to manage our feelings – how to solve the problems that feelings represent.” – Prof. Mark Solms, Dept. of Psychology, University of Cape Town, South Africa.

“Julie Smith, director of the European Centre in the politics and international studies department at Cambridge University, says she told a lecture full of graduates about Heaton-Harris’s letter last week. ‘I told the students what my personal views were and emphasised that they were personal views. I voted to remain, but as an academic, my job is to impart knowledge, encourage debate and develop skills of analytical argument, not to impose doctrine.’”

– Anna Fazackerley, “Universities deplore ‘McCarthyism’ as MP demands list of tutors lecturing on Brexit,” *The Guardian*, October 24, 2017

The One Absolute Truth: Throughout the process of designing GGDM, I have written only what I consider to be true, and have represented civilization in a way that I believe is most accurate (with noted concessions to human playability and game mechanical limitations). I am not speaking through the voice of a character in literary fiction as an author would – one should never assume the opinions of fictional characters represent the author, and they never should in good writing – but rather I am speaking directly to you, person to person, adult to adult. If you think-feel that I am wrong, you are free to try to prove me wrong, to do something about it, *in a constructive way*. If you think-feel that I am correct, you are free to do something about it, *in a constructive way*.

- ✓ In Job: A Comedy of Justice (1984) is Robert Heinlein speaking through Lucifer or St. Alex? Which one represents his personal views? Likely neither but they may represent time periods of his intellectual life, all while he is lampooning evangelical Christianity.

GGDM is a game that is intended to demonstrate, educate, inspire, and engage the players in discussions relating to the game and to human civilization in general. Monetization of the game would be counterproductive to those goals.² Playing and running a GGDM game is an act of civil society and will not; is not to be monetized in any way³ by any player or any person tasked with running the game: No one should receive any tangible physical benefit from running or playing in this game, with the possible exception of benefitting charity.

Suppose you set out to create a work of entertainment that people would pay to see and enjoy. At some point, likely, entertainment and profit will come into conflict and choices must be made.

Further, there are no plans or intentions to ‘hype,’ ‘blast’ or otherwise advertise the game in any way, especially on social media. It’s not that sort of thing to be hyped; expectations and excitement should not be created in a group of people who ultimately will not be suitable participants of the game. The ‘publication plan’ (as a friend termed it) is to place the game on a publically available website, one of my web domains, and maybe in 25 years, someone will stumble upon it, maybe they’ll find the language of the game useful, and perhaps that they’d like to play it (very few will read past this point⁴). If it matters, GGDM will emerge, if it does not matter, then it’s just another silly stupid space game. Do important things unimportantly.

- ✓ “I do believe that to keep what you got, you’ve got to give it away.” – James Hetfield (Metallica); I highly recommend watching the “Metallica’s James Hetfield At Guitar Center” (2014) interview video on YouTube. James Hetfield was 50 years old at the time of the reflective and introspective interview. He says much about GGDM. 😊

Like the technological singularity, I cannot see over the event horizon of the day when GGDM is released into the wild (I am not the *Kwisatz Haderach!*).

People will play GGDM when it is useful to them. Or maybe never. GGDM is my generativity.

- Timewaster: Why would anyone spend time reading these rules if the game will never be played? See 2112 Absurd Words, *supra*. The hard (sad) truth is that very few will find GGDM exciting or interesting, and I am the only one who will ever be obsessed with it. GGDM is a game for people who would read the rules ‘just because’ then think, wow, this is a game I’d love to play. GGDM is not a game for the fickle, those who don’t care, or the video game crowd. The rest will spend their time playing Flappy Bird.

- ✓ GGDM is a wholistic work. Everything is part of the argument (like the anime Boogiepop Phantom (2000)), the holistic argument is the fabric of GGDM. The rules structure is part of the argument. The End Notes are part of the argument. The Feature Quotes (aka epigraphs) are part of the argument. The Commentaries are part of the argument. The digressions, asides, rants, editorializing and tirades are part of the argument. This is one that will take awhile to unwrap, if anyone thinks it matters.⁵ It is, perhaps, as if Victor Hugo had designed *Les Miserables* (1862) into a civilization game, maybe with some help from Tolstoy and Dostoyevsky.

It is widely noted that even the colors in Boogiepop Phantom are part of the story; the muted brown color of the world in all episodes except the last, which was in full color, demonstrate the mental disease of the world (dark or oddly pale red is also the way the world looks when you are extremely angry or in shock from physical trauma – I accidentally hit my left thumb with an axe when I was 11 years old and still have the scar 40 years later). Also noted was the lack of outlandish dress and hair styles, or even odd manners, all intended to present a façade of normality, most of the characters appear normal people. Boogiepop Phantom is thought to have many references to Western music such as songs by Pink Floyd and Prince, and also to Western musicals. It is thus a cross-cultural product providing a continuity of humanity. Boogiepop Phantom (2000) is related to Serial Experiments Lain (1998) in both themes and the same artists and creators, and is thought to be an artistic continuum.

- ✓ GGDM is 55% game rules, 90% commentary and 5% humor: $55\% + 90\% + 5\% = 100\%$ because everyone knows that nothing can be more whole than whole.
- Andragogy: GGDM has – perhaps somewhat inadvertently – become an exercise in andragogy. I chose GGDM as my classroom and writing as my form of instruction for the same reasons as thousands of other nerds;⁶ if you want to learn what I have to say, you must read what I wrote. You cannot simply pretend to be listening and nod your head occasionally – like my former girlfriends, like a former female co-worker told me she does to her boyfriend regularly, or like most attorneys warming a seat at required CLE courses – *while tuning me out*; to read and learn what I have to say in GGDM, it must *matter* to you.
 - ✓ “Apathy is one psychological barrier to communication. An apathetic listener creates a communication barrier by not caring or paying attention to what they are being told. An apathetic speaker, on the other hand, tends to not relate information well and, in their lack of interest, may leave out key pieces of information that need to be communicated. Within groups, an apathetic communicator can be detrimental. Their lack of interest or passion can inhibit the other group members in what they are trying to accomplish. Within interpersonal communication, an apathetic listener can make the other feel that they are not cared for or about. Overall, apathy is a dangerous barrier to successful communication. Apathetic speakers and listeners are individuals that have no care for what they are trying to communicate, or what is being communicated to them.” – from Wikipedia article, “Apathy,” captured May 12, 2019.
- Material World: So I wrote this thing, GGDM. I cannot cite to one fact that would give any reason or evidence that anything – good or bad or not – will ‘happen’ as a result. There is nothing in the history of the world, and nothing in modern times either, that suggests anyone will care about GGDM unless there is something material to be gained. The value of ideas is

always tied to potential for gain in power and material wealth. Do you think early Christianity was an ‘innocent’ religion? Are Buddhist monks as pure as they’d like us to believe?

I have never been concerned about anyone ‘stealing’ my work: it is very difficult to give away what no one would steal or steal what is being given away freely. I have always been more concerned about loss of my work to stupid entropy of the universe, of which humanity is its agent. If you feel like trying to prove me wrong on this, go ahead, ‘knock yourself out.’

- ✓ “Activist David Meslin argues that people often care, and that apathy is often the result of social systems actively obstructing engagement and involvement. He describes various obstacles that prevent people from knowing how or why they might get involved in something. Meslin focuses on design choices that unintentionally or intentionally exclude people. These include: *capitalistic media systems that have no provisions for ideas that are not immediately (monetarily) profitable*, government and political media ... that make it difficult for potentially interested individuals to find relevant information, and *media portrayals of heroes as ‘chosen’ by outside forces rather than self-motivated*. He moves that we redefine social apathy to think of it, not as a population that is stupid or lazy, but as a result of poorly designed systems that fail to invite others to participate.” – *Id.* (emphasis added).

GGDM has no value in our society unless someone can make money, GGDM is just a useless idea otherwise. It has value if someone is paid to run it, paid to write about it, paid to write a computer assistant for the game, paid to print copies – there is nothing else to manufacture, package, ship or sell in relation to GGDM. Some entities may tangentially profit from GGDM, e.g., domain registration, internet usage, but you can be sure they don’t give a damn about GGDM. But GGDM does invite participation and self-motivation as well as any other game that someone was paid to write, design, print, package, ship, advertise, and sell.

- ✓ “In fact, he was often prevented from following his frequent creative urges by the pressure of meeting payrolls and deadlines. Yet although he could easily have sold out for the comfort of a stable job, he believed that his independence was a prerequisite for pursuing his work. Besides, he was not really interested in making money; what he really wanted was recognition of the validity of his theories about the historical analysis of combat. For over 30 years he persevered in this cause despite indifference, opposition and lack of reward, hoping to advance the use of history to protect both national and global security.” – Susan Rich, biography page for Trevor N. Dupuy at The Dupuy Institute website (<http://www.dupuyinstitute.org/tndupuy.htm>).
- ✓ Your investment in GGDM is the time you spend reading it, thinking and learning from it (and maybe playing it someday), there is no pecuniary cost to GGDM.

Elric: *As I look at you, Ambassador Mollari, I see a great hand reaching out of the stars. The hand is your hand. And I hear sounds, the sounds of billions of people calling your name.*

Londo: *My followers?*

Elric: *Your victims.*

– Babylon 5, “The Geometry of Shadows” (1994)

Hand Reaching Out of the Stars: The Concierge is the human ‘warden’ or ‘gatekeeper’ who runs the game, in other genres of gaming, the Concierge would be called the game master (GM), referee, or Evil Overlord if you like.⁷ The term Concierge, in both its obsolete, historical and current meanings, better serves the idea of the game. A game of GGDM must always be run by a human Concierge (or team); while a program could be written to help with data and bookkeeping tasks, and to provide a three-dimensional view, GGDM will never be a ‘computer game.’ GGDM is intended to be the opposite of a computer game.

- ✓ A key to intellectual clarity starts with a definition. Look up the definitions of words we use, learn them, turn them around in your mind. Definitions become springboards for thoughts.

GGDM was designed originally in the PBEM (Play-by-email) format. Nearly all PBEM games are turn-based and computer moderated (not to be confused with a MMOG), basically, turn-based board games run by computer and email. GGDM started a lifetime ago (in 1992, before the internet) as an advanced expansion to the Avalon Hill edition of Stellar Conquest board game (memorable for having the worst box cover art ever), and evolved into the PBEM format; it is possible that GGDM may be better run using some of the newer technologies and internet platform capabilities, but in any format, it must have a forum for posting and discussion.

- ✓ Fortunately, no one is waiting in breathless anticipation for the release of GGDM or to receive any other thoughts from me, no one, except those who want money and my cats when they want milk, food, or to be petted, waits in anticipation of receiving anything from me. Nor did anyone else write a single word of GGDM (all other authors are correctly attributed). Thus, like Henry Darger’s epic Vivian Girls adventures, GGDM remains an identity only in my mind, in the form of the millions of *its and bits* stored here and there in my neurons and on various computers and drives.
- **Concierge Decorum:** The Concierge should not lecture the players and should avoid heavy-handed imposition of his or her particular point of view on civilizations or any other subject in the game; that behavior destroys the purpose of this game (see Julie Smith quote, *ut supra*). The Concierge has actions within the game, called Interventions (see Interventions, 1 Entropy, p. 227, and Acts of Intervention, 2 Entropy, p. 235, *infra*), that can be used to guide the game, but in the end, they should be used mainly to keep the game interesting and to enhance the epic story of early interstellar civilizations being told by the play of the game.

“In most societies, there’s the adults’ table and there’s the kids’ table... The jesters, the holy fools ... are at the kids’ table. They’re not granted complete respectability, but they are heard because in their unguided missile manner, they sometimes say necessary things that no one else is saying. Healthy societies, in other words, don’t suppress speech, but they do grant different standing to different sorts of people. Wise and considerate scholars are heard with high respect. Satirists are heard with bemused semi-respect. Racists and anti-Semites are heard through a filter of opprobrium and disrespect. People who want to be heard attentively have to earn it through their conduct... And it should remind us to be legally tolerant toward offensive voices, even as we are socially discriminating.”

– David Brooks, “I am not Charlie Hebdo,” New York Times, January 8, 2015

Christian Numerologist: Some who sit at the kids table don't realize that they are transparent to the adults in the world; like an infant who covers their eyes and thinks that you cannot see them. Their motives and schemes are petty and self-serving and obvious.

A good recent example of the relationship between the media and the kid's table is the "Christian numerologist" huckster who predicted the end of the world on September 23, 2017 (one of these guys comes along every year or two). Christian commentators and scholars quoted in the article objected that there was no such thing as a "Christian numerologist" and that it was a made up expertise and a false claim. The huckster either didn't realize that the media was laughing at him, or didn't care, while they were writing clickbait headlines about his claims. September 23, 2017 came and the world didn't end, so he postponed the end of the world to another date in October 2017. Did anyone expect or really want him to be correct? The farce having played out, he was dismissed back to the kid's table and the world moved on.⁸

Encounter Suit: This game is not easy to play, its story is an ongoing cooperative work by the Concierge and the players.⁹ The game is a launch pad for intellectual discussion of everything human and of human civilizations; GGDM is the "adult table" discussion of humanity.¹⁰ An intuitive understanding is helpful; each player will bring to the game knowledge of their favorite intellectual subjects and pursuits, and their education, profession, and expertise in some areas.¹¹

- **The Adult Table:** Being President of the United States, a celebrity, stock broker, or a big corporation CEO does not automatically mean you sit at the adult table, rather, it exposes that fact to all. An adult table discussion of civilization does not in any way immediately equate with sexual or pornographic material. If you think they do, you are sitting at the wrong table.

Further, the nature of GGDM is such that it is highly unlikely that any person who is under-age will read much further than this point in the text; those who read all or most or much of the GGDM text are those who are old enough for realistic, profound discussion of humanity and civilization, *in an interstellar game setting*, and have the education and mental ability to handle the material.

- **Intuitive Understanding:** As Dr. Steven Griffith at Lycoming College (Philosophy Department) once explained, an intuitive understanding is like putting on an old favorite jacket the first time you encounter the subject, you just know it almost without being told, it just fits you. Intuitive understanding is not, however, an excuse to slack, you still have to do the work of reading and understanding the subject beyond the surface; it just makes the work easier and more enjoyable. Conversely, lack of intuitive understanding is like pushing a boulder up a hill. The latter describes perfectly my experience in college pre-calculus; that boulder never reached the top of that hill and I had to switch majors. And I am so much the poorer for it; lacking an important sense of the universe, always just beyond my intellect, relying on summaries written by those who understand.¹²

- ✓ "In the philosophy of Immanuel Kant, genius is the ability to independently arrive at and understand concepts that would normally have to be taught by another person. For Kant, originality was the essential character of genius." – from Wikipedia article, "Genius," captured January 14, 2019.

“Let’s return to the word ‘hobby.’ I define the word as ‘an activity that one takes part in for pleasure and that engages skills or faculties one enjoys using.’ This definition separates some relaxation activities from actual hobbies. Some forms of relaxation, such as zoning out in front of the TV, do not engage skills or faculties. They are effortless. Even if you aren’t paying attention, the TV drones merrily on without you.

Reading, on the other hand, requires effort.

Reading engages skills and faculties: the intellectual skill of assembling symbols on paper into coherent ideas (which, by the way, you are doing right now), and the imaginative faculty of filling in the details of the ideas you just intellectualized. If you look up from what you’re reading, those processes come to a screeching halt. Reading requires conscious effort.

Okay, hobbies require effort. Recreational sports, playing guitar, reading, painting, writing poetry, and playing RPGs all require exertion. The exertion takes different forms, but it’s there nevertheless. Since we enjoy the activity, we don’t mind the exertion. To (very broadly) borrow a physics concept, hobbies are ‘negative work.’ In theory, walking a staircase requires the same amount of exertion regardless of whether you’re going up or down the stairs. But, gravity helps you go down the stairs by constantly pulling you in that direction. Climbing stairs is work, descending them is negative work. The enjoyment of a hobby activity is like gravity helping you down the stairs.”

– Dale Donovan, Editor, “Why we play,” Dragon Magazine #206, June 1994

Hobby Lobby: Hobbies, of course, are a ‘different strokes for different folks’ thing. My hobby is not tying flies for fishing, or woodworking, or pranking people or stealing women’s underwear. Intuitive understanding makes intellectual work feel like a hobby. Studies that are enjoyable can seem game-like (see Desiderius Erasmus feature quote, 1 Beginnings, p. 30, *infra*). Hobbies that become occupations, business interests, or employment quickly lose their joy for many people, but some people prosper in such situations. GGDM is a hobby that many will soon think of as work, struggle, while some others – perhaps those with fiction-writing genes – will find a joyous sandbox, a break from their job slinging fries, selling used cars or unusable insurance, editing hack, or managing rooms of other people’s screaming kids.

- ✓ When I used to play free PBEM games around the turn of the millennia, I believe that I gladly put much more effort and time into each game and took much more joy from playing those games than the average player. In addition to playing in multiple games concurrently, I organized groups, formed long-term alliances, created web pages, helped improve the game design and rules text, and wrote background and fiction related to the games. As such, I did rather well at the games – but less so on the game forums – in both cases probably because my overenthusiasm for the game and playing PBEMs was unmatched. I am sure that my recreational efforts have annoyed many other gamers in many genres who were either unable or unwilling to similarly immerse themselves in the recreation.¹³ This perhaps informs my – probably unrealistic – vision of future, ideal GGDM players and lifetime efforts designing GGDM.

If you want to learn what I have to say, you have to read it. Part of the final process of editing GGDM was to have MS Word’s audio function read the documents out to me. It was good for finding occasional word errors or for hearing sentences that didn’t sound well when read out

loud, but it wasn't best for comprehension of what was being communicated in the text. As Mr. Donovan indicated, when I start typing and correcting, the audio reading would drone on and on whether I was paying full attention or not.

- ✓ This, I think, is one of the reasons why audio books have only had limited success. They are good for anyone with disabilities, but readers want to read, and it is likely that comprehension from audiobooks (especially when driving or minding kids) is not as good as reading. Audio books are thus best for general fiction and not for anything requiring concentration (or visual aids) to comprehend.
 - ✓ This also points to a problem with school courses involving mostly lecture. It is true that a professor's lecture is more interactive with the audience than an audiobook reading. But there are public school teachers and professors who need to cover a certain amount of material each class and will do so whether the audience understands or is paying attention or not (e.g., me in any math course during and after 8th grade). Thus, some professor's lectures are more like audiobooks than educational courses.
- What is a Literary Game: Literary fiction is that which engages us in a conversation with the work. GGDM is intended to do the same as a 'literary game' as stated on the cover.
- ✓ "...Here we come close to one of the definitions of literary fiction. Even the best kind of popular novel just comes straight at you; you have no conversation with a popular novel. Whereas you do have a conversation (you have an intense argument) with [literary fiction]." – Martin Amis, Experience: A Memoir (2000).

'Literary' or 'treatise' games are a solution to the 'tacked on theme' problem in current hobby gaming. Exploding Kittens game is, for example, a dead man's draw game onto which was tacked kittens as a theme (a gross thought but brilliant marketing angle), but any number of themes could have been devised from aliens to hangmen for the same game mechanic. Some tacked-on themes work better than others such that they are barely noticeable.

In other games, the game develops organically from the original theme. No one, I believe, would think the space-opera theme of GGDM is 'tacked on'; I think the game mechanics rather grew from the theme, instead of the other way around; space-opera settings allow exploration of the macrosocial and macro-historical concepts without being inconveniently roped to Earth histories and realities. Literary game design is about a lifetime of understanding. Literary games are not easy to make, though I suspect that any graduate student could do in half the time what I have done. Patience is the key on the part of the designer, having a job and a career helps greatly. It takes an active, intellectual lifetime to design a literary game, but with luck, in a few decades, there may be a half dozen more of such games.

- Macrosocial Simulation: Inherent in the idea of a literary game is the concept that GGDM is more a simulation than it is what most would call a game. As the late wargame designer Richard Berg¹⁴ stated on the Board Game Geek (BGG) forums on January 18, 2007:
- ✓ "In designing games that are simulations, the key is the FOCUS ... what the Designer wants the players to concentrate on and use. If that designer wants the players to focus on how to 'win' without giving him a great deal of detail, then you tend to have what you folks call 'games.' This is a time-honored approach to this ... after all, they are ALL games, not theses or white papers (although some have attempted to attain

that level).” – from BGG forum thread “What does simulation mean in wargaming?” (CAPS in original).¹⁵

Mr. Berg must have been thinking of GGDM when he wrote the last part... or must have met me in a previous life ... because GGDM is a macrosocial simulation intended to spur conversation and introspection.¹⁶ It is loaded with “detail,” it is intended that the players focus on details and dynamics, and as a result, ‘winning’ in the traditional sense is deprecated.

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- ✓ “ALL games that purport to show history are simulations. Simulations – which are a common and key tool in many industries – allow the players to recreate what happened by providing as many of the factors that were present as possible (or as the designers desire) and, even more important, what COULD have happened, given different uses of those factors.” *Id.*

GGDM is, of course, not a ‘historical simulation’ from our current temporal position – just as we would not be history to the Roman Empire or to Warring States period China – but being set in science-fiction, focuses more on what *could* happen. While most simulations are historical (GGDM does include many historical references), it is not required that a simulation be historical – e.g., those Punnett square diagrams that you learned in high school biology project *possible outcomes* as do many market, political, military and industry simulations.

But there is an inherent limit in simulation: One cannot imagine any simulation that would have allowed ancient Europe or ancient China to even remotely predict the current world.

- ✓ “No one game, or simulation, is ‘better’ than another ... It’s what the player wants to play that makes that game ‘good’ (or bad) for him/her. ... Ultimately, what is important – perhaps overridingly so – is what YOU, as gamer/consumer want to play. If it works for you, then you are having fun ... and that game is good ... regardless how much detail is included, and how much of a simulation it is.” *Id.*

“It is amazing what you can accomplish if you do not care who gets the credit.” – Pres. Harry S. Truman

Dis-Claim-UR: Unfortunately, this issue must be addressed; no claim is made to any ideas or intellectual property (IP) made for or created while playing this game or inspired by this game.

Generally, this game should be considered open source, but if you think it’s your idea or IP and you want to own it, no one should get into a fight over it. At the very least, however, it is implied that for any ideas or IP created and used while playing the game, consent is given to use it within the game. Otherwise, you shouldn’t be playing.

It is also hoped that people refrain from printing copies of this work, for environmental reasons. Additionally, no permission is given to sell print or electronic copies of this work. And why would anyone want to? There is nothing here of value; just second-rate college freshman writing. Not one world problem was solved, nothing new was invented. I have only given ideas; I am not poorer for it, but you are richer already for having received them. Even if they are junk.

- ✓ I am reminded of the crisis meeting scene from Ghost Busters (1984), the meeting at the mayor’s office stops when the local bishop enters the room, the mayor prostates himself before the bishop, but the bishop, a slick politician type, has nothing constructive to add.

Finally, any modifications of this game should be taken with due consideration for the existing complexity of the game and the intent of the original author, and this work should not be profaned, misappropriated or misused.

- ✓ Merriam-Webster Dictionary at *profane* (v): **2:** to debase by wrong, unworthy or vulgar use.
 - Profane is also the opposite of sacred in religious and mythology studies, profane is earthly (e.g., Mircea Eliade).¹⁷
- ✓ Readers, players and participants otherwise will find that GGDM does not “need more cowbell.” (from the famous Saturday Night Live skit involving the band Blue Oyster Cult).
- ✓ IP litigation or any other kind of litigation would be counterproductive to the purpose of this game. Please show some respect for the purpose of the game.

All In: This game does not have ‘levels’; there are no basic, intermediate and advanced rules. Prior to 2001, the game was structured in three levels, but after 2001, the game developed in a way that cannot be subdivided. Nor could this game be converted to a board or card game. When playing GGDM, the players are ‘all in’ from start to finish, all rules apply. Don’t worry, *you know this stuff already*, even if you don’t yet know that you know it.

- ✓ My convoluted path to a college degree began at Lycoming College in 1989. Lycoming College is a private 4-year liberal arts college and in my first semester, I was required to take an intro philosophy course. I approached it with dread, I did not have a good attitude about it going in, but when I started listening to the lectures and reading the book, I discovered to my profound surprise that philosophy was in fact what I had been thinking about all my life, but I didn’t know what it was called. I somehow thought philosophy was something else, something alien, strange, complicated. In fact, it fit so naturally, I eventually became, for a short time, a philosophy major.
- Intellectual Stream: Unless a point of distinction or illustration is made or the instant work is one of journalism, quoting from the works of others is generally an act of admiration and joinder in the thoughts of another on a particular point, they are part of the ‘intellectual stream’ in the public space. The speaker featured in the quote is a ‘guest speaker,’ invited into the (our) conversation to make a particular point. Quotes can also easily mislead, misrepresent, and distort, as they are taken out of their original context. Most readers also assume that the author is personally familiar with the works quoted, which, nowadays, is not usually true (which is to say, you know what assume means, right?).
 - ✓ “No doubt one may quote history to support any cause, as the devil quotes scripture.” – Judge Learned Hand.
- No Conspiracy Here: This work was created entirely outside of academia, was not subject to peer review (I am not sure who could or would even) or the pressures of producing (publish or perish) to make a living. There were no corroborators, no conspiracy.¹⁸ GGDM is purely a work of recreational thought by a living definition of the modern deep thinker; part of the Deep Blue function of civilization. The author of this work is a classic emotionally unavailable, unselected male, isolated intellectual: an aging, pudding brain, self-absorbed, self-deprecating, sun-downing, awake shot addicted, unhealthy perfectionist without peer group. Struggling against time to hold forth the flash light and running out of fresh batteries.

- ✓ “Interestingly, the OED cites a comment from the journal Nature in 1977 that ‘publishing a book is a way of avoiding peer review’, as though monograph writers were draft dodgers.” – Willy Maley, Prof. of Renaissance Studies, University of Glasgow, contributor to, “The worst piece of peer review I’ve ever received,” Times Higher Education, August 6, 2015.

“You’ve got to think about big things while you’re doing small things, so that all the small things go in the right direction.” – Alvin Toffler

***Please resist the urge to abridge this work.
It really is mostly harmless.***

Endnotes.

¹ Commentary: Perhaps the best examples of this are the Khmer Rouge of Cambodia followed closely by the Islamic State. The French Revolution also tried to eliminate or secularize religion and rename the months of the year.

² Commentary: A barrier already exists to playing the game in that participants will be required – of necessity – to own a computer with a reliable internet connection, to be an educated adult, and to have the time, will and interest to play this game. This is a set of unfortunate fundamental realities of our time. GGDM would not work as a pen and paper game, or a board or card game. It was designed as a computer game, an internet game, by someone who has had the fortune of owning a PC continuously since 1989. The digital divide is real, it has reached the point in 2018 where those who are not ‘connected’ (TV, PC, internet, smart phone, tablet) are on the outside in jobs and culture.

³ Commentary: A friend once offered that whenever I am finished with what I am working on (he meant, GGDM), we’d find a way to “get it into a block chain” with the intent of making money on it. I’d heard various versions of this before, but that day that he said it directly, I had to shut him down. I simply said, no, it doesn’t work that way. The upshot here is that I am not going into the business of selling people nothingness. That’s not what I worked for.

- ✓ I have had the misfortune of being exposed to timeshares; first from salesmen when I was a teen, then in real estate class, and then finally, early in my professional career, I worked on a huge lawsuit involving a failed timeshare development. I was of the opinion at that time that the entire timeshare industry was a scam and should be outlawed. But, generally only people with some money buy timeshares and it’s not an issue that generates a lot of public sympathy. So it’s left to the courts to handle the litigation.

⁴ Citation: For satirical amusement regarding the Muller Report, see Alexandria Petri, “It is increasingly clear that none of you read my report,” Washington Post, May 29, 2019.

⁵ Commentary: It is interesting reading the blurbs about the people who run sites like Aeon (<https://aeon.co/people>) – everyone is listed as ‘specializing’ in something along with a group of other academic interests; this is probably necessary for credibility, but it is sad too. I certainly know more about some things than others – for example, I know little about basket-weaving and hope I never have extended ‘arts and crafts time’ like in Happy Gilmore (1996) – but I don’t think I have ‘specialized’ in anything. In that sense only, I think of myself as a ‘pure intellectual’ in that I just read whatever, think about whatever, and comment on whatever in relation to the GGDM project – and maybe this is what is really meant by a ‘New York intellectual.’

- ✓ It is probable that GGDM is an intellectual center, vehicle and structure for me in the same way that the Lutheran concept of God was the intellectual center, vehicle and concept for someone like Dietrich Bonhoeffer. In this, I am not comparing myself to someone such, but instead considering a necessity of a center or anchor for a lifelong human cognitive process; the examination of every intellectual in history probably starts with finding the center point from which all of their works spring. And what is the cognitive center from which you spring? Do you know?

⁶ Citation: Merriam-Webster online dictionary article, “Of Nerds, Geeks, Dorks”: “Dork, when used to refer to a socially awkward or inept person, is a relatively recent word: our records indicate that it first appeared in writing in the 1960s. Two of its synonyms in this sense are likewise of fairly recent vintage. Nerd (typically used of a studious species of dork) dates from the 1950s; it was coined by Dr. Seuss in his 1950 book If I Ran the Zoo, although

not in the sense that we use today. Geek became synonymous with nerd in the 1950s. Prior to this, the word referred to, among other things, a carnival performer who would bite the head off a live chicken, or other small animal, as part of an act.” Ozzy Osbourne is a geek then! Note also the adolescent voiced nerd line from Heavy Metal (1981), “There was no way I was going to walk around this place with my dork hanging out!”

⁷ Commentary: Babylon 5 fans may eventually refer to me as Concierge One (or maybe the less-than-Great Maker or >GM). Some may call me Deep Blue. Others may provide me with less flattering titles. My ex-boss’ wife sometimes humorously called me “Professor.”

⁸ Citation & Commentary: “You have better usages of your time and better usages of your money than giving them to someone who plays hopscotch with the Bible and makes wild conclusions from flimsy evidence. Of course, Cain could answer that I’m just part of the church involved in the cover-up. (Because, you know, the church secretly has conversations with Putin regularly on how he’s going to use an EMP.) But my serious advice is to please ignore people like Cain who are in my opinion ends times hucksters. We’ve seen it all before folks. It’s always been wrong before. How many times do these people have to be wrong before we finally stop taking them seriously?” – Nick Peters, “A Brief Look At Alexander Cain,” May 6, 2015 (forum post, TheologyWeb, www.theologyweb.com).

- ✓ “(Odd that Cain needs so much money when it’s going to be useless soon supposedly and isn’t that part of the sorcery of Babylon?) It’s unknown at this point if Cain is willing to refund everyone who buys a copy of his book and everyone who goes out and buys the supplies much like the Y2K scare tactics people did. Oh wait. It’s not really unknown. Even though the answer hasn’t been stated publicly, I think we all know the answer to that question.” *Id.*
- ✓ Alexander Cain is the author of a Biblical interpretation book, Alive After the Fall. According to Mr. Peter’s May 2015 forum post, Alexander Cain predicted, on Biblical interpretation, that President Obama would be the last President of the United States. Fast forward, on March 30, 2020, I received an “Alive After the Fall” spam email with the subject line, “Exposed: The Darkest Secret of the Trump Presidency.”

⁹ Commentary: GGDM is also not a ‘4x game’ (eXplore, eXpand, eXploit, eXterminate), though it retains some of those elements from its great ancestor, Stellar Conquest (1975). Some positions could play GGDM in the 4x style.

¹⁰ Commentary: Or you can go sit at the kiddie table and watch Dukes of Hazzard reruns.

¹¹ Commentary: This game is rated MIA for Mature Intellectual Adult, warning: extreme profundity!

¹² Citation: See further, A SECONDARY PERSON, 1 Fallen to Earth, p. 1499, *infra*.

¹³ Commentary: The same thing happened in military intelligence school, it was a dream vacation for me, it wasn’t drudgery; military intelligence was basically a living extension of my hobbies and intellectual interests. One Major described me as a “fireball.” And I was in the habit of studying and learning at that time because I was in college (which also, generally, was not drudgery to me, and which I usually enjoyed). Thus, I did well at both. I really hoped back then to be able to enter the MS of Strategic Intelligence (MSSI) program at Georgetown University, but my chances were very slim to none. The MSSI program is now listed on the National Intelligence University site.

¹⁴ Commentary: Old wargame designers never die, they just go full tactical.☺

¹⁵ Citation: https://boardgamegeek.com/thread/146488/what-does-simulation-mean-wargaming#objcontainer_article1282718.

¹⁶ Commentary: It’s intended as humor: I did not know Mr. Berg and he would never have heard of GGDM.

¹⁷ Citation: “AB [Anne Billson]: Did you see Bartertown as intrinsically evil?”

GM [George Miller]: No, just as profane. Just concerned with everyday getting on, making-a-buck type world, which we are all part of. And in a sense, because it’s not very broad in its vision, ultimately evil in its function. Without people consciously trying to be evil. It’s just the way we conceive everyday life as being ultimately corrupt and cynical, but there’s no room for the broader issues. Mainly because they’re so limited, only evil in that sense. And the people in it don’t really see it as evil.” – George Miller as quoted by Anne Billson, “George Miller Talks about Mad Max, Heroes & Tina Turner: The 1985 Interview,” previously unpublished interview published on Multiglom: The Anne Billson Blog, May 12, 2015.

¹⁸ Commentary: My cats may have helped telepathically, there may be a cat conspiracy in GGDM, but cats are not considered persons and have no legal rights, so they will have to be contented with a food dish, toys and a warm lap.

Weird Circle Fixation

“Why do mathematicians care so much about pi? Is it some kind of weird circle fixation?”

Hardly. The beauty of pi, in part, is that it puts infinity within reach. Even young children get this. The digits of pi never end and never show a pattern. They go on forever, seemingly at random — except that they can’t possibly be random, because they embody the order inherent in a perfect circle. This tension between order and randomness is one of the most tantalizing aspects of pi.

Pi touches infinity in other ways. For example, there are astonishing formulas in which an endless procession of smaller and smaller numbers adds up to pi. One of the earliest such infinite series to be discovered says that pi equals four times the sum $1 - 1/3 + 1/5 - 1/7 + 1/9 - 1/11 + \dots$. The appearance of this formula alone is cause for celebration. It connects all odd numbers to pi, thereby also linking number theory to circles and geometry. In this way, pi joins two seemingly separate mathematical universes, like a cosmic wormhole.”

— Steven Strogatz, “Why Pi Matters,” The New Yorker, March 13, 2015

“Since it seems obvious to us that time runs forward, and that causes precede effects, it is a very curious thing that many of the laws of physics as described by scientists would be equally valid whichever way time ran. In other words, the direction of time, sometimes called the ‘arrow of time’, could be reversed without conflicting the laws of nature. The only scientific principle that seems to show that time must run in the direction in which we all intuitively perceive it to run is the so-called Second Law of Thermodynamics. This is the principle that says, to put it simply, that as time runs forward, hot things get cooler and energy tends to become evenly distributed in the universe. This is true of our Sun, and of a cup of coffee in exactly the same way.

It is not reversible...But there is a loophole even here. The Second Law is not the same kind as most laws of nature. It is a statistical principle that works on probabilities of what billions of atomic and subatomic particles will do...Individual particles are not subject to statistics. On a submicroscopic level, it is quite possible that actual reversals in time do take place, and that individual particles move backwards in time. The cosmologist Thomas Gold has seriously suggested that the present direction of time is a temporary phenomenon and a consequence of the way our universe is currently expanding.”

— Peter Nicholls, The Science in Science Fiction

Excerpt of “The Existential Void of the Pop-Up ‘Experience’”By Amanda Hess, *New York Times* (Critic’s Notebook), September 26, 2018

One evening this summer, I left work around 6, ducked into a storefront in Midtown Manhattan and stood at the back of a line, waiting to become myself. I was at the threshold of the Rosé Mansion, a pop-up “experience” that is themed around pink wine but promises much more. I had been beckoned there by an Instagram ad featuring a woman with heart-shaped glasses on her face and a plastic cup in her hand. “Be fiercely and uniquely yourself at Rosé Mansion,” it said.

What I am at the Rosé Mansion is, mostly, standing around. Though a friend and I had \$45 tickets to enter the manse at 6:30 p.m., we were moored in its sweaty lobby for another half an hour, left to stare at the “ROOFTOPS AND ROSÉ” pink tanks on display in the gift shop until a Rosé Mansion “ambassador” unhooked the velvet rope to unleash us and dozens of other patrons into the space.

This was a familiar feeling. I’ve spent the past few months going to as many temporary “experiences” as I could find in New York, to explore every broadly themed “mansion” and “factory” and “museum” possible before they all shutter and reconvert into the empty storefronts of high-rent blight. They included Color Factory, stocked with “participatory installations of colors”; Candytopia, an “outrageously interactive candy wonderland”; 29Rooms, a “groundbreaking art experience” dedicated to “expanding your reality”; and the Museum of Ice Cream’s spinoff space, featuring a “Pint Shop” and “tasting room” created in collaboration with Target that “re-visions the grocery store, enabling a hyper-sensory experience.”

And yet, the “experience” has emerged as among the defining fads of my generation. There have been New York experiences centered on tea, dreams, eggs, illusions and cereal. Soon the Museum of Pizza, “the world’s first and only immersive art experience celebrating pizza,” will open. There’s one for dogs now, too: Human’s Best Friend, which offers 20 “photo moments” for your pet to endure.

By classifying these places as experiences, their creators seem to imply that something happens there. But what? Most human experiences don’t have to announce themselves as such. They just do what they do. A film tells a story. A museum facilitates meaning between the viewer and a work of art. Even a basic carnival ride produces pleasing physical sensations.

The central experience delivered at all these places is one of waiting. At the Color Factory, I first waited for half an hour past my ticket time, outside in the 90-degree heat. Then I waited inside the lobby, just outside a roped-off area. After being allowed inside the roped-off area, I was offered mochi ice cream while I waited. Then I was shown an orientation video and ushered into a rainbow-painted hallway, which turned out to be another line in disguise.

What are we waiting for? Places that are themselves reminiscent of lines. At 29Rooms, a pop-up from the women’s site Refinery29, I waited outside big white tents to get into makeshift rooms like “Star Matter,” a space curated in collaboration with Nicole Richie, which features big fake rocks, little fake stars and a hanging red orb. The aesthetic recalls the line for Disneyland’s Splash Mountain, except in here, Fleetwood Mac was playing. One of the features of the Rosé Mansion is a fake gold throne that you can sit on while wearing a fake gold crown, an event akin to hanging out in the lobby of the New Jersey Medieval Times. Each of these experiences culminates in a ball pit — filled with “marshmallows” at Candytopia, “champagne bubbles” at the Rosé Mansion, and blue-colored balls at Color Factory — a feature pioneered by the McDonald’s Play-Place.

Yet these line-adjacent experiences are pitched as somehow transformative. In a plaque outside the “Star Matter” room, the experience was teased as “a cosmic pilgrimage of love, music, and connectedness into the California night sky and back in time to the 1970s, a decade defined by progressive group thinking.” The Color Factory says it’s designed to “invite curiosity, discovery and play.” The Museum of Ice Cream’s Pint Shop is said to “inspire and empower audiences to be their most creative selves.” Mostly, we’re expected to have the time of our lives. A Candytopia employee announced: “The first rule is to be happy and always smile! Frowns make other people sad!”

The most that these spaces can offer is the facsimile of traditional pleasures. They take nature and art and knowledge seeking, flatten them into sight gags and stick them to every stray surface. At a preview party for the Museum of Pizza — held inside a real museum, the New Museum — items like a slice-shaped guitar donated by the musician Andrew W.K. were displayed in glass boxes, as if to conjure an air of significance. The Museum of Ice Cream’s Pint Shop offshoot (now closed) was only “creative” insofar as taking photographs inside a store creates a kind of content. And the “discovery” offered by the Color Factory mainly involves following directions: Trace a flow chart on the floor to find your “secret color,” which corresponds with a random dance move — “air guitar like you’ve never air guitarred before” — you’re instructed to complete on the light-up floor in the next room.

Even the loose themes of these places often aren’t enough to sustain full “experiences.” Candytopia’s main attraction is its candy statues — a fox made from candy corn and gummy bears, a dragon of Swedish fish and licorice strings — but it also contains inexplicable items like a punching bag labeled “Candytopia” and a wax figure of Katy Perry. The Rosé Mansion is designed through very, very free association: There are two Cialis-esque bathtubs filled with rose petals, because “rose” sounds like “rosé,” and a room plastered with pink flamingos because rosé is also pink. Occasionally, this approach revealed irreverent charms: At the Color Factory, a rainbow conveyor belt served macarons; at Candytopia, a candy pig spewed confetti. More often it’s just confusing, as when the Rosé Mansion styles more than one “experience” around fake landline telephones.

There aren’t characters in these spaces. Instead there are young temp workers dressed in uniforms who are tasked with wiping down surfaces, chasing down balls that have escaped the pit and fostering cults of personality around the museum creators themselves. At the Museum of Ice Cream’s Pint Shop, an employee in a sprinkle crown, pink feathered leg warmers and a lab coat calling himself “Slush” told an assembled crowd about how Ms. Bunn “experimented with 7,000 different combinations of vanilla” to perfect one of the museum’s flavors.

There is one way these experiences are better than real life. Standing on the lip of the Grand Canyon, taking in the Mona Lisa at the Louvre or witnessing a seal pup shimmy onto a rock, we might pull out our phone to take a picture, only to find that what we experienced as grand feels dinky through the lens. But these experiences often look cheap and grimy in person. They’re made to pop on camera.

These places are often described as “Instagram Museums,” and the real experience plays out only after we post photographic evidence on social media. The internet is an increasingly visual space, and these museums, with their enormous pools of candy and gargantuan emoji props, are designed to fit the shrunken-down Instagram grid. What’s the point of anything else?

Walter Benjamin’s “The Work of Art in the Age of Mechanical Reproduction” suggested that the technology to endlessly replicate images had compromised the aura of art, the unique presence of an original piece. These spaces offer a canny, if cynical, response: The guests supply the aura.

That logic has so permeated the culture that these “experiences” need to offer little to activate that impulse. The now-closed Museum of Ice Cream’s Pint Shop was, essentially, a store, stocked with racks of \$25 “Vanillionaire” hats and \$10 churro clothes patches. And yet on an afternoon in July, it was filled with people taking their photos in front of the shelves.

The central disappointment of these spaces is not that they are so narcissistic, but rather that they seem to have such a low view of the people who visit them. Observing a work of art or climbing a mountain actually invites us to create meaning in our lives. But in these spaces, the idea of “interacting” with the world is made so slickly transactional that our role is hugely diminished. Stalking through the colorful hallways of New York’s “experiences,” I felt like a shell of a person. It was as if I was witnessing the total erosion of meaning itself. And when I posted a selfie from the Rosé Mansion saying as much, all of my friends liked it.

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“The beginning was a delicate time.”

– Princess Irulan, “Dune” opening narration (1984)

The Key to the Singularity: The existential void is the key to the Singularity.

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No one of our species can see the whole existential void but we know it’s there and we name and define shades and glimpses of the void; what we do in defining the void determines who we are.

The existential void stretches before us. We can now see space, galaxies, the universe, for what it is, devoid of fancies, the inherent despair of meaninglessness of our existence. The existential void is the curse of intelligence; the more intelligent, the more, longer and deeper we stare into the void, parting the curtains, seeking a higher meaning. The ability to fill and stretch across this void will determine our future evolution and failures.

Math as most of us know it, consists of progressions and equations; in which there can be nothing there that wasn’t there to begin with, so math is insufficient to describe what is greater than its parts, for which we need a new way of thinking.

The Gestalt Structure is the balance and answer to the void. Life and living intelligence knows without speaking that the void can only be filled when the whole is greater than the sum of its parts.¹ Civilization – which is everything we do and what we are – is our own peculiar Gestalt Structure and catalyst for or to trans-evolution. Trans-human evolution began the first time that a human ancestor who should have died of any natural cause, did not die, and in fact survived and prospered enough to successfully propagate the species.

- Does the Existential Void Actually Exist?: It does now. In your head.^{2[Definition]}
 - ✓ “By an ‘appearance’ is meant any existent which impinges on consciousness, anything cognized, irrespective of any judgment as to whether it be ‘real’ or ‘illusory.’ ... Knowledge develops from appearances, which may be: (a) objects of perception, i.e. concrete phenomena in the physical or mental domains; (b) objects of intuition, i.e. one’s subjective self, cognitions, volitions and valuations (non-phenomenal concretes); and/or (c) objects of conception, i.e. simple or complex abstracts of preceding appearances” – Avi Sion, abstract of Phenomenology (2005).
- Did the Existential Void exist before someone gave it a name? It doesn’t matter unless you are one who insists that either reality is completely objective (i.e. the only reality is the objective reality), or that objective reality is superior to subjective reality.
 - ✓ See Aspects of Sociology, 2 Culture, p. 371, *infra*.
- Fembots: Can an intelligence exist that is not also sapient? Can humans recognize intelligence that is not sapient? These are questions that have bedeviled literature, philosophy and technology since Western culture first realized the possibility of artificial intelligence (and collective intelligence of eusocial insects).
 - ✓ Isn’t it interesting, this fascination we have with female human-looking robots? Studies show that the more human a robot appears, the more uncomfortable we are with it. Yet we continue making human looking robots, for example, the Chinese fembot Yangyang (who looks eerily like Sarah Palin) or Olivia (modeled after Scarlett Johansson), made in Hong Kong. And the technology will likely only improve, adding

facial expressions (the Professor Einstein Robot is really creepy), voice inflections, and intelligence to a machine with a human face. Sharon, dear, where are you?

- ✓ In October 2017, *in a move that is as strange as it is stupid*, the Kingdom of Saudi Arabia made the fembot Sophia (modeled after Audrey Hepburn), who has facial expressions, and had said she wanted to destroy humans (look up the inane video interview), the first robot with full citizenship in any country; immediately this provoked a backlash as Saudi women’s rights campaigners noted that the fembot Sophia would have more rights than Saudi women.

“The Swiss psychologist Carl Jung once remarked that human beings could withstand almost any amount [of] suffering so long as they felt the suffering possessed meaning. And this need for meaning is as fundamental as the need for shelter, food, and companionship.”

– Mark Goddard, “The Human Need for Meaning,” Health Guidance, October 27, 2018

“As human beings, we need to make meaning of our existence. Meaning gives definition to our life and our life path. This search for meaning is often challenging. How do we make sense of who we are within a world that seems out of balance with poverty, war, and famine on the one hand and tremendous privilege on the other? Religions and philosophies have pondered the question of meaning as a core tenet for their framework of beliefs. There are as many answers, from materialism to community to spirituality, as there are humans to think of them. A key aim of the Existential-Humanistic perspective is to discover what your authentic meaning is.”

– Bob Edelstein, L.M.F.T., M.F.T., “The Need for Authentic Meaning,” Psychology Today, October 15, 2012 (emphasis in original)

Humans Need Meaning: *A priori.* Suppose I offer as an axiom ‘Humans need meaning.’ The wording of this is careful, I could have said ‘Humans create meaning’ – which I believe is true – but that has long been an issue in science and philosophy – most famously Plato’s essences and the positivists. So the most that can be said, reflectively and without controversy is that ‘Humans need meaning’ avoiding the issue of whether the universe has objective meaning or whether we can know what action is without having seen action.

- ✓ “It is through work that human beings realize the self, through work that we become fully human. We differ from all other life on earth in that we realize our imaginations in action on the external world. For humans, the work process is a unity of imagination and action.” – Frank Elwell, Macro Social Theory (2009), Kindle Edition, p. 36.
 - This succinctly describes my struggle with GGDM – to give my imagination effect on the external world. The struggle of every parent, teacher.

Actually, the original ancient argument was about whether truth, wisdom was objective, e.g., Plato’s Gorgias (380 B.C.) which charges that a skilled orator who is not a philosopher can create false knowledge in the minds of the listeners – and that argument is still going on today but has been quite muddled by observer relativity and collapsing wave functions. However, the argument about whether knowledge is objective (as in the physical laws of the universe and absolute morality) becomes muddled with the argument about whether meaning is also objective, because the modern concept of God includes everything – creation, objective knowledge, objective meaning in the form of its very existence, absolute good, benevolence, moral right, truth.

Even in ‘truth’ one has to be careful as the word has many meanings depending on context, sometimes literal factual truth (vs. lying or distortions), sometimes truth is also metaphysical, textual, religious, esoteric, self-aware, allegorical, satirical, or comedic. So what truth was Plato talking about? His own view of things naturally; all else was falsehood. To hold that Plato was talking about truth absolutely objectively is nonsense; no, Gorgias was an ideological document, but the discussion has value, and that is why it is still required reading in many studies.

Can you deny my offered axiom, can it be refuted? What irreconcilable intellectual contradiction is created by the denial, what is the consequence? To refute it, you’d have to say that ‘Humans don’t need meaning.’ Now, you are not going to be struck by lightning for saying that but what can be offered as an alternative to explain the entirety of human civilization, or at least, music, literature, language, religion, ideology, worldview? Is worldview not a meaning imposed?

- ✓ In order to even understand the axiom and to refute it, you need meanings, for example, you must be able to read and comprehend the symbols, and groupings of symbols (i.e. written words), of my language to which we have arbitrarily and systematically assigned meanings. You must share some worldview with me.
 - This is similar to Descartes’s existence; to know I exist, I must have thought of it, therefore I must exist, because if I didn’t exist, I’d have no thoughts. Famously, “I think therefore I am.”
- ✓ The fact that we argue from definitions, that we need definitions to make sense strongly implies both that humans need meanings and that meanings and worldviews are imposed. If they were not, the universe would be self-evident, *a priori* – it is only us who are confused and in need of definitions.

So in this case, the alternative to the offered axiom is nothingness, the Existential Void, the vacuum. *Reductio ad absurdum*. This is not new, it is not rocket science, any more than “humans act” was new in Ludwig von Mises’ time; the acts of men (especially purposeful acts) had long been a concern of philosophy, religion, history, criminal law, politics, war, and rhetoric.

- ✓ The *a priori* process within GGDM at least consists of offering an allegedly irrefutable deductive structure of civilizations and then defending it to conclusion and corollaries. An *a priori* science (e.g., Austrian School Economics) is the process of building corollaries and hierarchical relationships from initial *a priori* propositions.

The axiom of ‘humans need meaning’ may even tag along with Ludwig von Mises human action axiom like a pesky, unwanted little brother. The human meaning axiom sheds light on the primal ends and the motivations of human action, though strictly speaking, the Austrian School does not care about the motives or values of concrete ends sought, so as to avoid non-mathematical, non-logical discussions of morality, philosophy and psychology. Human meaning is the pesky little brother to human action because it answers a different question than the Austrian School asks.

- ✓ I maintain that this is not a strawman that I am beating here; as the remainder of GGDM will demonstrate, I regard this as the core issue of humanity and it needs examination every generation, just as we teach children to count, read, write, get along.
- We Hold These Truths to be Self-Evident: *A priori* is closely connected with ‘self-evident’ (which everyone remembers from the Declaration of Independence in primary school); Merriam-Webster online dictionary defines *self-evident* as “evident without proof or reasoning” and in the classic definitions of *a priori*, ‘proof’ would include observation and evidence.³

So in this sense, some definitions can make terms *a priori*, for example, in baseball, awarding a Run Batted In requires (drumroll please) ... the run to be batted in! Thus, no RBI is awarded if the runner on third scores on a wild pitch, passed ball, balk, or steals home. The run, of course, still counts. Similarly, on a sac fly, the batter still gets a RBI without getting a hit, which is a different thing as well. It thus would create an insoluble intellectual contradiction to award a RBI when the run was not batted in, or to not award a RBI just because it is an unearned run due to a previous error.⁴ After 120 years of professional baseball, Run Batted In remains self-evident even in modern baseball; it can be described as one of the *a priori* terms of baseball.

- ✓ So back to the old Declaration of Independence... is it an ideological document or a set of *a priori* statements? Everyone has heard the opening lines, “We hold these truths to be self-evident that all men are created equal...” Is that *a priori*? What are the consequences of disagreeing, of *refuting* the offered axiom or Kantian synthetic *a priori* proposition? What insoluble intellectual contradiction is caused by *refuting* the statement? Now, to brush silliness aside, it is generally interpreted that the writers did not mean literally created equal in any sense, they meant created equal before the law (even though African slavery existed in all of the colonies at that time, and they had displaced the Native Americans, neither of whom were equal before the law, ever) of God and man – but that is not what the statement says, they could have added a couple of words... They then support this assertion with some mythopoeic ramble about being endowed by the Creator also offered as *a priori* – something of which they couldn’t possibly know or deduce anything about....

“When Ludwig von Mises began to establish a systematic theory of economics, he insisted on what he called the principle of methodological dualism: the scientific methods of the hard sciences are great to study rocks, stars, atoms, and molecules, but they should not be applied to the study of human beings. In stating this principle, he was voicing opposition to the introduction into economics of concepts such as ‘market equilibrium,’ which were largely inspired by the physical sciences, and were perhaps motivated by a desire on the part of some economists to establish their field as a science on par with physics.

Mises remarked that human beings distinguish themselves from other natural things by making intentional (and usually rational) choices when they act, which is not the case for stones falling to the ground or animals acting on instinct. The sciences of human affairs therefore deserve their own methods and should not be tempted to apply the tools of the physical sciences willy-nilly. In that respect, Mises agreed with Aristotle’s famous dictum that ‘It is the mark of an educated man to look for precision in each class of things just so far as the nature of the subject admits.’”

– Michael Accad, M.D., “An introduction to praxeology and Austrian school economics,”
 alertandoriented.com (blog), April 13, 2016

People Aren’t Little Stones: The structure of GGDM is inherently deductive rather than inductive, which makes it more philosophy than science. GGDM takes this thing, this phenomenon called humanity, civilization, human civilization, and reduces it to its necessary parts in the form of a game.

- ✓ Ludwig von Mises was in the cohort with Prof. Clarence Marsh Case on this issue, and their threads meet in Aspects of Sociology, *et seq.*, 2 Culture, pp. 371-373, *infra*.

GGDM is not inductive in the sense that it takes a group of observable, empirical phenomenon and tries to find a ‘natural law’ governing their behavior which can be tested repeatedly for confirmation.

Humans don’t work that way:

- ✓ “People are not little stones, or keys in someone’s pocket, that can be moved from one place to another just like that...” – Colonel-General Ratko Mladić, 1992 (see full quote, 4 Expansion, EN 4, pp. 929-930, *infra*).

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“From that premise, and from a few other empirical and essentially self-evident propositions (e.g., that there is a diversity of ends that human beings choose for themselves, that there is a diversity of means in nature, and other basic notions such as these), Austrian economists develop an economic theory and identify ‘economic law’ that include the laws of utility and laws of returns. They then go on to develop an elaborate theory of money, of interest, and of the business cycle.”

– Michael Accad, M.D., “An introduction to praxeology and Austrian school economics,” alertandoriented.com (blog), April 13, 2016

Logotherapy: The praxeology of GGDM might be summarized thus:

- ✓ That due to human awareness, our sapience, an existential void either exists subjectively, collectively for humans or if objective, it is that we can see it better than other creatures who are less sapient (and even better than our own children, part of ‘growing up’ is this realization); that this would be true of any sapient intelligence.
- ✓ That human acts, behavior, conduct, and our entire civilization is predicated to avoid the existential void, even to avoid contemplating it; economic acts⁵ are as related to this void as religion, social etiquette, music and literature.
- ✓ That the sum total of human actions against the existential void is emergent; emergence is not empirically testable (for the most part, that seems to be the consensus issue in recognizing it) yet the phenomenon is clearly there before us, every day: Life, Human civilization, possibly even the universe is emergent from something else.
- ✓ The players in GGDM, within the game, will naturally demonstrate all of these points; emergent narrative naturally forms as part of any gaming experience.

Praxeology specifies only that humans act with purpose or purposefully and thus express preferences and choices, but that says nothing about whether the acts are either rational or moral or their opposites, it is just as valid either way in the considerations of both Praxeology and Logotherapy (sort of like an absolute value in math or physics that works both ways temporally, see also *Homo economicus*, Big Endian, Little Endian, 6 Diplomacy, p. 1174, *infra*). It is true that GGDM’s praxeology might be stung by the same ‘amoral’ criticism against logotherapy:

- ✓ “In 1982 the highly cited scholar and holocaust analyst Lawrence L. Langer, who while also critical of Frankl’s distortions on the true experience of those at Auschwitz, and Frankl’s amoral focus on ‘meaning’ that could just as equally be applied to Nazis ‘finding meaning in making the world free from Jews,’ would go on to write ‘if this [logo-therapy] doctrine had been more succinctly worded, the Nazis might have

substituted it for the cruel mockery of Arbeit Macht Frei [‘work sets free,’ read by those entering Auschwitz].” – from Wikipedia article, “Viktor Frankl,” citing to Thomas Szasz, Suicide Prohibition: The Shame of Medicine (2011), pp. 60-62 and Lawrence Langer, Versions of Survival: The Holocaust and the Human Spirit (1982), p. 24.

However meaning and the existential void should not be confused, in any direct sense, with morality – which is exactly what I believe happened due to Frankl’s unfortunate association with the Göring Institute (f/k/a Berlin Psychoanalytic Institute⁶) in 1937-1938 and later confused claims that his theory originated in the concentration camp at Auschwitz. Moralities aside, not all meanings are equal and some create a clearly self-destructive course under certain circumstances – if you were a gladiator and your meaning in life were measured by how many opponents you killed in the arena, then you must keep fighting and someday, probably sooner rather than later, you will die of your own meanings. And it will be all for nothing. Just like Nazi Germany.

If, as in Langer’s criticism, one found meaning in killing all the Jews in Europe – well, we know what happened at Nuremberg.⁷ So, I believe the morality aspect of it takes care of itself eventually in finding meanings, but the two should not be confused even as they are kissing cousins.

“Consider the proposition: ‘If George V reigned at least four days, then he reigned more than three days.’ This is something that one knows a priori, because it expresses a statement that one can derive by reason alone.”

– from Wikipedia article, “A priori and a posteriori,” July 24, 2019

Crack in the Temple: *A priori* statements, propositions, have long been the bedrock of human knowledge. *A priori* is by definition, unassailable, inarguable, indisputable, and thus the only things we can be certain are absolutely true; even history, which is empirical and rhetorical can be a lie in the facts recorded by our ancestors. *A priori* was as unmovable as the Earth to our ancient ancestors, though we have since noted that the Earth moves constantly, that it is a non-Euclidian surface, and that fact is relative to the observer.

This ancient temple bedrock has some cracks and conditions that few expect. For example, the feature quote *a priori* proposition seems extremely simple to us, but not to the tribesmen in the Clan of the Cave Bear (1986) – except for the shaman, they couldn’t count to four. What if the recipient of the proposition had to lay out stones in parallel lines to see that it is true? From this, there are a number of corollaries that follow:

- **Empirically Provable:** An *a priori* statement must ultimately be empirically provable, and if that is necessary, then there is no distinction between an *a priori* statement and an *a posteriori* statement:⁸
 - ✓ Cf. “Compare this with the proposition expressed by the sentence: ‘George V reigned from 1910 to 1936.’ This is something that (if true) one must come to know *a posteriori*, because it expresses an empirical fact unknowable by reason alone.” *Id.*

For most people the truth of the first proposition is evident because of memorization of our counting system, that is, because of our counting system, where 4 comes before 5. It’s a shortcut to *a priori*. That is, we don’t count stones or make tick marks in the sand or even in our heads to figure out that four days is less than five and thus the statement is true by side by

side comparison. The smaller amount is always part of the larger amount, by definition; thus we count time passage.

- ✓ If you knew that our counting system represented amounts and that each number is larger than the previous, larger than all previous numbers, but not what the numbers actually represented, you could arrive at the truth of the proposition by simply following the order of the numbers, where 4 comes before 5, therefore the latter is larger.

Having to count stones and compare lines renders *a priori* moot (but not non-existent).

- ✓ “The word ‘calculus’ comes from ‘rock,’ and also means a stone formed in a body. People in ancient times did arithmetic with piles of stones, so a particular method of computation in mathematics came to be known as calculus.” – Jon Davidson, “What is Calculus,” Southern State Community College (Ohio), undated article.

Just because the truth of an *a priori* proposition can be seen by reasoning alone and does not require empirical evidence does not mean that the *a priori* proposition cannot be empirically proven or does not rely on empirical proof, even if that reasoning is in the form of counting stones in your head instead of on the ground. I think this point is often overlooked in attempting to clearly explain the difference between *a priori* and not *a priori* and the omission is deceptive about the nature of *a priori* statements and of human cognition: It suggests that there is such a thing as deduction alone, as if thought can exist *per se* in a vacuum.

- Sapience: This then suggests that what we consider *a priori* is a function of what we call sapience, and that *a priori* is dependent on intelligence; thus, what is *a priori* to creatures with higher SQ (Sentience Quotient), advanced alien intelligences, or to God if you like, is *a posteriori* to us. This is important to keep in mind when dealing with pets, animals, people, and probably with the development of artificial intelligences: Is there any way for us to determine what, if anything, a deep learning AI sees as *a priori*? Can a computer ‘see’ or understand that the shortest distance between two points on a flat surface is a straight line? Or does the computer need to measure it, or be told to ignore the problem by the coders? Does something become *a priori* to a person by expert training? In fact, that is why we rely on experts, not just for their knowledge, but for their insights; what is *a priori* to a medical doctor is news to me. I don’t (or reasonably shouldn’t) rely on my caddie for a medical opinion!
 - ✓ I do not believe that my cats know that if I have fed them four times today, I have fed them three times today. Or even that I have fed them already today. What is *a priori* to me never impinges on their conscience.

There are implications to this in Abrahamic religion: That it is likely that God is damning us for transgressions that it considers *a priori* but that we cannot comprehend, even *a posteriori*. The same way that we scold children with the exception that we have a direct parental relationship with our children who will soon grow up to be adults with the same comprehension that we possess. So God’s relationship to humanity is more akin to humans scolding pets, who will never comprehend the reasons, will barely comprehend the immediate cause, but conform to avoid pain and reproach and value our affection and companionship.

- ✓ “We must question the story logic of having an all-knowing all-powerful God, who creates faulty Humans, and then blames them for his own mistakes.” – Gene Roddenberry, quoted by Michael Guillen, Can A Smart Person Believe in God? (2004), p. 90.

- The fundamental rift problem of all Abrahamic religion is the imperfect attempt to mash two stories together; the first being the creation story of how man and everything came to be, and the second being a set of spiritualized ethics for social control of behavior, tied together by concepts of eternal justice and reward in the afterlife.

➤ Symbols & Abstractions: To what extent does *a priori* depend on symbols and abstractions? There is nothing in the Arabic numeral symbol **4** that would inherently suggest that it is more than **3**, they are just two unrelated figures someone drew and could be placed in any order.

- ✓ In the Roman numerals system, an extended tally system, one might actually get confused because III has more figures in it than IV and thus it might be considered as *a priori* that III is more than IV – I mean, it's obvious that III sticks are more than II sticks or maybe the V counts as II sticks and thus III and IV are the same number?⁹
- ✓ Why would X sets of X, or X times X = C? Why does X times V = L? What is intuitive about that? Yet $10 \times 5 = 50$ and $10 \times 10 = 100$ are intuitive, and further, from zeros, we get the concept of *orders of magnitude*. How did the Romans describe that?

Thus, the symbol **4** (or four) represents an amount one greater than **3** (or three) *simply because* our ancestors agreed on the ordering of symbols at some point corresponding to a number of stones in creating the position notation system we use now. You know *a priori* that 4 days is greater than 3 days, without having to lay out stones in lines, simply because of that shortcut. Computer scientists and mathematicians early on discovered the value of shortcuts and symbols in processing information, and *a priori* without having to resort to empirical testing (making it *a posteriori*) is a result of symbols, shortcuts (in many cases this shortcut is memory, such as memorized place notation multiplication tables), and abstractions.

➤ A Posteriori: From time immemorial, or at least since ancient times (and what is the difference, practically?) human knowledge has been divided between *a priori* and *a posteriori*; that which was not *a priori* (i.e. could be deduced, tested with predictability) was necessarily *a posteriori* (i.e. observed, experienced, recorded). Those seemed to learned men the only two ways, but was there a third? We only ask the question of a third when the two are not always sufficient to explain the entirety of our experiences.

- ✓ For example, dreams while sleeping; one cannot deduce a dream, they are not *a priori*, so one must experience a dream, but in the *a posteriori* of a dream, it cannot be proven outside of your own head, and even you may doubt it or forget it. Thus, is a dream really empirical? Not in the strictest sense.
- ✓ While we can observe the moment of conception now, our ancestors could not. Life was not *a priori*, one could not logically deduce their way to conception. Eventually, they got the idea generally of what was going on, we now call it reproductive consciousness, but again, the cycle of life, birth, is *a posteriori* except that no one remembers the experience of being alive – either during conception or because they are dead, in between you know nothing else but being alive and have no comparable contrast to the sensation, you have no experience at not being alive. No one does.

These two examples alone seem a reasonable explanation for the development of divinity and mystic thought in ancient civilizations (not to be confused with mythopoeic explanations).

“A constant element of enjoyment must be mingled with our studies, so that we think of learning as a game rather than a form of drudgery, for no activity can be continued for long if it does not to some extent afford pleasure to the participant.”

– Desiderius Erasmus

Expected Ice Cream, Waiter Brought Sorbet: You probably expected to be reading game rules? I once saw a comic about, basically, how to be a total jerk on a dinner date at a fancy dining experience restaurant. The waiter brought sorbet ‘to cleanse the palette’ and the guy went off on a rant, caused a scene, embarrassing his date, because they didn’t serve ice cream.

- ✓ Most intellectuals have viewed or understood gaming as an important intellectual tool, alongside and sharing values with literary storytelling (or religious histories and parables), hypotheticals, and hypothesis. This seems to be truer in the later centuries, and the ‘rise’ of gaming in war, economics, histories, and such probably results from the print revolution almost five centuries ago. Over the last two centuries, our games have increased in complexity corresponding with our developing intellectual abilities, widespread education, and our increased material and technological prowess. The days of my youth when I was informed that grown men should not be paid money to play a child’s game (e.g., baseball) or that games were child’s things that a man puts away (while apparently mythopoeic religion isn’t), have quickly faded.
- ✓ Without having played a single turn of GGDM (since 1997 when it was a vastly different game), GGDM’s evolution has been my personal *intellectual vehicle* for structure, understanding and education, designing GGDM has been a form of solitaire ‘play’ for me which allowed thinking and learning to continue to be ‘fun’ (though the ontological quality of that ‘play’ and ‘fun’ has changed over time) into midlife.
 - “The different subtitles given to The Navigator (1988) since its release suggests the problem in classifying this film as belonging to any particular genre or, indeed, any genre at all. Its original subtitle – A Medieval Odyssey – was replaced with An Odyssey Across Time for the American release, then changed again to A Time-Travel Adventure for the DVD release. The original subtitle holds no suggestion of science fiction and it is clear that, for the American market, the generic undertones in the form of time-travel needed to be played up. The Navigator is certainly a time-travel adventure – of sorts. Director Vincent Ward’s talent for creating haunting visual poetry is on full display in this film about the healing power of dreamers.” – Nigel Honeybone, “Film Review: The Navigator: A Medieval Odyssey (1988),” HNN, March 8, 2019.

Like Navigator: A Medieval Odyssey, one of my favorite time-travel movies, GGDM’s cover page has gone through a number of subtitles over the years – even the game title went through half a dozen changes as it evolved up to 2006 – as I tried to figure out what exactly I was doing: Writing a game? Writing a social theory? Writing a treatise on human civilizations? Writing a doctoral dissertation? In 2019, I finally settled on the fact that I had created a ‘literary game.’ But it is important to remember when reading GGDM that *the game always came first*; the game was the frame work

on which has been built the enlightening commentary, educational quotes, and profound arguments that evolved, drifted, into a ‘literary game.’

- “Sometimes young writers are worried they have to develop their own prose style, but that’s not true. Whatever you write will turn into you.” – Annie Dillard quoted by Lawrence Malcolm, “Lunch with Annie Dillard,” April 30, 1982 (free online).

GGDM will be all that is left of me when I am finished, like Plato’s works. It is the capsule of my mental existence.

- ✓ “I think any life experience does – that’s the way you happen, unconsciously or consciously, to use a lot of experience to inform your work. But I’d say the two most obvious ways – studying medicine gave me all the sixties, while I was at university, to indulge the things I was interested in. I was very interested in art, I was very interested in the movies, I used to do a lot of painting and drawing and cartooning, and stuff like that.” – George Miller as quoted by Anne Billson, “George Miller Talks about Mad Max, Heroes & Tina Turner: The 1985 Interview,” previously unpublished interview published on Multiglom: The Anne Billson Blog, May 12, 2015.

Most people like their recreational games to be escapist fantasy. Whether GGDM is an escapist fantasy depends on the personality of each participant, each reader of these rules. On one hand, you do have godlike control of a nascent interstellar civilization surrounded by potentially hostile aliens. But as you can tell from reading just this far, GGDM has in it a reflection of our current world, futures, and much history. For some, that is not escapist. You might sense there is something here that is more than a game; raise your hand if you are an overachiever. That is the personality of GGDM.

- ✓ “Even when created to critique or raise awareness, entertainment is escapism, allowing us to explore new worlds and experiences...letting us take the roles of soldiers, fantasy warriors, and goats.” – Max Eddy & Matthew Buzzi, “The Most Niche Simulation PC Games We Could Find,” PC Magazine, March 15, 2019.

Soup and sherry have been served, the dishes removed. The relevés – the rules – begin on the next page accompanied by lively adult table conversation; later, entremêts will be served with fresh glasses of chilled wine. Then gaming will commence.

“For a small child there is no division between playing and learning; between the things he or she does ‘just for fun’ and things that are ‘educational.’ The child learns while living and any part of living that is enjoyable is also play.”

– Penelope Leach (child developmental psychologist)

Endnotes.

¹ Commentary: Rhetorical Question: What is the difference between a Gestalt Structure and an Emergence?

² Commentary: The Existential Void is a philosophical term meaning the inherent meaningless of the universe/life from the human perspective. It should not be confused with the astronomy term or that we live in the KBC Void.

³ Commentary & Citation: Self-evident is insulting when it is not, cf. “[Alexander] Cain tosses this kind of statement out as if it was self-evident. It’s not. It needs to be argued for, but this will be par for the course for Cain.” – Nick Peters, “A Brief Look At Alexander Cain,” May 6, 2015 (forum post, TheologyWeb, www.theologyweb.com).

⁴ **Commentary:** Big errors and little errors are the same, they are both errors. Just the same way that winning by an overwhelming score is the same as winning by one point, it's still a W, or in the reverse case, an L. In baseball, they tell the players that a win in April is the same as a win in September, they all count the same (though it doesn't *feel* that way); this is so in any regular season team sport, hockey, football, basketball, etc. Then someone decided to introduce 'tiebreakers,' 'scoring differentials,' and 'strength of schedule'...

⁵ **Citation:** "Ludwig von Mises (1881–1973) reconstructed economics as an axiomatic science, which he called praxeology: the science of the logic of human action. The central element of praxeology is the *axiom of human action*."

The axiom of human action basically says that human beings act. This may sound trivial at first glance. However, at second glance it becomes obvious that Mises's axiom of human action and its implications are far from being trivial:

To start with, an *axiom* is a (set of) proposition(s) presumed to be *true* on the basis of logical necessity; it serves as presenting different subject matters as formal and coherent theories, all of which are propositions which can be deduced from the axiom. For instance, Pythagoras's theorem is deducible from the axioms of Euclidian geometry.

The axiom of human action is of a special nature: It represents a synthetic a priori proposition, to use the terminology of Immanuel Kant (1724–1804). A synthetic a priori proposition is knowledge that (1) cannot be denied without running into an intellectual contradiction, and (2) is derived from *reflection* rather than observation.

The axiom of human action cannot be denied without running into an insoluble contradiction. This is because denying the axiom of human action implies human action – that is the human act of denying. Arguing that humans cannot act is thus a contradiction in itself, an absurdity.

Further, the axiom of action is derived from human reflection: it is independent of experience. This is because one cannot observe humans making an action per se. In order to know what 'action' means, one has to know what action is – which implies that knowledge about action exists prior to action.

That said, the axiom of human action fulfills both of Immanuel Kant's requirements for qualifying as an a priori synthetic proposition: it is self-evidently true, and it is derived from reflection. That said, logical deductions from the axiom of human action must be also absolutely, or *apodictically*, true as well.

By developing praxeology, Mises showed that economic theory is the formal logic of the irrefutably true axiom of human action. According to Mises, economic theory is not concerned with psychology, but with the implications of the axiom of human action." – Thorsten Polleit, "What Can the Law of Diminishing Marginal Utility Teach Us?" Mises Institute, February 11, 2011 (emphasis in original).

⁶ **Citation:** "In 1925, Eitingon became chair of the new International Training Committee of the International Psychoanalytic Association. The Eitingon model remains standard today. The Berlin Psychoanalytic Institute itself was founded in 1923. Ernst Simmel, Hanns Sachs, Franz Alexander, Sándor Radó, Karen Horney, Siegfried Bernfeld, Otto Fenichel, Theodor Reik, Wilhelm Reich and Melanie Klein were among the many psychoanalysts who worked at the Institute. As a Jew, Eitingon's position became precarious after the Nazi ascent to power in 1933. Freud's books were burned in Berlin. By then some members had already left Berlin for the USA. Eitingon resigned in August 1933; he later moved to Palestine and founded the Palestine Psychoanalytic Association in 1934 in Jerusalem. The Palestine Association saw itself as the heir of the Berlin Institute; even the furniture from the Berlin Institute ended up in Jerusalem.

On 23 August 1933, Sigmund Freud wrote to Ernest Jones, 'Berlin is lost.' Edith Jacobson was arrested by the Nazis in 1935; one of her patients was a known Communist. Felix Boehm [de], who with fellow non-Jew Carl Müller-Braunschweig [de] had taken control of the Institute after Eitingon's departure, refused to intervene on Jacobson's behalf, on the grounds that by associating herself with Communism she had endangered the Institute's survival. In 1936 the Institute was annexed to the *Deutsches Institut für psychologische Forschung und Psychotherapie e.v.* (the so-called Göring Institute). Its director Matthias Göring was a cousin of Field Marshal Hermann Göring. Göring, Boehm and Müller-Braunschweig collaborated for a number of years; fourteen non-Jewish German psychoanalysts continued to operate within the new Institute. The one remaining copy of Freud's works was kept in a locked cupboard referred to as the 'poison cabinet.' John Rittmeister [de], a physician and psychoanalyst associated with the Institute, as well as resistance fighter against Nazism, was sentenced to death and executed in May 1943." – from Wikipedia article, "Berlin Psychoanalytic Institute," captured July 10, 2019.

⁷ **Commentary & Citation:** And this is not to make light of the entire Holocaust tragedy, I do not deny or diminish their unjust suffering in any sense (and with this clear statement, I don't expect to be the target of any silly accusations of Holocaust denial – you don't know the stupidity I witnessed with my own young eyes). Rather, the macro- and holistic-approach taken by GGDM entails a bit of what is called 'pragmatic ethics':

- ✓ "Pragmatic ethics is a theory of normative philosophical ethics. Ethical pragmatists such as John Dewey believe that some societies have progressed morally in much the way they have attained progress in science. Scientists can pursue inquiry into the truth of a hypothesis and accept the hypothesis, in the sense that they act as though the hypothesis were true; nonetheless, they think that future generations can advance science, and thus future generations can refine or replace (at least some of) their accepted hypotheses. Similarly, ethical pragmatists think that norms, principles, and moral criteria are likely to be improved as a result of inquiry. ... ethical pragmatists acknowledge that it can be appropriate to practice a variety of other normative approaches (e.g., consequentialism, deontological ethics, and virtue ethics), yet acknowledge the need for mechanisms which allow society to advance beyond such approaches, a freedom for discourse which does not take any such theory as assumed. Thus, aimed at social innovation, the practice of pragmatic ethics supplements the practice of other normative approaches with what John Stuart Mill called 'experiments of living.'" – from Wikipedia article, "Pragmatic ethics," July 10, 2019.

⁸ **Commentary:** Is this an *a priori* statement? I think that one can deduce it to be true without having to check every possible *a priori* statement (an impossible task). Or is it more of a Kantian synthetic *a priori* proposition in that from one or two cases, reflectively we can offer *a priori* that it is true of all *a priori* statements?

- ✓ It is possible that this will set some logicians' minds running, and I am nothing of the caliber of Saul Kripke (and that is *a priori*), so if I missed something and there are *a priori* statements that are not empirically provable ... my examples are sufficient for the point of the argument I am making here.
- ✓ Nor do I believe any of my arguments in this section are probably new to the science (nor is much of anything else in GGDM new under the sun), but as I have not read them anywhere else – and there are a million vital works I should have read but have not – they are new to me when I am thinking of them independently while considering the issues in GGDM's context. Thus, there may already be well-developed, famous, and even forgotten arguments written on this issue from millennia past.

⁹ **Commentary:** As I worked through the end of the final edit of GGDM, I had the opportunity to become acquainted with the Roman tally counting system. As I forced myself to relearn Roman counting, it became apparent that there were certain things that would have been intuitive to literate Romans that are not to us, for example, two Vs make an X, and I would guess that is how X came to represent 10. In many cases, simple math involved just inserting a V or I in the previous Roman numeral, in the appropriate place to add or subtract, for example, XV minus I is XIV or XI plus V is XVI. Just as any educated person in the *place notation* system knows that 9 plus 5 = 14 and 9 minus 5 = 4. We don't have to think too hard about it; through practice and neural plasticity, we just know it.

- ✓ "Much of the world, including Europe, also lacked an efficient numbering system such as that developed in the Hindu and Arabic cultures. (Try long division, for example, using Roman numerals.)" – Jon Davidson, "What is Calculus," Southern State Community College (Ohio), undated article.

The phenomenological progression of additive Roman digits is cyclic: Starting with nothing, add (I), add (II), add (III), pinch (IV), subtract/slide left (V), add (VI), add (VII), add (VIII), crash (IX), subtract/slide left (X), start over. I wonder if this is how they taught their young to count to ten, which is always the hardest part of learning to count? It works at least up to five on one hand, finger, finger, finger, pinch thumb and finger, then V with thumb and fingers sideways. This also mirrors the appearance of consecutive Roman numbers down the page, a wavy pattern of ballooning and deflating; grow, grow, grow, shrink, grow, grow, grow, shrink, grow, grow, crash, grow, etc.; a sub-rhythm, a thumbs rhythm of 4s and 9s exists in Roman Numerals. Difficult to say, but this may have some bearing on the Roman worldview; one could make some satirical case for it in social and historical cycles. It may even mirror the 'progress' or evolution of the GGDM design over the years.

I wonder how different the world looked to someone with an educated Roman cognition? With a counting system that was an extension of the tally system compared to our place notation? Was it a function of a priest-like class to be able to perform the more complex arithmetic (i.e. multiplication and division as opposed to adding and subtracting) in Roman numerals? The Romans are famous for engineering, which they did with Roman numerals. In the end process of numbering the Appendix sections, I usually took a shortcut through Arabic-Hindu math when using Roman Numerals. Would I be a math genius among Romans because I memorized the *place notation multiplication* tables when I was in grade school and would simply have to translate the results to Roman numerals for them?

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“Our posturings, our imagined self-importance, the delusion that we have some privileged position in the Universe, are challenged by this point of pale light. Our planet is a lonely speck in the great enveloping cosmic dark. In our obscurity, in all this vastness, there is no hint that help will come from elsewhere to save us from ourselves.

The Earth is the only world known so far to harbor life. There is nowhere else, at least in the near future, to which our species could migrate. Visit, yes. Settle, not yet. Like it or not, for the moment the Earth is where we make our stand.”

– Carl Sagan, [Pale Blue Dot: A Vision of the Human Future in Space](#) (1994)

Positions: Each position in the game is a star-faring civilization represented generally, as a single modern nation-state. Two positions may share the same Native Population type (*ut infra*), however, the majority of the time, each game position will represent a physiologically distinct intelligent life form. The game should play with at least three, and a maximum of ten positions.

- ✓ Like most civilization games, the position players collectively represent (in a godlike way) the highest level of organization in their civilization, and operate with full sovereignty. It may be possible to construct a game where the positions are merely the local ‘on the other side of the wormhole’ part of a larger pan-galactic civilization, for an interesting example of this, see the classic GDW game *Imperium* (1977), where the *Imperium* player is a sector governor who may appeal to the Emperor for help and permissions.
- **Players and Positions:** ‘Players’ and ‘positions’ are not exactly the same in GGDM. In the vast majority of all games that have ever been designed and/or published or played, the assumption is that each position is played by one player, who has exclusive control over their ‘player position.’ While it is possible that positions in GGDM could be played by one player, the complexity and creativity of this game lends itself to better play by teams of players playing each position as long as only one set of Regular Turn Actions is submitted each Regular Turn period for each position by the designated team member.
- **Tom, Jerry & Friends:** Because this is not a ‘game of conquest’ *per se*, there is no reason why a player cannot be members of two or more player team-positions. No two positions should be run by exactly the same player team, nor should two position-teams share more than half of their membership. For example, Position A might be the team of Tom & Jerry while Position B is played by Jerry, Curley & Mo, and Position C is played by Mo and Jo.
- **Mo-Jo:** It is possible for a single player to play a position without a team. Such player may or may not be at a disadvantage against other team positions, depending on circumstances and how coherent and responsive the opposing teams are during the game. No player (or team in a third position) will be allowed to control two single player positions, nor will a player who is on a team also be allowed to play a single player position.
 - ✓ “When Mr. Rogers told viewers of his beloved children’s TV show to ‘look for the helpers,’ bonobos clearly weren’t paying attention.... ‘A preference for helpers over hinderers,’ the study authors wrote, may have ‘played a central role in the evolution of human development and cooperation.’... So do bonobos value cooperative, pro-

social behaviors in the way humans do? In humans, that preference starts young: babies as young as 3 months old have been shown to favor people who they witness helping others.” – Amina Khan, “Humans may look for helpers, but bonobos prefer the troublemakers,” Los Angeles Times, January 4, 2018.

- ✓ Group problem solving is an adaptive evolutionary strategy of early human ancestors; it works best for solving determinative problems. Groups test ideas, provide perspectives, and grasp complexities faster. By extension, this applies to *written and permanent works* of civilization: The ‘group’ is the individual thinker, intellectual, or student plus the authors of written and artistic works from *past generations* and distant places who share their opinions through writing, music and visuals. This ability to create infinite groupings from across the temporal and spatial spectrum of humanity is the *emergent quality* of civilization. The print revolution and communications technology (diminishment of time and distance) has simply accelerated this process.
 - ✓ Neutral group problem solving, which is discussed in greater detail in one of the final sections of this work, 1 Wheel in the Sky, *infra*, offers a fascinating alternative to traditional competitive gaming.
- **Special Positions:** Special positions are possible in the game and will be allowed to the extent that they provide an interesting story arc or angle in the game. Special Positions will exist in the game solely at the discretion of the Concierge, and may or may not be known to players at the beginning of the game, as circumstances dictate. Special Positions may be run by one or more players, but will usually be controlled by one player, with necessary oversight by the Concierge. Special Positions may be provided with special, unexplainable abilities and/or advanced or different technologies for whatever purpose they serve in the game.

“The players met, on the great, timeless board of space. The glittering dots that were the pieces swam in their separate patterns. In that configuration at the beginning, even before the first move was made, the outcome of the game was determined. Both players saw, and knew which had won. But they played on. Because the game had to be played out.”

– Robert Sheckley, “Fool’s Mate” (1953), opening paragraphs ¹

Baby Steps: The five-step GGDM game position setup process is a highly interactive process that will require multiple communications between the players and the Concierge, and may take several days or a week or more to complete. Set up is accomplished in the following five steps:

1. Draw and choose Fundamental Realities,
2. Determine Public Space for each position,
3. Choose and place Government Titles,
4. Choose Primal State,
5. Receive and spend Inheritance Points.

In addition to the players’ part in the setup, the Concierge will have considerable work to do in setting up the player pages, answering questions, setting the calendar, and all of the other little

administrative details required for the game to begin. The process may be akin to detailed character creation in most role playing games.

“It is well to fetter the wings of our fancy and restrain its flights. It is quite possible we may have formed entirely erroneous ideas of what we actually see. The greenish gray patches may not be seas at all, nor the ruddy continents, solid land. Neither may the obscuring patches be clouds of vapor. Man is too quick at forming conclusions. Let him but indistinctly see a thing, or even be undecided as to whether he does actually see it and he will then and there set himself to theorizing, and build immense castles of conjecture on a foundation, of whose existence he is by no means certain”

– Edward Emerson Barnard, Mars: His Moons and His Heavens (1880), an unpublished manuscript in the Vanderbilt University Archives

Endnotes.

¹ Commentary: It was taught in my college literature class that the answer to a short story is in the first paragraph, but you don't know until the end of the story. That is, short stories are classically written backwards.

- ✓ “‘Mate!’ Ellsner shouted. ‘Lack of pattern. I gave their CPC something it couldn’t handle. An attack with no apparent pattern. Meaningless configurations.’ ‘But what are they doing?’ Branch asked, gesturing at the dwindling enemy dots. ‘Still relying on their chess player’ Ellsner said. ‘Still waiting for him to dope out the attack pattern in this madman’s mind. Too much faith in machines, general. This man [Lt. Nielson] doesn’t even know he’s participating in an attack.’” *Id.*, ending paragraphs.

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See Appendix FR – The Fundamental Realities
See Appendix WA – The Wanderers

“When asked what was the greatest political fact of modern times, [Otto von] Bismarck is reported to have responded, that it was ‘the inherited and permanent fact that North America speaks English.’ Whether the saying be authentic or not, the remark is certainly worthy of its reputed author’s keen insight into political fundamentals.”

– George Louis Beer, The English-Speaking Peoples, Their Future Relations and Joint International Obligations (1917), p. 186

Fundamental Realities: Fundamental Realities are a preexisting set of ‘cards’; the Concierge and players do not create or design Fundamental Realities used in a particular game. Fundamental Realities represent the cosmic luck of the draw, the grand joke of the gods (or whomever you want to blame for this mess); they are the ‘existential element’ of the game.

Fundamental Realities affect a position globally, and are the deep-seated historical, physiological, cultural, evolutionary, primal, and environmental imperatives that cannot be easily overcome and that shape the star-faring race coming into the game. For example, as a player, you were born on Earth (theoretically speaking) in a certain place and time, you walk on two legs and wear clothing (most of us do, anyway), you can see certain spectrums of light, hear certain sounds, require oxygen (unless you are a plant), and speak a language, dress and act in certain ways, and conform, or refuse to conform to standards that were all chosen long before any of us were born. This is part of your inheritance.

- ✓ What is language? Language is a massively complex system of arbitrary, agreed upon and inherited assignment of symbols and sounds to objects, actions, existence and concepts. There is no reason at all why the sound we make when we say “tree” should correspond to the object that we know is a tree, except that some group in our distant past agreed to that particular correspondence of sound with the object and everyone thereafter used it. The same can be said for every word in our language and even for the base-10 counting system that we call math. Non-objectivity of symbolic and linguistic representations is the reason why there are so many languages across the Earth. The Tower of Babel story is a recognition by ancients of this inherit non-objectivity in human constructs and an origin myth attempting to link it to the objective truth of God in their religion.

Fundamental Realities are inherited *absolute truths* (in the form of position-specific circumstances) which cannot be directly contradicted or ignored. Fundamental Realities function as axioms for game purposes – that is, they act as uncontroverted starting points for the story and all arguments relating to their position during the game.¹ Fundamental Realities are what happened BEFORE the game that affect the game.

- ✓ “For a creature to act out its own minor part, the rules under which it acts must be either known to it or be such that the rules can become known through trial and error – with error not always fatal. In short the creature must be able to learn and to benefit by its experience.” – Robert Heinlein, Job: A Comedy of Justice (1984).

To the extent that it matters, Fundamental Realities are, by definition, morally neutral and individually blameless on those affected or afflicted by them. Being born of a certain race, class, ethnicity, or species, or in a certain time and place or planet, are no more blameworthy than

speaking English or wearing a shirt, pants and shoes rather than speaking Greek or Latin and wearing a toga and sandals. Now, it is possible that some blame may be attached for certain types of Fundamental Realities to individuals or to the current generation, *by the next generation* who inherits; but in most cases, what does it gain to blame previous generations for parts of our world we dislike or with which we disagree?

- Clothed in our Fundamental Realities: While trying to avoid frostbite on your butt in the northern latitudes, remember the benefits of cold weather on human civilization. Because of cold weather and that humans evolved hairless on a warm continent, people started wearing clothing; there were people in various parts of the world who had never invented clothing before European contact, because they didn't need it.
 - ✓ Once clothing was invented and spread through most of the world, people discovered they had to take a bath and put on clean clothes when available because of illness and vermin.
 - ✓ Clothing also led to fashion, invention of better materials, and a whole economy, displays of wealth, and industry specializations.
 - ✓ Clothing also led to armor, protective cover, and space suits. Science-fiction trope – especially the television and movie kind (even Deanna Troi wore clothes) – almost always portrays sapient aliens wearing clothing. The audience never notices because that's what they expect to see, but there is no reason – other than climate – to assume that aliens would invent clothing prior to space travel. Clothing might come quite late in history, as all biological beings would require at least space or vacuum suits, and protection against environments on any planets they might explore or colonize.
- The Drawing of Thee: During the first step of the setup process, the Concierge will randomly draw for each position ten Fundamental Realities. Positions may not receive duplicates of the same Fundamental Reality, but two or more positions may receive the same Fundamental Reality. Players will be able to view and read only the Fundamental Realities for *their* position during the course of the game.
 - ✓ If a position cannot receive duplicate Fundamental Realities then it would be impossible for a position to have duplicate Fundamental Realities, like a poker game where you are not allowed to hold two or more Aces. GGDM thrives on diversity.
- Casting Out: After examining the Fundamental Realities drawn, each position may choose to discard any of them, but must keep at least four of the Realities drawn and may keep up to seven Fundamental Realities (mulligans and/or re-deals are discouraged). The choice of which are being kept or discarded should be communicated to the Concierge only, within one day of notification that the Fundamental Realities have been drawn. Positions may choose to keep seemingly contradictory Fundamental Realities. There are many possible reasons upon which to decide to keep or discard Fundamental Realities; some might be kept because they might be interesting to play, some might be kept because they are the lesser of two evils compared to what is being discarded, and some will be kept because they (erroneously) appear to provide some strategic or game advantage. The Fundamental Realities chosen by each position are permanent, cannot be substantially changed or discarded during the game, and will be part of and affect the position through the entire game. Positions that keep more Fundamental Realities will receive larger initial Public Spaces and larger Inheritances.

✓ “Sometimes the only choices you have are bad ones. But you still have to choose.” – Dr. Who, “Mummy on the Orient Express” (2014).

- **Major and Minor Realities:** Most Fundamental Realities will have a Major and/or Minor effect described. Each position must have at least three Major Fundamental Realities, and can have up to five Major Fundamental Realities. The effect of each Fundamental Reality is a set of special circumstances affecting the position holding the Fundamental Reality. The effects of the Major and Minor versions of the same Fundamental Reality are separate and cannot be combined. Each position must communicate to the Concierge, where applicable, which chosen Fundamental Realities are desired to be Major Fundamental Realities. Not all Fundamental Realities have both Major and Minor forms, sometimes, a position will be ‘stuck’ with a Major or Minor.
- **Reality Space:** Fundamental Realities do not exist in the Public Space, they do not occupy any part of the Public Space. They are considered to be ‘outside’ the Public Space, but still there nonetheless, and their effects, unless otherwise stated, apply equally to every Monad in the Public Space, if applicable.² It is thus that Fundamental Realities cannot be disrupted or affected by anything that occurs in the Public Space (or in the Galactic Space).
- **The Concierge Cometh:** Major and Minor Fundamental Realities cannot be altered once the game begins. Fundamental Realities will be displayed throughout the game in each position’s non-public information and the Concierge will – and must – be the final interpretive authority on the meaning of the Fundamental Realities during the game. The Concierge may refuse to process Regular Turn Actions or Combat Orders that violate the position’s Fundamental Realities.

“Julio Cabrera, David Benatar ... and Karim Akerma all argue that procreation is contrary to Immanuel Kant’s practical imperative (according to Kant, a man should never be used as a means to an end, but always be an end in himself). They argue that a person can be created for the sake of his parents or other people, but that it is impossible to create someone for his own good; and that therefore, following Kant’s recommendation, we should not create new people. Heiko Puls argues that Kant’s considerations regarding parental duties and human procreation in general imply arguments for an ethically justified antinatalism. Kant, however, according to Puls, rejects this position in his teleology for meta-ethical reasons. ...

Julio Cabrera argues that procreation is a violation of autonomy because we are not able to obtain a human’s consent when we act on this human’s behalf through procreation, and that a rational agent, having reliable information about the human situation and the ability to speak about its possible coming into existence, might not want to be born and experience the harms associated with existence (this is a reference to a thought experiment proposed by Richard Hare, who claims that birth would be undoubtedly chosen).”

– from Wikipedia article, “Antinatalism,” July 31, 2019

Long Distance Voyager: Do you see Immanuel Kant behind Battlestar Galactica and Frankenstein?

Certain existentials are beyond the scope of this game and cannot be simulated. For example, since the concept of zero as a number is so important to computers, modern science and technology, and our understanding of the universe, it would not be possible to have a species that comes into this game lacking the concept of zero. Similarly, it would probably not be possible for a position to enter the game with a Fundamental Reality indicating that the population believes the world is flat and is at the center of the universe, which revolves around their Homeworld. Nor would the game be able to simulate directly the fundamental monogamy-polygamy tension that is the main and usual subject of our love songs.

- **Uranium on the Cranium:** Imagine a species that evolved on a planet that has no surface uranium deposits. Likely, they would not discover nuclear power generation until well after they went into space (with luck). This might eventually doom them to extinction when other fuels ran out, or if nuclear power or understanding is required for Stardrive technology.
 - ✓ Nuclear power has not been required for humanity to go into space, of course, but has been helpful as a power source for our probes. But we also have not been successful yet in bringing back large quantities of minerals from anywhere, we have a few moon rocks. Thus, if there were no surface uranium on Earth, we would still be much in the dark about the Sun and the universe; it is really the scientific model that our mineral abundance and diversity provided to the last centuries that is of the greatest value.
 - ✓ It is far less likely though that a planet exists that doesn't have surface deposits of malleable metals, e.g., copper, tin, gold, iron, silver. But if the planet were completely covered in liquid, or had no 'wood' or 'coal' (e.g., fossil fuels) to provide portable heat... well, you get it by now.

Now, suppose that FTL travel (by any means, ships, stargates, witch's broom, psychic projection, spice, etc.) requires some element, either as part of the structure or as fuel, that is not available in our system? How would we ever know? How would we obtain it? Even if we could theorize its existence, it would be "unobtainium" unless it could be manufactured (something like plutonium). Thus, to leave Sol, humanity would depend on generation ships, seed ships, etc. that have already been hypothesized in science-fiction imagination, if not science fact and maybe our descendants will end up in some place where the element exists and they have the knowledge and ability to use it. Would they come back for the rest of us?³

We would only be slightly better off than the species on a planet with no uranium, fuels or malleable metals near the surface.

- ✓ See fuel discussion, Unobtainium, 3 Movement, p. 857, *infra*.

"It is a pity that there are no big creatures to prey on humanity. If there were enough Dragons and Rocs, perhaps mankind would turn its might against them. Unfortunately man is preyed upon by microbes, which are too small to be appreciated."

– T.H. White, [The Book of Merlyn: The Unpublished Conclusion to The Once & Future King](#) (1977)

Fundamental Hierarchies: Fundamental Realities are at the top of the logical hierarchy of game rules and concepts in GGDM.⁴ Fundamental Realities drawn during set up generally cannot be changed or contravened during the game; positions are ‘locked into’ the choices made before the game, and the luck of the draw. Changing Fundamental Realities is not impossible within the scale of the game (both time and space), but will be undertaken only with due care for the story arc (the process must include a story arc) and balance of the game.

- ✓ Lasting Peace on Earth. A problem that consumed intellectuals and generated great literature in the 19th and 20th Centuries. Imagine the fundamental changes that would have to occur to human society, economics, and/or biology to achieve lasting peace on Earth. Remove sovereignty, ownership, money, ambition, nationalism, aggression, science, technology, creativity, weapons, politics, government, education, gender and sexuality, natural birth, evolution, remove humanity from humanity.

- “To avoid war, Man had to specialize in nonentity.” – William Tenn, “Null-P” (1950).

Many solutions have been dreamt, all of which tend to be radical, over-simplistic, utopian or dystopian. All would change our Fundamental Realities; none have happened or seem likely to happen.

- Through Rose Colored Shades: The Fundamental Realities in combination change and shape the ‘flavor,’ ‘color,’ ‘feel’ of the game for each position, they give positions ‘character.’⁵ There are 170 Fundamental Realities⁶ divided into five types described below plus five Truly Alien Fundamental Realities for the Truly Alien Primal State.⁷

- ✓ By taking a Fundamental Reality, the players of a position are signaling that they intend to play within its constraints in good faith, just as, by voluntarily participating in the game, they are commonly and impliedly signaling that they will play the game in good faith. The prevalence of computer-controlled gaming has made this less obvious to modern gamers but it is important in a sandbox game like GGDM. Most Fundamental Realities require some level of Concierge manipulation and Intervention on the part of the ‘game universe’ and players should not object or accuse the Concierge of being unfair (which is like accusing the universe of being unfair, I do so regularly).
- ✓ It is an interesting question whether Fundamental Realities are imperative or declarative on the position. See Imperative Game discussion, 1 Reformation, p. 1382, *infra*. On the one hand, most Fundamental Realities are not like ‘giving orders’ to the position players which they must follow – to the extent that there is a choice of how to play the Fundamental Reality, like an actor makes choices of how to play their role, but still has a script – Fundamental Realities in GGDM are probably more declarative than imperative. However, that varies with the type and strength of the Fundamental Reality – Major Fundamental Realities are more imperative, more of a strict script – and with the amount of manipulation and Intervention required of the Concierge. Some might see Concierge Intervention as making the Fundamental Reality imperative, sort of ‘railroading’ the position into a specific course of action.

Players should willingly and enthusiastically embrace and play their chosen positions; the Concierge should not be the big stick forcing positions to conform to their chosen Fundamental Realities. Let’s all just have fun with it.

- Type 1: ‘Type 1’ Fundamental Realities are the usual sort of historical, evolutionary and cosmic events and situations that tend to limit each position operationally.⁸ They affect how the position ‘plays’ or ‘acts’ during the game (i.e. the operation of the position). Type 1s tend to be ‘negative’; the bargain is the acceptance of operational limitations in the game for Inheritance Points (IPs) during set up and Public Space during the game.

Type 1s are inherently negative, satirical. The implication of a Type 1 Fundamental Reality is that the position is accepting some operational hindrance for the duration of the game. This is not always necessary; rather, it is sufficient that the Type 1 make the position operationally different without granting special or bonus abilities (which would be a double gain).

- Type 2: ‘Type 2’ Fundamental Realities are the ‘positive’ sort, and opposite of Type 1, in that Type 2 Fundamental Realities do not grant IPs during set up, but grant some special operational characteristic to the position during the game. Type 2 Fundamental Realities do not have Major or Minor forms, however, beyond the benefit, positions are governed by the description (in both positive and negative implications) during the course of the game. Positions may only have one Type 2 Fundamental Reality and players should remember that each position must have sufficient IPs necessary to satisfy the Primal State requirements to begin the game (which is the purpose of IPs).
- Type 3: ‘Type 3’ Fundamental Realities grant normal Major/Minor IPs during set up but impose a pregame drive or need that acts as a ‘Supra-Legitimacy’ requirement for whatever government the position chooses. This requirement exists above normal Conflict Checks for Government Titles, and is solely at the discretion of the Concierge when a violation occurs. During the course of the game, the Concierge may receive an Intervention Potential Plus (see Interventions Plus, 1 Disruption, p. 259, *infra*) for each failure to satisfy the drive, need or directive of the Type 3 Fundamental Reality. Positions agree to this by choosing a Type 3.
 - ✓ Type 3 Fundamental Realities differ from Conflict Checks in Government Titles (see Starch & Parchment, 3 Government Titles, p. 613, *infra*) in that they are not objective, fact-of-the-moment checks (despite how the wording may sometimes seem) but rather should be monitored by the Concierge on an ‘overall impression’ of the position’s conformity to the *sine qua non* of the Fundamental Reality – rather like the ‘artistic presentation’ score in competitive figure skating (which always causes controversy) as opposed to the technical elements of whether the skater did a triple-triple axel while eating a peanut butter & pickle sandwich. Additionally, no ‘disruptions’ result directly from the assessment of an Intervention Potential Plus against the position, but rather, the Interventions create or advance the position’s game ‘story.’
- Type 4: ‘Type 4’ Fundamental Realities provide an outward ‘persona’ for the position during the game that should be reflected in News Events and in-game diplomacy and communications (i.e. role playing the position⁹). Occasionally, the position may also find it necessary to do specific in-game actions to maintain the persona.¹⁰ Type 4 Fundamental Realities have neither Major nor Minor forms, but instead grant a fixed IP value during setup. Positions may have one Type 4 Fundamental Reality, even if dealt several possibilities.

A position with a Type 4 Fundamental Reality is expected to be ‘in character’ as much as possible during the game (as long as it does not impair vital communications in the game). This does bar other non-Type 4 positions from developing a persona as well.

Perhaps participants might regard Type 4 Fundamental Realities as archetypes; both in the Platonic sense “that all things have ideal forms (aka archetypes) of which real things are merely shadows or copies” and/or the Jungian sense of “an inherited idea or mode of thought that is present in the unconscious of the individual” (from Wikipedia article, “Archetype”).

- ✓ I had an undergrad college course in abnormal psychology with a memorable professor. The course was divided into three parts, with a blue book test at the end of each section; it was both lecture and book (a companion volume to the DSM IV). The first section was about Sigmund Freud and the Vienna Circle and during this part the professor was very Freudian in demeanor, speech, appearance. No one noticed because it was consistent with the general image of a psychologist and a professor. We took the test, came back the next week and I noticed his demeanor and speech had changed slightly as we began the next section on Carl Jung and Jungian psychology. The professor also never took attendance during the course, but when he handed back the tests, he handed each person their test as he went around the room. He explained that when we handed in the test, he looked at our name and our face. After the Jungian psychology section blue book test, he returned, and his demeanor changed again (by this time, he wasn't wearing a suit and tie) as we began the final section on Viktor Frankel's existential theories.
 - And then, 13 years later, Heath Ledger was the Joker.
- **Type 5:** ‘Type 5’ Fundamental Realities represent alternate realities or alternate histories from before the game that can ‘leak’ or ‘ripple’ into the present, overwriting parts of the current position. How or why this can happen will never be known or understood, but it is theorized that perhaps it is caused by the invention of FTL travel (i.e. ‘stardrive’ in GGDM terms) that marks the beginning of the game. There is a 5% chance, plus 1% per Regular Turn processed that an alternate reality ‘leak’ will occur, instantly overwriting some of the position's data at the end of the Regular Turn. When this occurs, there is a 50% chance that *each* Ripple in the Type 5 Fundamental Reality will be applied; the results can range from very bad to very good. The Ripples in each Type 5 are probably somehow connected.

The ‘leak’ event *paradoxically* does not affect the prior in-game history – GGDM is not designed for retroactive or retconning effects – it only affects the current and future state of the position and game. The Concierge may adjust the percentages before the game to create stronger, more chaotic effects; it is suggested that only one ‘leak’ be allowed in each 10-turn period. By taking a Type 5 Fundamental Reality, the position is accepting a ticking time-bomb (like committing a crime) and should not complain when it goes off unexpectedly.

All Type 5 Fundamental Realities are considered Major for counting purposes, and each position may only have one Type 5 Fundamental Reality, even if dealt several possibilities.

 - ✓ **Doctor Who:** Oh, yes, I am. Very clever. But what use is clever against trees? They don't listen to reason. You can't plead with them. You can't lie to them. They have no moving parts, no circuits. – Dr. Who, “In the Forest of the Night” (2014).
 - Saruman the White had the same problem. He was a very clever guy too.
- **Creator:** Participants may design new Fundamental Realities. The key to designing a Fundamental Reality is that the idea must be expressible within the rules structure of the game (that is, ‘operational’). Fundamental Realities should not be designed like additional, special or

new rules or grant benefits; rather, they are guidelines to be interpreted by the Concierge and applied to the position. Types 1, 3, and 5 Fundamental Realities must be existential (not a temporary condition), must have a concrete operational effect on the position, and should, hopefully, be profound. Type 4 Fundamental Realities are easiest because they have no effect on or interaction with the rules of the game.

*“Come on a voyage with us
Our quest is callin’
All hear the oceans howlin’
Voices of the Fallen
Too long we’ve roamed these waters
We’ve blown our hearts down
Our homeland we’ve forgotten
All we know is gone now.”*

– Xandria, “Voyage of the Fallen” (2015)

Asteres Planetai: The Wanderers are a special set of Fundamental Realities that affect *all positions*. Prior to drawing Fundamental Realities for each position, the Concierge will randomly draw between zero and three Wanderers for the game, and all positions will be informed of the Wanderers drawn prior to choosing their Fundamental Realities. The Wanderers slightly change the way the game plays for *all positions* by imposing universal physical laws and/or changing the underlying assumptions and/or processes of the game rules. The Wanderers are considered Fundamental Realities, but do not count against the number of Fundamental Realities held by each position and do not generate any Inheritance Points (The Wanderers do not have Major and Minor forms). The Wanderers are colored red (‘redshifted’), as they are moving away from the established game rules and procedures.

- ✓ In current board-gaming terms, The Wanderers would be called ‘environments’ which are usually controlled and changed by card draws before and during the game.
- ✓ There should be a 50% chance of zero Wanderers in the game, and if there are, then the number of Wanderers drawn is 1 to 3.

“The past needs to be recognized. But it is an imperfect guide for the future.”

– Daniel W. Drezner, Washington Post, November 3, 2016 ¹¹

Endnotes.

¹ Commentary: The “self-evident” truths of the Declaration of Independence are merely statements that our founding fathers considered axiomatic (see Self-Evident discussion, 1 Beginnings, p. 24, *supra*). Students of humanity might consider it self-evident that war is a product of civilization. Many of the most famous statements of intellectuals and leaders are merely axioms recast in memorable language that makes them so quotable. For example, Max Weber’s observations regarding the necessary state monopoly on the legitimate use of physical force is an axiom of sovereignty; it is certain that others have known and expressed the same long before Mr. Weber, but Mr. Weber’s statement stands out as quotable and teachable because of who he is, and how and when it was articulated.

² Commentary: In the first versions of the idea of Fundamental Realities they were ‘outside the game space’ – I originally envisioned them (back around 1999-2000) as being placed around the outside and projecting chess-like

‘lines of force’ across the board – anything in the lines of force of a Fundamental Reality would be affected by it. I went to Homestead and bought a used electric typewriter to make the Fundamental Realities and a paper cutter board, but the idea fizzled and morphed with the game into the current form. I eventually donated the typewriter to a charity, I don’t know what happened to the paper cutter board.

³ Citation: “Oh, I see. The old geranium to the cranium!” – Sassy the cat (voice of Sally Fields), *Homeward Bound 2* (1996), as she knocks a flower pot off the ledge and hits a dog on the head.

⁴ Citation: Professor Peter Suber’s “Nomic,” a game about self-amending systems, was an influence on GGDM.

⁵ Commentary: I was fascinated for awhile by *Cosmic Encounter* and its predecessor, *Eon*. I learned to play *Cosmic Encounter* at GenCon 2001, and spent much of the weekend playing and talking with grey-haired Peter Olatka, the designer, and the *Cosmic Encounter* web design crew. Although there was no conscious effort to imitate *Cosmic Encounter*, *Fundamental Realities* probably owe some debt to that weekend of playing *Cosmic Encounter*. *Cosmic Encounter* was later, retroactively cited as an early example of intentional emergent game play in tabletop gaming.

⁶ Commentary: “Michel-angel-oh, was give’in a one man show...” – Dr. Hook, “*Michelangelo*” (1978).

⁷ Commentary: The number of possible combinations of *Fundamental Realities* is probably mindboggling.

⁸ Commentary: When I created the first 100 *Fundamental Realities* in 2007, there were three types, Historical, Evolutionary and Cosmic. The original types were vague and general with no other meaning in the game and many *Fundamental Realities* had overlapping types. Each original *Fundamental Reality* was written as a special rules subset for the position that held them; rather than the current ‘guidelines format.’ Most of the original *Fundamental Realities* rolled into Type 1 and Type 3 categories, with some few going into Type 2 and 4.

⁹ Commentary: The majority of any role-playing game is the interpretation of die roll results within the context of the characters, circumstances, and rules. A lot of fudging goes on behind the GM screen. If a RPG session is nothing but a bunch of interpretations and group storytelling, then what is the purpose of the dice? The dice are used to eliminate a large number of possible interpretations (e.g., a miss or a failed task or failed saving throw) or to create the opportunity for extraordinary results (e.g., three consecutive ‘20’ results on a d20), so that the story can move along. Some RPGs have tried other methods, being diceless, using cards and drama points, but generally all to the same effect. Thus, role playing game design is very much a matter of die rolls and numbers crunching (or other systems), and RPG characters are – as agents of heroic storytelling – endowed with greater abilities than normals (i.e. ‘blips,’ NPCs).

¹⁰ Commentary & Citation: Participants who are really into their positions may sometimes do or say unsavory or morally repulsive things *within the game* as part of playing their part in the story arc or position advancement. This should not be automatically taken as a moral indictment against the position’s players, ***and the position’s players should not have to break the fourth wall to explain.*** Like an actor who makes a career playing memorable and/or anonymous bad guys (e.g., Alan Rickman, Jack Palance, Lord Humungus). Although she was commenting broadly on writing fictional character dialogue, Ms. Beth Hill’s comments can also apply to playing positions in GGDM:

- ✓ “Putting your pet theory or your political, religious, or social beliefs into the mouth of a character and letting the character pontificate on and on is a sure way to keep readers from coming back to your books... But fiction is not the place for preaching the party line. If your character has a position to defend, *let him do it*. And make him convincing. Remember, however, that *your* position has no place in his mouth. This isn’t ventriloquist school. This is fiction, where truth is revealed, not force fed. Write your treatises if you want to, if you need to. But let characters be characters, not your ideal Mini-Me. Some of your characters, some of the solid ones who defeat the bad guys, won’t be just like you. They won’t hold the same positions. They won’t have the same values. They might never choose you for a trusted friend. But they can still be the perfect character for your tale. And you’ll have to be the one to make them believable. And solid. And good. Yeah. Sometimes you’ll have to make them good, those characters who don’t agree with your positions. Are you writer enough to create them?” (emphasis in original).

- From “Bad Dialogue – Bad, Bad Dialogue,” November 3, 2011, at <http://theeditorsblog.net/2011/11/03/bad-dialogue-bad-bad-dialogue/>.

¹¹ Citation: “What Game 7 of the World Series Teaches Us about Foreign Policy: What lessons can be applied from the great game to the Great Game?” *Washington Post*, November 3, 2016.

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See Appendix FR – The Fundamental Realities

“Space: The final frontier. These are the voyages of the Starship Enterprise. Its five-year mission, to explore strange new worlds, to seek out new life and new civilizations, to boldly go where no man has gone before”

– Captain James T. Kirk, opening narration, *Star Trek* ¹

Spaces: Reality can be best characterized as the congruence point of three spaces, the outer space of the physical universe, the shared public space of the civilization, and the inner space of the mind. Consider that there are words that specifically distinguish between literal or graphic meanings and culturally-assigned meanings for any object or event; compare *denotation* to *connotation*.

- ✓ “I’ve come to realize that there are three categories of truth – personal truth, political truths, and the objective truths that shape our understanding of the universe. The interesting thing about an objective truth is that it’s true no matter what. Imagine that.” – Neil deGrasse Tyson, “Class Trailer” to Master Class program.²
 - Notice that Mr. Tyson gave all three equal billing as ‘truth’ where others would say, ‘personal beliefs’ or ‘political spin’ for example.

All three spaces are in play in GGDM: The Galactic Space and the Public Space; all in the mind, connected by a ‘unity of opposites’ (see 5 Fallen to Earth, p. 1570, *infra*).³

- ✓ This concept may be similar to or vaguely reminiscent of Edward Soja’s *thirdspace* concept – of which I have only a very general understanding (I have not read the book) and did not encounter it until early 2018.⁴ Within the development timeline of GGDM, the congruence of reality concept dates probably from around 2002, and the concepts of objective and subjective spaces, the Galactic Space and Public Space are the base on which the game is built throughout. While I do not recall any specific external source of inspiration for the congruence of realities idea, it is perhaps indicative of a developing aspect of the cultural milieu of the United States at the turn of the millennia; and of the way in which ideas occur originally or semi-independently in differing shades over time.
- ✓ “John P. Newport, in his study of the impact of New Age beliefs, described the central focus of the *Seth Material* as the idea that each individual creates his or her own reality, a foundational concept of the New Age movement first articulated in the *Seth Material*.” – from Wikipedia article, “Seth Material,” October 29, 2018, citing to John P. Newport, *The New Age Movement and the Biblical Worldview: Conflict and Dialogue* (1998), p. 165.
 - Although GGDM is not a work of ‘New Age’ philosophy – whatever that even means, no one is certain – once ideas get out into the public space, there is a certain process of enculturation. Thus, if it can be considered New Age in any way, it is accidental; I have never read any of the Seth Material books or anything similar.
- The Galactic Space: The physical universe playing area of the game is an unexplored piece of three-dimensional galactic space starting with thirty stars with any number of planets, and whatever else might be found in a ‘typical’ section of galactic space. All positions begin in

this unexplored area – a cradle of future interstellar civilization.⁵ The Galactic Space expands during the game as positions explore beyond the initial cluster by adding new stars. All stars in the Galactic Space of the game are assumed to be part of the same galaxy.

- ✓ The stars in the Galactic Space do not move during the game, human fiction does not generally engage with such meaningful time scales; alternatively, fixed coordinates are a game mechanical convenience regardless of how much time passes.
- **Celestial Cartography:** The Starlog initially lists the names of thirty stars that form the Galactic Space playing area, with a set of three-dimensional Cartesian coordinates for each star in x, y, z format, the Stellar Class of the star. The details of what the information on the Starlog means will be explained in later sections. The Starlog will be chosen by the Concierge during the game setup. Through exploration, the positions may expand the Galactic Space as necessary (the Galactic Space gets crowded quickly!). The Starlog will be displayed to each position and will also contain planetary information known currently by the position.
 - ✓ In Mike Resnick’s Birthright: The Book of Man (1982), the human government had built a huge cartography building that housed an enormous three dimensional galactic map. Perhaps it might be envisioned as something like the Engineers orrery scene in *Prometheus* (2012). Something similar on a tiny scale – the map of the multiverse room – appeared in Amazon’s *Man in the High Castle* series (“Every Door Out” 2019).
 - ✓ “I see only one advantage in providing our army with out-of-date maps: If they fall into the hands of the enemy, they mislead them too.” – Prince Rudolf (Omar Sharif), *Mayerling* (1968).
- **The Public Space:** The Public Space is the other playing area of the game. The Public Space is where civilization defines its version of what is real and what it all means. Each position has only one Public Space, which is secret, and serves as the main part of each position’s civilization. The Public Space is a two-dimensional, abstract, usually irregularly-shaped representation of an interstellar civilization’s reality. Coordinates in the Public Space are described in A and B coordinates to differentiate them from the standard Cartesian coordinates used for Galactic Space. Public Space coordinates have no correlation whatsoever to the Galactic Space coordinates depicted in the Starlog.

In this sense, the Public Space is very much like Slipstream in the *Andromeda* television series (which appears to be based on neuroplasticity):

- ✓ “One interesting thing about moving through the slipstream is that travel time between points has very little to do with the distance actually traveled. If a pilot is lucky, and the stream unfolds just right, the ship could transit between galaxies in minutes. But put an unlucky pilot at the helm and the same trip could take weeks or even months. Luckily for the cause of interstellar commerce and communication, the more frequently a certain path is traveled, the faster, easier and more predictable the journey becomes. As a result, frequently-traveled routes between major Systems Commonwealth worlds, Tarn-Vedra to San-Ska-Re, are safe and convenient.” – The *Andromeda* Wiki article, “Slipstream,” captured May 28, 2018.

Distance on Public Space has nothing to do with any measure in Galactic Space, things far apart in Galactic Space may be placed adjacent on the Public Space.

- ✓ See related Buzzing Lightyears discussion in 4 The Streams of Time, p. 101, *infra*.
- **Integers and Monads:** For game convenience, coordinates in the Public Space and Galactic Space are always expressed as integers (i.e. whole numbers). Any intersection of the A and B integer coordinates in the Public Space is called a Monad. Each Monad can only be occupied by one object at a time. Similarly, each integer intersection of X, Y, and Z coordinates in the Galactic Space can only be occupied by one ‘star system’ or nothing at all (with the exception of any unique, special objects the Concierge may insert).
 - ✓ One of my favorite fantasy short stories is “Palimpsest” by Tais Tang published in Dragon Magazine, p. 62, Issue 123, July 1987. The story begins in a fantasy feudal world where Elves lord over Men, who are simple farmers and villagers. Iron is illegal because it counters the magic of the Elves and the Elves are also vulnerable in the two hours of bright sunlight of each day; most of the rest of the day being twilight. The humans rebel against the Elves, kill an Earl, but are subdued by the Elven retaliation. One of the young humans is taken to live with the Elves. Then he discovered the truth: the world was a dream, writing over the ugly reality of a post-apocalyptic Earth, a second-choice reality filling the void when the Earth was rendered lifeless by World War III. In this story, reality (or god if you will) is presented with Aristotelian *horror vacui*.

“Critical spatial thinking today hinges around three principles:

a) The ontological spatiality of being (we are all spatial as well as social and temporal beings).

b) The social production of spatiality (space is socially produced and can therefore be socially changed).

c) The socio-spatial dialectic (the spatial shapes the social as much as the social shapes the spatial).”

– Edward Soja, “The City and Spatial Justice,” JSSJ, January 2009

The Shape of Reality: Every creature, group, nation or civilization has a phenomenological space, the place of concepts, connections, meanings, and memories, where objects don’t necessarily correspond to literal space relationships or objective reality (a ‘twilight zone’ if you like). This is the Public Space. The Public Space represents the ‘shape of reality’ as experienced by that race. Each position’s Public Space will be of a different size and shape, and may change during the course of the game.

- **The Illusion of Choice:** After positions choose their Fundamental Realities, the Concierge will randomly generate the position’s Public Space. The size of the Public Space will depend on the number of Fundamental Realities chosen, as mentioned previously, but all Public Spaces must at least be large enough for the position to begin with five Government Titles in their Public Space and some extra room for colonies, pieces, pathways, etc. (all described later). Public Spaces exist on a regular plane, and may form a regular shape, but probably will not. Public Spaces are finite, and therefore, may become overcrowded.
 - ✓ The ‘illusion of choice’ is a close cousin of ‘managed democracy.’ The set up process – and play of GGDM – resembles a managed or guided democracy in every way, the Concierge is a *de facto* autocrat!

“Talking with a Martian is something like talking with an echo. You don’t get any argument, but you don’t get any results either.” – Robert Heinlein

Endnotes.

¹ Citation: “What’s the mission of this vessel, Doctor? To seek out and contact alien life, and an opportunity to demonstrate what our high-sounding words mean. Any questions?” – Captain Kirk, “The Corbomite Maneuver” (ST:OS 1966).

² Citation: “The truth is incontrovertible. Malice may attack it, ignorance may deride it, but in the end, there it is.” – Winston Churchill.

³ Citation: [*post-apocalyptic and fantasy world scenes*] “Reality is a strange and curious thing. Most see it as something singular and solitary. I know it is infinite. Yet with a multitude of realities to move among, to explore... any single one, no matter how satisfying... grows more and more difficult to maintain.”

- ✓ [*modern large mechanical draftsman shop scene*] “Of course, that hasn’t always been true. There was a time when the reality I knew was just as set and solitary as that of anyone else.”
- ✓ [*upscale suburbia scene*] “Too set. Too solitary. I felt there had to be something more... and I began to search for it in even odder and stranger places.”
- ✓ [*public library scene*] “That search was long and all consuming... but it led eventually to knowledge; mostly ancient, often ridiculed, sometimes forbidden.”
- ✓ [*dark home study, worried family looks on*] “Reality was a matter of perception. Alter perception and new universes were born; endless, infinite, where any reality imagined could actually exist. I had but to master phasing from the reality in which I felt so entrapped into whatever one I most desired. That mastery escaped me, frustrated me... Yet drove me on to the exclusion of everything else. Then, even as the demands of my reality became too pressing, too overwhelming to continue to postpone and ignore... I suddenly experienced success. Not total. Merely a brushing of one reality with another...”
- ✓ [*Fantasy, sci-fi, post-apocalyptic scenes*] “...but it was the breakthrough I needed, the hint that what I was trying to achieve was not a crackpot dream but entirely possible. Soon enough, I was locking out one limited existence and setting my mind... to phase into another far more amazing and wonderful. And having discovered such an ability, it was difficult not to test it, to continually explore the infinite realities, the limitless lives that might have been mine... and in these alternative universes, were! But the more I played with the phasing, the more I found I had trouble sustaining my stay in any one reality. As the excitement, the intensity of the experience began to fade, so did my control. I now find myself continually phasing, vanishing suddenly from one reality to appear in another. Sometimes magnificent... but more often of late, chillingly grim.”
- ✓ [*He is apprehended by force and put in a padded cell with a straight jacket*] “Reality is a strange and curious thing. Most see it as something singular and solitary. I know it is infinite.”
- ✓ [*he fades out of existence wearing the straight jacket*] – Archie Goodman (story) and Al Williamson (artwork), “Out of Phase,” *Epic Illustrated*, Vol. 1, No. 34, February 1986.

⁴ Commentary & Citation: Thirdspace is not a common internet subject, references to Soja’s Thirdspace are somewhat difficult to find (especially as Babylon 5 had a movie of the same name). The No Space Like Home blog page was very helpful (the blog appears to be inactive since mid-2012, which is a shame):

- ✓ “His spatial theory called ‘Thirdspace’ is largely an extension of the work of Henri Lefebvre and is focused within the field of cultural geography. Soja employs a triad of space where space is spatiality, sociality and history. This is the space, Soja contends, where everything comes together. For Soja, modernism emphasized history at the expense of geography. Thirdspace according to Soja is a way of ‘thinking about and interpreting socially produced space,’ where the spatiality of our lives, our human geography, has the same scope and significance as the social and historical dimensions.” – Soja page at No Space Like Home (WordPress Blog), unattributed and undated, <https://2113humtheresnospacelikehome.wordpress.com/soja/>.

⁵ Commentary: Because in this universe, everyone has to be somewhere? *A priori*. Like saying that two objects cannot occupy the same space at the same time, such statements simultaneously sound stupid (like, duh, really?) and somehow profound. And the closer you examine the statement, the less certain you are of the “stupid” truth of such statements.

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See Appendix FR – The Fundamental Realities
See Appendix GT – Emergent Government Titles

“Ah, arrogance and stupidity all in the same package. How efficient of you!”
– Londo Mollari, Babylon 5, “In the Beginning” (1998)

Luc: *Are you really Emperor?*

Londo: *I sometimes ask myself the same question. Yes, I’m the Emperor. Here, you see? This is the seal of the Centauri Republic. Only the Emperor can wear it. So either I am the Emperor, or I am in a great deal of trouble. Or both.*

– Babylon 5, “In the Beginning” (1998)

Those Who Stand Looking: All positions must begin with at least three Government Titles and cannot have more than five Government Titles.¹ Government Titles represent some combination of the central authorities of a civilization, the groups and interests who hold power over those central authorities, and the identities and visions of the people over whom those far reaching authorities govern. Positions must begin the game with a central government.

- **The Power to Choose:** Each position chooses starting Government Titles after the Public Space is set.
 - ✓ All positions must choose one (and only one) Structural Government Title and may choose, from a pool of ten randomly generated Estate and Social Titles called The Foresight, any combination of two or more additional Estate and Social Government Titles up to a maximum of five total Titles (incl. Structural Title).
 - ✓ The number of Government Titles also determines the number of Powers a position may activate each turn and how many Acts and Scenes are received each turn during the game. Government Titles are a complex subject that is described in greater detail later in these rules, but like Fundamental Realities, more Government Titles tend to restrict the options available to a position, even as the position receives the ability to do more from having more Titles (five Titles really is a practical game limit).
 - ✓ Unlike Fundamental Realities, Government Titles can be changed during the game, but it is a disruptive and sometimes difficult process that should be undertaken with care. Therefore, the initial choice of Government Titles is important. The Foresight will remain after setup as a pool of Titles from which a position may choose during the game when changing Titles. The Concierge will not alter Government Titles choices submitted by the positions.
 - ✓ See further discussion of The Foresight in Pool of the Abyss, 4 Government Titles, p. 630, *infra*.

Positions should choose Titles which they can probably maintain in the near-term and plan their early game based on what will keep the Titles from failing all Conflict Checks and becoming disrupted (see Foreclosure of a Dream, 3 Government Titles, p. 615, *infra*). Some are more difficult than others. As a concession to the early game situation, Conflict Checks will not be checked until the end of the third or fourth turn. Happy honeymoon.

- **The Place of Government:** All Government Titles consist of two parts, the large Government Title ‘piece’ which is placed on the Public Space and a corresponding Magna Carta describing the legitimacy requirements of the Government Title. Government Titles must be legally placed on the Public Space during the setup, as described in the Government Titles section. Once placed, the Government Titles cannot be moved, but can be removed during the course of the game if the Government Title is disrupted or changed.

“They didn’t listen of course. Arrogant men never do. Sadly, arrogance has never been exclusively a Human trait. It travels between the stars like solar winds.” – Londo Mollari, Babylon 5, “In The Beginning” (1998)

Native Population Type: A Native Population Type is a unique intelligent species that has its own subjective and objective physiological and psychological identity as a distinct sapient species. In short, a Native Population Type is your biologically and/or mechanically distinct species: Your starting population and all population factors descended from them during the game.

- **Galactic Shelf:** Native population types are all assumed to be sapient, possess existential free will, possess a Sentience Quotient (SQ) of approximately +13 (human = SQ+13) and are assumed to be at the top of the food chain on their homeworld. They are not assumed to be necessarily humanoid, human or possess any specific body size or shape. Dr. Who is perhaps the best example of an intelligence in excess of SQ+13 in video science-fiction; his main, consistently demonstrated, ability is to process and analyze vast amounts of information, subtle observations and clues (his awareness) in short amounts of time, on a higher order than the human form he takes.
 - ✓ Prof. Antonio Damasio (Dept. of Neuroscience, University of Southern California), “has suggested that consciousness, whether the primitive ‘core consciousness’ of animals or the ‘extended’ self-conception of humans, requiring autobiographical memory, emerges from emotions and feelings” (Jason Pontin, “The Importance of Feelings,” MIT Technology Review, June 17, 2014).² Thus, to the extent that sapience is congruent with humans, it must contain “extended self-conception” and “autobiographical memory.” See full feature quote in The Work of the Mind discussion, 3 The Big Bang, p. 9, *supra*.
- **Major Natives:** Each position represents a Major Native Population Type; two or more positions may represent different factions of the same Major Native Population Type, with related, but different sets of Fundamental Realities and Government Titles. Major Native Population Types are those that have achieved at least a significant in-system travel and colonization capability, and in most cases, have achieved interstellar flight capabilities or will soon, i.e. technologically-advanced races. The Native Population Type of each position begins with the initial populations and extends through all population factors grown from the original populations. All population factors of each position’s Native Population Type are affected, as appropriate, by the Fundamental Realities and the Primal State chosen before the game, the current Government Titles, all technologies completed, and share the Public Space belonging to their position while they are part of their Native Population Type’s position.
 - ✓ The concept of major races as presented here comes directly from my experience playing Traveller RPG in my youth; Major Race is a very specific and defined term in

Traveller's Third Imperium setting. However, Traveller's scheme of Major and Minor races simply codified a long-running thematic division in science-fiction literature: races, civilizations and/or populations that have achieved technology and interstellar travel capabilities, and those that did not. This in turn is assuredly an echo of the era of European global exploration, colonization and dominance, where the stark difference existed between those cultures that had oceangoing ships and accurate navigation and those that did not (e.g., see the *United States v The Amistad*, 1841). In this sense, GGDM is an echo of European colonialism, as is science-fiction trope.

- Minor Races: In addition to the Native Population Types of the positions (i.e. the Major Races), there may be a number of Minor Races located in the Galactic Space. Minor Races are discussed in 4 Diplomacy, p. 1140, *infra*. These Minor Races are civilizations distinguished from the Major Races in that they have not yet achieved either Stardrive or significant in-system colonization (and probably won't anytime soon). The Concierge controls all Minor Races and determines their placement. Players will generally not know the location of Minor Races until they discover them.
 - ✓ The core definition of the term "species" is the ability to reproduce offspring who can in turn reproduce. Two creatures belong to the same species – despite outward differences in size and appearance (e.g., sexual dimorphism, sexual dichromatism) – if they can produce offspring who can, if they survive, produce offspring of like kind. Species is continuity of life.
- Race and Ethnicity: Whether a Native Population Type has distinct races and ethnicities is up to the players and the Concierge. **Race** is more genetic (in the current use) while **ethnicity** is based more on common ancestry, culture, language, and dress. Both are a result more or less of random assortment of genes, genetic drift and genetic isolation – one of the primary drivers of mutation and evolution – in large populations spread over the surface of a sizable planet. It is more likely than not, then, that any species that comes into the game as a result of evolution (which implies an ability to change and a process of change, probably biological change), will have some sort of racial and/or ethnically distinct groupings. Diaspora to colonies would tend to continue the process and/or create new 'races' and 'ethnic' groups based on colonial ancestry and affiliation. This does not automatically equate to the presence of racism or ethnic hostility.
 - ✓ When I was young, I read S is for Space (1966), R is for Rocket (1960), Dandelion Wine (1957), The Martian Chronicles (1950) and maybe the Illustrated Man (1951) by Ray Bradbury. One story I remembered 35+ years later was "Way in the Middle of the Air" (1950) (I confess I had to go look up the title, but I remembered the gist of the story) about an Exodus of African Americans ("blacks") from the old Jim Crow South aboard rocket ships going to Mars colonies. It was in The Martian Chronicles, but I think it was excluded from the TV mini-series (1979) and was excluded from post-Cold War reprints. The base question of the story was what would Southern white men do without a daily target for their racism? It was published before the Civil Rights Movement. The Exodus is never mentioned elsewhere, and therefore is a discontinuity to the stitched-together story of The Martian Chronicles. It was one of Bradbury's few timely and overtly political stories, and critics (e.g., Sparknotes) believe it is one of his weakest.

“...absurdities like aliens who lusted after Earthwomen (about as logical as a man lusting after female though not male lobsters) and human/alien cross-breeding (genetically impossible) were once a firm part of the science fiction tradition.” – [The Science in Science Fiction](#), Ed. by Peter Nicholls (1982)

Pan-Galactic Pornography: What is sexy to an alien? The game assumes generally, that cross-breeding between Native Population Types (whether Major or Minor) *will not* occur. Interstellar interspecies crossbreeding should be viewed with extreme skepticism across the board, even if the species involved are both humanoid.³ With the necessary caveat – and this is where science-fiction writers find a loophole for interspecies crossbreeding – that modern humans have Neanderthal and Denisovan DNA indicating crossbreeding of premodern (or archaic) and *now extinct* hominid subspecies (e.g., a first-generation Neanderthal-Denisovian offspring was found⁴). This also indicates that premodern human ancestors had spread to Asia and had the ability to traverse short distances over water *before* the famous “out of Africa” migration of early modern humans.

- ✓ “The prehistoric world of multiple human species co-existing has often been compared to Middle Earth or other fantasy worlds, where dwarfs, elves and others all share the lands ... however ... the world of multiple human species was more like Star Trek with introgression between species being pretty common...” – Ben G. Thomas, “Who Were The Denisovan Humans?” YouTube, April 12, 2020.

Science-fiction literature rarely invokes or discusses the subject as it leads to uncomfortable discussions – whereas apparently faster-than-light travel is sexier and not considered as problematic technologically or philosophically for science-fiction writers and fandom. Fantasy, freed from inconvenient science, takes a more permissive, romantic and liberal “love conquers all” view (e.g., Arwen in Lord of the Rings). On Earth, we have had limited success in crossbreeding animal species, and the parents must share the same genus, for example, the mule (a male mule is called a horse mule, a rare female mule is called a Molly, but Mollys very rarely have offspring).

- ✓ In the Babylon 5 Crusade episode “The Needs of Earth” (1999) a stolen data crystal had a pornographic scene involving humans and aliens. There was no implication of reproduction, however. Surgical alteration was implied so that aliens could interact with humans in that way.
- ✓ In “Love Doesn’t Last Forever,” by Alan Moore (writer) and Rich Vietch (illustrator) in Epic Illustrated #34 (February 1986), pp. 16-23, a man has an affair with an alien and catches a horrific disease. He then killed his wife, her loverboy, and himself to make sure the disease didn’t spread, but the loverboy’s widow boarded a transport with the infection.
- ✓ In another old science-fiction short story (and I apologize that I do not have the title), an interstellar explorer discovers a lush green planet where a certain species of plant produces elaborate flowers that look like a seductive young human female lounging on a couch, along with hallucinogenic scents that cause male sexual desire. The females of the planet’s indigenous humanoid population destroy the plants whenever they find them, but the humans turn the planet into a sex tourist attraction.

- ✓ BSG featured crossbreeding between human model Cylons and humans and Hera became the mitochondrial Eve of modern humanity... that was mostly the point of the whole story about epochal cycles.

Note however, that the Lost Colonist Position (see 6 Beginnings, p. 63, *infra*) shares a *biological* Native Population Type with another position in the game – and thus are of the same species or close anyway – and mixing and crossbreeding (but not in the truest sense) *might* be possible between those two positions.

- ✓ Technically, Delenn in Babylon 5 was a Minbari that became a Human to close the circle of the prophecy (Captain Sinclair became a male Minbari). As a member of the Grey Council (until she broke it) and a leader of the religious caste, Delenn was still considered a Minbari ... but it is clearly indicated that she had a post-marital sexual relationship with Capt. Sheridan, that she had normal human ‘female problems’ (she consulted with Susan Ivonova who became her human female mentor), and they had a son, David. Whether Humans and Minbari constitute a Lost Colonist Primal State (see 6 Beginnings, p. 63, *infra*) relationship in Babylon 5 depends on whether you share the Minbari beliefs about the cycling and migration of souls. They certainly evolved independently on two planets, unless you believe outside agencies, e.g., the First Ones or the Great Machine, intervened, and thus are very different humanoid biologies. There is no indication that other Human and Minbari pairings could reproduce or even that they were sexually compatible, only that Delenn changed species.
 - See also Prophecy discussion, 2 Wheels in the Sky generally, *infra*.

But the situation might also be like that of Chimps and Bonobos or Old World and New World Monkeys, cases where populations separated by geography drifted apart into separate species.

- Courtly Love: Whether ‘courtly love’ or ‘platonic love’ could exist between alien species is a much more interesting question.

- ✓ “According to the autobiographic *La Vita Nuova*, Beatrice and Dante met only twice during their lives. ... It is more likely that the encounters with Beatrice that Dante writes of are the two that fulfill his poetic vision, and Beatrice, like Petrarch’s Laura, seem to blur the line between an actual love interest and a means employed by the poet in his creations.

Following their first meeting, Dante was so enthralled by Beatrice that he later wrote in *La Vita Nuova: Ecce Deus fortior me, qui veniens dominabitur michi* (‘Behold, a deity stronger than I; who coming, shall rule over me’). Indeed, Dante frequented parts of Florence, his home city, where he thought he might catch even a glimpse of her. As he did so, he made great efforts to ensure his thoughts of Beatrice remained private, even writing poetry for another lady, so as to use her as a ‘screen for the truth.’

Dante’s courtly love for Beatrice continued for nine years, before the pair finally met again. This meeting occurred in a street of Florence, which she walked along dressed in white and accompanied by two older women. She turned and greeted him, her salutation filling him with such joy that he retreated to his room to think about her. In doing so, he fell asleep, and had a dream which would become the subject of the first sonnet in *La Vita Nuova*.” – from Wikipedia article, “Beatrice Portinar.”

- ✓ “Upon her death in 1348, the poet found that his grief was as difficult to live with as was his former despair. ... While it is possible she was an idealized or pseudonymous character – particularly since the name ‘Laura’ has a linguistic connection to the poetic ‘laurels’ Petrarch coveted – Petrarch himself always denied it. His frequent use of *l’aura* is also remarkable....

There is psychological realism in the description of Laura, although Petrarch draws heavily on conventionalised descriptions of love and lovers from troubadour songs and other literature of courtly love. Her presence causes him unspeakable joy, but his unrequited love creates unendurable desires, inner conflicts between the ardent lover and the mystic Christian, making it impossible to reconcile the two. Petrarch’s quest for love leads to hopelessness and irreconcilable anguish, as he expresses in the series of paradoxes in Rima 134 ‘Pace non trovo, et non ò da far guerra;/e temo, et spero; et ardo, et son un ghiaccio’: ‘I find no peace, and yet I make no war:/and fear, and hope: and burn, and I am ice.’ Laura is unreachable – the few physical descriptions of her are vague, almost impalpable as the love he pines for...” – from Wikipedia article, “Petrarch,” captured October 31, 2019.

Nowadays, Dante and Petrarch would be called pervs and stalkers, and someone would call the police. They would be fired from their jobs or sued for harassment. Or their female love interest would say something rude like “Take a picture, it will last longer,” and some frat boy would want to start a fistfight. Our thoughts now always go instantly to the carnal; a complete historical turn from the poetic and literary ideals of five centuries ago, by the standards of centuries past, modernity has devolved us to the base and vulgar version of humanity.

Courtly or platonic love is beyond the reach of the current milieu where sexual gratification is idealized, and because of this, science-fiction literature has rarely attempted it (it requires considerable buildup to get to the concept currently). In Star Wars, the love between Luke Skywalker and Princess Leia must remain platonic because they are siblings, while the baser Han Solo character is free to indulge in his carnal desires. But they are all humans.

Perhaps the best screen version of science-fiction courtly or platonic love is in Babylon 5:

- ✓ “As part of the rebirth ceremony, I am required to tell someone that which I have never told anyone before. I love her [Deleenn]. ... My love for Deleenn is not quite what you might think. It is not romantic love as you consider it, it’s something higher, and nobler. A pure, perfect love if you will. I know that Deleenn is fated for another and I’ve accepted that in my heart. But I have vowed to stay at her side through all things for as long as I live. ... Since I can never tell her, I tell you as part of the ritual.” – Lennier, Babylon 5, “Ceremonies of Light and Dark” (1996).

Later, Lennier says to Deleenn in “Rising Star” (1997), “All love is unrequited.” He was repeating what Ivonova allegedly said, but he was really saying what he meant. Later in “Objects at Rest” (1998), Lennier finally gives into his jealousy and abandons Capt. Sheridan (now Deleenn’s husband) instead of rescuing him from an accident. Lennier fled into the unknown and broke his vow to stay by her side for as long as he lived.

- ✓ See also discussion of Shared Meanings in *The Commonality*, 3 Diplomacy, p. 1131, *infra*.

- **Special People:** There may also be other Major Races or ‘special races’ that are not Minor Races, which are introduced, defined and controlled by the Concierge for game purposes (e.g., the ‘Sea Peoples’ who plagued the late Bronze Age Mediterranean).

“Long before you were born a man decided that there could be a very simple test to determine if a machine was intelligent. Not only intelligent, but aware, possessed of a psychology. The test had only one question. Can a machine converse with a human with enough facility that the human could not tell that she was talking to a machine? I always thought this was cruel – the test depends entirely upon a human judge and human feelings, whether the machine feels intelligent to the observer. It privileges the observer, the human, to a crippling degree. It seeks only believably human responses. It wants perfect mimicry, not a new thing. It’s a mirror in which men wish only to see themselves.” – Catherynne M. Valente, Silently and Very Fast (2011)

Sentience vs. Sapience: Science-fiction writers have regularly misused the word “sentient” for decades when they mean “sapient” and “sapience” and it has spread to other writers and media. It always starts with definitions (tendentious pedant time!⁵):

- ✓ Merriam-Webster online dictionary at **sentient**: **1:** responsive to or conscious of sense impressions; **2:** AWARE; **3:** finely sensitive in perception or feeling.
- ✓ Merriam-Webster online dictionary at **sentience**: **1:** a sentient quality or state; **2 :** feeling or sensation *as distinguished from perception and thought* (emphasis added).
- ✓ Merriam-Webster online dictionary at **sapient**: possessing or expressing great sagacity.
- ✓ Merriam-Webster online dictionary at **sagacity**: the quality of being sagacious.
- ✓ Merriam-Webster online dictionary at **sagacious**: **1 obsolete: keen in sense perception; 2 a: of keen and farsighted penetration and judgment : DISCERNING, b:** caused by or indicating acute discernment (emphasis added).
- ✓ Merriam-Webster online dictionary at **sapience**: wisdom, sagacity.

So sentient/sentience cannot be the same as sapient/sapience, *ut infra*. The terms will be used correctly here as the distinction is vitally important, that is, in GGDM text, “sapient/sapience” will often be used where others would use “sentient/sentience.” Sentience Quotient and sapience are entirely different measures of *looking* (discussed later), and should not be confused – for example, it is probably possible to have a SQ +20 computer that is not sapient – though it is likely there is some as yet unarticulated relationship between SQ and sapience. Sentience was congruent with life until the information age, sapience was congruent with biological personhood until the possibility of artificial intelligence was first recognized (have you hugged a T-800 today?).

- ✓ “The Turing Test was invented in 1950 by British mathematician Alan Turing, one of the fathers of the computer age. Turing was also a gay man in a period when homosexuality was illegal in Britain. In 1952 he was convicted of committing homosexual acts and forced to undergo chemical castration. Two years later he committed suicide. *The Turing Test is simply a replication of a mundane test every gay man had to undergo in the 1950s Britain: can you pass for a straight man?* Turing knew from personal experience

that it didn't matter who you really were – it mattered only what others thought of you. According to Turing, in the future computers would be just like gay men in the 1950s. It won't matter whether computers will actually be conscious or not. It will matter only what people think about it.” – Yuval Noah Harari, Homo Deus: A History of Tomorrow (2016) (emphasis added).

- ✓ “I’ll tell you what, for every cyborg that isn’t human, I’ll show you a person that’s less than human.” – Cpt. Walker, Nydenion (2010).⁶
- ✓ See discussion of sophonts in *Alien Persons and Sophantistry*, 2 *Diplomacy*, pp. 1110, 1113, *infra*.

“We’ve never observed the Neanderthal Y chromosome DNA in any human sample ever tested,’ Carlos Bustamante, professor of biomedical data science and of genetics at Stanford’s School of Medicine said in a news release. ‘That doesn’t prove it’s totally extinct, but it likely is.’ Researchers aren’t sure if the absence happened by chance or can be explained by evolutionary circumstances. It may be, Bustamante said, that genes in the Neanderthal’s Y chromosome were incompatible with human genes. ‘The functional nature of the mutations we found, suggests to us that Neanderthal Y chromosome sequences may have played a role in barriers to gene flow, but we need to do experiments to demonstrate this and are working to plan these now,’ Bustamante said.”

– Brooks Hayes, “Modern male DNA without Y chromosome genes from Neanderthals,” *United Press International (UPI.com)*, April 7, 2016

Dating Man: Despite what females think, there is no Neanderthal Y Chromosomes in modern males (*ut supra*).

- ✓ See also Assortative Mating discussion, 5 *Taxation & Census*, p. 344, *infra*.

There have been many people who have claimed to ‘disprove’ the ‘theory of evolution.’⁷ None have been convincing and the idea of evolution of life on Earth, if not elsewhere, remains a bedrock of science, and a crumbling bedrock of opposition by religious conservatives.⁸ In the 1980s, however, evolution was not taught in high schools, no school board politicians would touch it, unless they could appease the religious conservatives by also teaching ‘creation science,’ a farce that was shot down by the courts (e.g., *McLean v. Arkansas* (1982), *Edwards v. Aguillard* (1987), and *Kitzmiller v. Dover Area School District* (2005) re: neo-creationist “intelligent design,” opinions are available in free PDF online), and mocked by the media.

- ✓ “Evolution pervades all biological phenomena. To ignore that it occurred or to classify it as a form of dogma is to deprive the student of the most fundamental organizational concept in the biological sciences. No other biological concept has been more extensively tested and more thoroughly corroborated than the evolutionary history of organisms.” – National Academy of Sciences (1984) as cited in Eugenie C. Scott, “Antievolution and Creationism in the United States,” *Annual Review of Anthropology* (1997), PDF is available for free at http://bio.classes.ucsc.edu/bio175/Other/Scott_1997.pdf.

Evolution is not properly a ‘theory’ but more or less accepted empirical fact; any confusion of this point is a willful lack of understanding of the scientific process: There is no shortage of scientific media on this subject refuting religious fundamentalists. Any success in ‘disproving’ evolution would essentially *destroy modern science as it is currently* as every branch of science – physics, chemistry, biology, psychology, zoology, geology, every one – has contributed something to the study of evolution of life on Earth. This is, of course, exactly what some people want, they want to somehow shove the genie back into the bottle, claw the world back to some religiously idealized time and condition in the past, to recede technology, undo history since 1780 A.D.

- ✓ This should not be confused, however, with the anarcho- or green-primitivism movements, who want a similar result but for different reasons and don’t seem to care much about evolution or science, but oppose the current technological civilization.
- **Omega Point:** Alternatively, ‘theistic evolution’ does not present itself as a theory and thus is not ‘creation science,’ but rather an attempt to harmonize creation mythology, supreme being (or God if you like), mysticism, with biological evolution and abiogenesis. To the extent that theistic evolution is so presented, most people listen politely, then shrug their shoulders and keep their own opinions. The problem with ‘theistic evolution’ is that it is primarily Christian (or by a stretch Abrahamic) and to be fully colorable as an argument, it should treat all creation myths as equally valid (a problem in itself) and seek to harmonize all of them consistently with each other and with biological evolution, cosmology’s age of the universe, geology’s age of the Earth – and you can be sure that other religions are not going to agree to this at all, and I do not think such efforts have been made in any case. Further, it suffers from the same “*a priori* metaphysical assumptions” as creation science, “that there exists a creator of the life whose origin is being examined” (from Wikipedia article, “Creation Science,” February 2, 2019), that is, that ‘theistic evolution’ – though not presenting itself as a theory (and avoiding testability) – begins with the assumptions both that creation stories are valid (in some non-literal sense) and a stated acceptance of biological evolution as valid, and then tries to harmonize them. That’s the problem in a nutshell.

Theistic evolution probably traces in part back to Pierre Teilhard de Chardin’s (1881–1955) Omega Point:

- ✓ “Teilhard’s theory was a personal attempt in creating a new Christianity in which science and theology coexist. The outcome was that his theory of the Omega Point was not perfectly scientific as examined by physicists, and not perfectly Christian either” – from Wikipedia article, “Omega Point,” February 6, 2019.

Omega Point, like the Rapture, or the once posited Big Crunch or opposite, Heat Death of the Universe, is so far removed into the uncertain future from the lives of humanity that it’s really meaningless, and so most people politely listen, shrug their shoulders and keep their own opinions. See discussion of Empirical Mythology, 1 Technology, p. 691, *infra*.

- ✓ “Young Earth creationists ... criticise theistic evolution on theological grounds, finding it hard to reconcile the nature of a loving God with the process of evolution, in particular, the existence of death and suffering before the Fall of Man. They consider that it undermines central biblical teachings by regarding the creation account as a myth, a parable, or an allegory, instead of treating it as historical. They also fear that a capitulation to what they call ‘atheistic’ naturalism will confine God to the gaps in

scientific explanations, undermining biblical doctrines, such as God’s incarnation through Christ.” – from Wikipedia article, “Theistic Evolution,” February 3, 2019.

- **Boorish Behavior:** Notably, the time that ‘creation science’ was being challenged in the courts coincides generally with the time that Christian Fundamentalist were also fiercely (and futilely) attacking Dungeons & Dragons (and Ozzy Osbourne, AC/DC, comic books, movies, and anything else they didn’t like) as ‘satanic’ or a cult that leads to suicide.

- ✓ See Excerpt – Dangerous Games, Prime Mover, *supra*.

Fundamental Christianity lost both battles and looked very foolish, boorish in the process, then the world moved on, the Berlin Wall came down in 1989. Clearly this outlines as a fight for *worldview* by – when the population could not be convinced otherwise – attempting to suppress disagreeable or distasteful ideas from general publication and from teaching in public schools. It failed on all counts.

- ✓ See Tyranny in the Nursery discussion, 3 Colleges, p. 491, *infra*.

- ✓ “The Bible as we have it contains elements that are scientifically incorrect or even morally repugnant. No amount of ‘explaining away’ can convince us that such passages are the product of Divine Wisdom.” – Rabbi Bernard J. Bamberger.

It is not the religion that is objectionable. And that is a distinction to be made; someone like reformist Rabbi Bamberger who recognizes that there are problems with the biblical record, both morally and scientifically, but still keeps the faith and spirit of the ancient religion, is the complete opposite of Biblical literalist and fundamentalist who insist that their book is right, divine, and the only truth and arrive at preordained conclusions, regardless of the mounting evidence, analysis, commentary and belief of the population to the contrary.⁹

The screaming and fanatical ranting of the religious fundamentalist and literalist is an alternate reality and a *prolonged shout into the void*, barrowing phrases from Sam Brodey, “The Chronicles of Nunes: How His Impeachment Speeches Created an Alternate Reality for GOP,” The Daily Beast, November 26, 2019 (emphasis added) (see full quote, 2 Constructural Elements, EN 5, p. 201, *infra*).

“The ideology of the old Commonwealth seems to grow more aristocratic the more we learn about it, so I’m a bit ambivalent about the return of the great and mighty Vedrans. It’s nice to see a fictional universe where a human being is not the greatest thing anyone can be, but the reverential tone Dylan gets when he talks about Vedrans makes me uncomfortable. And I really dislike the concept of alien Warders for a noble species – hopefully that’s the exception rather than the rule. Right now the old Commonwealth seems almost as hierarchical as Nietzschean society. When sentient ships are programmed to think as servants that dote and depend on captain-masters, one suspects an ideology of patronage and privilege exists elsewhere in the social order.”

– Michelle Erica Green, review of Andromeda episode, “The Fair Unknown,”
 littlereview.com, April 14, 2002

Endnotes.

¹ Commentary & Citation: Having only three Government Titles might be interpreted as an ideology of small government:

- ✓ “In any case it may be too little too late. The lack of police staff is a major issue, but not at the root of the problem, a lack of government commitment is. There are just too few civil servants securing the checks and balances of the state. If, for instance, there are no border police checking the cargo and no civil servants doing background checks on entrepreneurs, criminal elements can work with ease. It’s a tragic by-product of the years long political call for small government. Where small government rules, it turns out, criminal networks can flourish.” – Nadette De Visser, “The Dutch are Waking Up to Discover They Live in a ‘Narco State’” The Daily Beast, November 26, 2019.

² Citation: “Oh, the arrogance. I was recently talking to one of my friends, a former Bill Clinton operative, about the unique properties a special category of people have in common. The category is Humans Who Run for President of the United States. The unique properties are, in a word, an outsized sense of self. A level of arrogance is, by definition, required. Imagine believing you can solve unwieldy, complex, centuries-old, systemic problems that others heretofore have not, that your singular genetic and experiential alchemy makes you the best person to lead a nation, that you can in fact defeat dozens of other capable and qualified candidates to be the last man or woman standing.” – S.E. Cupp, “Hillary Clinton, get real,” CNN, November 14, 2019.

³ Citation: “Dogs and foxes cannot interbreed, because they have vastly differing chromosome counts. The red fox (*Vulpes vulpes*) has 34; the dog (*Canis lupus familiaris*) has 70. Gametes from each animal (sex cells) would have 17 chromosomes for the fox, and 35 for the dog. Assuming they could even figure out what each other wanted enough to mate, you’d have gametes with 17 and 35 chromosomes meeting, and a zygote of 34 complete chromosome pairs with 18 unpaired chromosomes hanging out in each cell. This is not compatible with life.” – Lorri Robinson in response to “Can a dog and fox breed? What would the mix be called?” Quora Forums, August 20, 2015.

⁴ Citation: Matthew Warren, “Mum’s a Neanderthal, Dad’s a Denisovan: First discovery of an ancient-human hybrid,” Nature, August 22, 2018.

⁵ Commentary: Throughout GGDM, definitions are important due to the nature of the game and the nature of the conversation. GGDM uses abundant dictionary definitions and definitions from other sources, and also provides definitions of terms as used within the game.

- ✓ GGDM is in some ways like Dune (1965). I read a review of the 2000 SyFy Channel remake of the Dune movie that commented that the mini-series explained and over-explained throughout so that ‘no one would be left behind.’ The strange terminology was one of the complaints of viewers of the 1984 David Lynch Dune movie. For GGDM to have any value, no one who makes the effort should be left behind.

⁶ Commentary: This is from the English subtitles, it made more sense than what the actor actually said at that moment, which is why I turned on the subtitles. ☺ I have encountered two movies recently where the English close captioned subtitles didn’t fully match the audio dialogue.

⁷ Commentary: *Blitzkrieg* was once a theory too, a military theory to overcome the limitations and problems of WWI industrial warfare (what Napoleon might have called ‘Grand Tactics’). The campaigns of 1939-1940 made it no longer a theory. The results of WWII did not disprove blitzkrieg as a theory, in fact, had no impact at all on the argument; the Germans lost WWII for other reasons, reasons other than the execution of Blitzkrieg. Technology changed the environment and Germany’s enemies learned their system; the principles of blitzkrieg are still at the heart of armored tactics even today.

- ✓ Thus, it is unlikely that the ‘Theory of Evolution’ can be disproven, rather, it may likely be superseded later as technology advances provide new tools for understanding, or our view of the universe changes. But it will still be true within the scope in which it was first conceived.

⁸ Commentary: Calling the ‘evolutionary biology’ a theory is the same as calling climate change a hoax or theory while the polar ice caps are melting and collapsing. Or like calling global civilization a dream ideology cooked up by Hollywood liberals.

⁹ Citation: “[Alexander] Cain wants to know why America isn’t mentioned [in the Bible], and then he centers in on Babylon. Because, you know, that’s never before been done in the history of [Biblical] interpretation....

[quoting from Cain’s book] “Babylon will reach space as it ‘mounts up to heaven’ (Jeremiah 51:53) and ‘raises its throne above the stars of God’ (Isaiah 14:14).”

Cain like many futurists is indeed a literalist, but this seems quite bizarre. This is really supposed to be about the space program? It’s hard to believe that anyone will take this seriously. Still, many will. This language is used to refer to pride and not to a literal action that is taking place.” – Nick Peters, “A Brief Look At Alexander Cain,” May 6, 2015 (forum post, TheologyWeb).

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See Appendix FR – The Fundamental Realities

See Appendix IPT1 – Inheritance & Primal States Tables – Inheritance Cost Table

*See Appendix IPT2 – Inheritance & Primal States Tables – Flat Rate Existential Patents
Cost Table*

See Appendix IPT3 – Inheritance & Primal States Tables – Primal States Table

“It is clear that we cannot distinguish the sane from the insane in psychiatric hospitals. The hospital itself imposes a special environment in which the meaning of behavior can easily be misunderstood. The consequences to patients hospitalized in such an environment – the powerlessness, depersonalization, segregation, mortification, and self-labeling – seem undoubtedly counter-therapeutic.”

– David L. Rosenhan, “On Being Sane in Insane Places,” *Science*, Vol. 179 (Jan. 1973), p. 250-258 (from The Wayback Machine) ¹

“I doubt if a single individual could be found from the whole of mankind free from some form of insanity. The only difference is one of degree. A man who sees a gourd and takes it for his wife is called insane because this happens to very few people.” – Attributed to Desiderius Erasmus (b. 1466, d. 1536)

Primal States: At the beginning of play, all races represented by the positions exist in the Galactic Space (i.e. within the area represented by the initial Star Log) in some original state. The Primal State is a frozen moment in time just before the game begins in which the circumstance of each Major Native Population Type are determined, for which there are only two major options: Either the Major race is established in Galactic Space prior to the game (i.e. Home Positions: Homeworld, Lost Colony and Outposter Primal States), or they just arrived (i.e. Invader Positions: Expedition Leader, Nomadic Warfleet and Truly Alien Primal States).

- ✓ “But this doesn’t mean that there are lots of intelligent aliens out there, just waiting to be contacted, the researchers stressed. ‘The universe is more than 13 billion years old,’ [Woodruff] Sullivan [University of Washington] said.... ‘That means that even if there have been 1,000 civilizations in our own galaxy, if they live only as long as we have been around – roughly 10,000 years – then all of them are likely already extinct. And others won’t evolve until we are long gone. For us to have much chance of success in finding another ‘contemporary’ active technological civilization, on average they must last much longer than our present lifetime.’ (The 10,000-year figure cited by Sullivan refers to humanity’s development of agriculture and other ‘rudimentary’ technologies...)” – Mike Wall, “The Universe Has Probably Hosted Many Alien Civilizations: Study,” *Space.com*, May 5, 2016 referring to A. Frank, W.T. Sullivan III, “A New Empirical Constraint on the Prevalence of Technological Species in the Universe,” *Astrobiology*, Vol. 16, No. 5, May 2016.²

Thus Galactic Space is an interstellar Mesopotamia if you like. As utterly specious as it seems, for game purposes only, the origin or pregame colonies of the non-Homeworld or invader positions will never be found in Galactic Space during play of the game. The invader positions are assumed to be entirely cut off from their ancestors and come as they are to the gathering.³

- ✓ “As men tied to the Earth, we dream of visiting the stars. As men tied to the stars, we will dream of returning home.” – ending narration of the short environmental sci-fi film *Telescope* (2016) by Collin Davis & Matt Litwiller (DUST YouTube Channel).
- ✓ See also *Interstellar Paleolithic Culture* discussion, 6 *Diplomacy*, p. 1172, *infra*.

- **Start It Up:** Primal States are only determined and applied during the set up. All positions must choose their Primal State before the set up can proceed to the last step. During the last step of the setup process, positions must satisfy the requirements of their chosen Primal State by ‘purchasing’ the required population, technologies, and ships with their ‘inheritance’ (i.e. IPs) and informing the Concierge of their desired placements. Once all positions have submitted their Primal State choices, the Concierge will determine the starting location(s) of each position and make the necessary announcements. Only one position will start in any starsystem, and the Concierge will attempt to evenly distribute the starting positions throughout the initial Galactic Space. There are six possible Primal States, the first three representing those who were already there, and the last three represent ‘invaders.’
 - ✓ “‘To have a mother in prison is like a primal wound,’ said Brittany Barnett, founder of Girls Embracing Mothers, the organization that takes Lila for the monthly prison visits. The program, which started six years ago, has worked with 52 incarcerated women, all but two of them single mothers. ‘Once the mom goes to prison, it really devastates the home and family,’ said Ms. Barnett, whose mother spent time in prison.” – Dan Levin, “As More Mothers Fill Prisons, Children Suffer ‘A Primal Wound’” The New York Times, December 28, 2019.⁴
- **Homeworld Position:** Homeworld Positions begin on the Homeworld from which their species evolved. Because of the way in which technological cultures spew electromagnetic spectrum into space (see also Human-Made VLF Bubble feature quote *ut infra*), the Galactic Space locations of all Homeworlds are announced at the beginning of the game. The Homeworld Position must obtain the Industry Existential Patent and must begin with at least 100 native population factors and 20 industry. The Homeworld Position is free to distribute populations and industry to all available planets in the home starsystem, which is already explored, up to legal limits. Some planets may require Controlled Environment Technology (CET) to colonize, but Colony Ships are not required. It is assumed that efficient in-system travel has been established, so no starship or stardrive technologies are required for the Homeworld Position to establish colonies in the home starsystem. A Homeworld Position may be severely hampered in the beginning of the game for the lack of a Stardrive due to having to satisfy population and industry requirements. Should obtain Orbital Shipyard.
 - ✓ **Minimum Requirement:** 205 IPs, 305 IPs with Generic Stardrive Existential Patent, plus 1 other Existential Patent and 1 Application on the 1st Era Matrix.
 - ✓ An intriguing possibility is the EmDrive (formally, the “radio frequency (RF) resonant cavity thruster”) proposed by Roger Shawyer in 1999, who built a couple of models in the early 2000s. The science community thought the idea was preposterous, a violation of the laws of physics, and his test results were in error. In August 2014, there were several news articles published on the EmDrive; the Chinese had built one in 2009 and claimed it worked, and NASA’s Eagleworks Laboratory undertook the task and published a paper saying it works. The catch is, nobody knows why, it is a violation of the laws of physics. The EmDrive does not require propellant, it does not ‘push’ against anything, it is not like a conventional rocket. In November 2016, NASA published a peer-reviewed paper (with less news fanfare) detailing tests and results of the EmDrive at Eagleworks. NASA was impressed enough that they want to try it in space soon. The thrust from the EmDrive is very low, about

twice that of a solar sail, but freed of the need to use expendable propellants, it might be the key to regular reliable in-system travel.

- See EM Drive and Alcubierre Warp Drive excerpts, Movement, *infra*.

➤ Lost Colonist: Sometime in the dimmest distantttt-est past, a starship containing a small crew crash-landed on a remote planet.⁵ The crew survived and prospered, but reverted to a more primitive state and ‘evolved’ a new civilization, with little or no memory of how they got there (e.g., “Probe 7, Over and Out,” Twilight Zone, 1963⁶). The Lost Colonist is ‘related’ to one of the other Major Races (but will not know which one until First Contact) but now considers itself sovereign and independent through untold eons of cultural drift and survival. The Concierge determines the other Major Race to whom the Lost Colonist are related (however, the Lost Colonist will never be related to a Truly Alien position). Lost Colonist can be ‘ancestors’ of other Lost Colonist. For convenience, the starting world of the Lost Colonist position is called the Homeworld, even though it is not literally the evolutionary ‘home-world’ of the species. The Lost Colonist starting coordinates are announced before the game.

- ✓ Relation is always relative *and involuntary*. All life on Earth is theoretically related to some single-cell organism a billion years ago, see also Mitochondrial Eve concept.

The Lost Colonist must follow the same set up requirements as the Homeworld Position; the only difference is that the Lost Colonist shares a Native Population Type with another position. Because two positions share the same Native Population Type, certain Fundamental Realities, especially those of the evolutionary kind, if chosen by one position will affect both positions, and count as Fundamental Realities for both positions (at the Concierge’s judgment). The first and primary effect is to add Fundamental Realities to the other position, however neither position will be allowed to exceed the maximum number of Fundamental Realities as a result of ‘discovered’ Fundamental Realities, rather, the Concierge will adjust (i.e. discard) some Fundamental Realities to accommodate the shared Fundamental Realities of the Native Population Type after deciding which Fundamental Realities are such that they must apply to both positions. The subtleties of this Primal State may require some experience to appreciate.

- ✓ Minimum Requirement: 205 IPs, 305 IPs with Generic Stardrive Existential Patent, plus 1 other Existential Patent and 1 Application on the 1st Era Matrix.
 - ✓ It is possible for participants to create a ‘fallen civilization’ game with all Lost Colonist Primal States (or many Lost Colonist with one Homeworld Primal State), in which case, barring divergent bio-evolution or manipulation, the primary differences between Native Population Types would be *ethnic*, not biological and participants should take this into account during the game. Possibilities exist for other sorts of games dominated by, for example, Nomadic Warfleet or Homeworld Primal States as well, that do not diverge from the basic rules for Native Population Types.
- Outposter: The Outposter represents a set of previously-established but now isolated and forgotten ‘outpost’ colonies from a race that originated far outside the Galactic Space of the game. The significant advantage of the Outposter is dispersion in the starting Galactic Space because the Outposter will begin in five starsystems with at least one colonizable planet each. The Outposter must begin with at least 10 populations at one planet of their choice in each of the five starting systems (i.e. 50 population factors).

The Outposter may not purchase any warships during set up, but may purchase the 1st Era Warship Existential Patent, and **must** purchase the Generic Stardrive Existential Patent, Ship Systems, Scout Ship, and the Colony Transport Existential Patents during setup. The Outposter's Primal State, but not Galactic Space coordinates for the starting colonies, are announced to all before the beginning of the game. Should try to buy Industry Existential Patent and lots of starting Industry & population, and an Orbital Shipyard if possible.

- ✓ Minimum Requirement: 345 IPs, must begin with Generic Stardrive Existential Patent, plus 3 other Existential Patents and 5 Applications on the 1st Era Matrix.
- Expedition Leader: Expedition Leaders have just arrived with a fleet of Colony Transports to begin colonization. Thus, the Expedition Leader is required to purchase at the minimum, Existential Patents for Generic Stardrive, Ship Systems, Colony Transport, Scout Ship, Industry, and Controlled Environment Technology (CET), and must begin with *at least* 24 population factors and 8 Colony Transports to hold all of the population. The starting Galactic Space coordinates and Primal State of the Expedition Leader, are not announced. The Expedition Leader must place all of his ships in one starting system where they have just arrived. Obviously, colonies will need to be established immediately and the starting system **must** contain at least one colonizable planet. Should probably purchase extra Colony Transports, empty or with population, and a Scout Ship.
 - ✓ Minimum Requirement: 473 IPs, must begin with Generic Stardrive Existential Patent, plus 5 other Existential Patents and 7 Applications on the 1st Era Matrix.
- Nomadic Warfleet: There is nothing like throwing a big bang in the middle of an empty universe, in fact, it only took one to get things boiling! The Nomadic Warfleet position must begin the game with the Generic Stardrive, Ship Systems, and Colony Transport Existential Patents, and either 1st Era Warship and Ship Missile or 1st Era Carrier and Fighter Existential Patents, and at least 10 population factors on Colony Transports. After purchasing the required Existential Patents, population and Colony Transports, the remainder of the Inheritance must be spent on warships, Fighters, military enhancements, and military related Patents. The Nomadic Warfleet begins in a single starsystem, having just arrived. The starting Galactic Space coordinates and Primal State of the Nomadic Warfleet are not announced. This Primal State may be more attractive in 'crowded' games (8 to 10 positions, you know, 'two is company, three is a...'); it may also quickly insure someone's early extinction.
 - ✓ Minimum Requirement: 414 or 429 IPs, must begin with Generic Stardrive Existential Patent, plus 4 other Existential Patents and either 6 or 7 Applications on the 1st Era Matrix.
- Truly Alien: In a galaxy filled with weird, disgusting, and otherwise incompatible sentient races, yours stands out as being strange by any standards. Especially since yours seem to have appeared out of a space rift called the Crack of Dawn. Actually, your species has just completed one-way dimensional travel into the Galactic Space. Prior to the beginning of the game, your species was peeping on the area from another dimension. As a result, the Truly Alien position *receives system information* for every star on the initial Star Log (however, no colony or position information will be provided with the system information, thus they are not 'peeping toms'☺).

- ✓ When H.G. Wells, in the opening monologue to *War of the Worlds* (1898), referred to the peeping Martians as “intelligences greater than man’s,” it seems likely (given the outcome of the story) that he was referring to their technology (i.e. the ability to spy on us and to invade our planet) and not to their intellect. This is consistent with the European colonialism of the day; whereas, our concept of intelligence has noticeably separated from (but remains intertwined with) technology so that intelligence now implies foresight, planning, processing and creative ability, wisdom and insight – all of which generally relate to technology but are not on the same plane.
 - See excerpt Opening/Closing Narration, *War of the Worlds*, Expansion, *infra*.

The Truly Alien position must begin with Generic Stardrive, Ship Systems, Colony Transport, and Scout Ship Existential Patents and 24 population factors on Colony Transports equipped with Controlled Environment Technology.

- ✓ The Truly Alien position must then evenly divide its population into three fleets, which may be accompanied by other ships.
- ✓ On the first turn of the game, four to six new stars will appear on the edge of the Galactic Space, and three of them will contain one of the Truly Alien starting fleets. The newly appeared systems will begin fully explored for the Truly Alien position.
- ✓ The starting Galactic coordinates of the Truly Alien position will not be announced, but the sudden appearance of new stars will likely be shortly noticed.

Truly Alien is the *alterity* position of the game. They may make other races feel weak and tired in their presence, like the Klicks in the *Star*Drive* setting of the *Alternity* RPG (who seem to be modeled after the Shadows in *Babylon 5* television series), or make other races feel like crawling under a rock, like the Shadows in *Babylon 5* or be disturbingly difficult to look at, like the Shadows’ minion race, the Drakh (*Babylon 5*, “Lines of Communication” (1997)). There’s always going to be something *wrong* and instantly recognizable about the Truly Alien race as it developed in another universe.

- ✓ Minimum Requirement: 591 IPs, must begin with Generic Stardrive Existential Patent, plus 3 other Existential Patents and 5 Applications on the 1st Era Matrix.
 - ✓ By operation of the ‘looking rules’ (see 2 Expansion, *infra*), arguably a Truly Alien position creates the existence of ‘alternate’ and ‘parallel’ universes to the game universe, accessible from the Galactic Space. For the shrewdest reasons of game sanity (i.e. manageability) it is not likely that the Concierge will permit regular, easy, or meaningful access to ‘alternate’ and ‘parallel’ universes. The Truly Alien position should be considered ‘cut off’ (a one way trip) like the other invader Primal States.
- Blue Shift: The Truly Alien position also receives one special Truly Alien Fundamental Reality (colored blue, ‘blue-shifted’ – as in bug-eyed aliens are coming to get you! ☺), which may not be discarded, and which counts as a Major Fundamental Reality against the number of Fundamental Realities taken by the position. It also counts against the number of Fundamental Realities Drawn, i.e. it is not an ‘extra card,’ no ‘advantage’ is gained in this sense.

Unlike regular Fundamental Realities, however, Truly Alien Fundamental Realities do introduce significant deviations or variations from (i.e. ‘break’) the regular rules of GGDM in

some way. It is what makes them Truly Alien to the game universe, like Stephen R. Donaldson's character, Thomas Covenant and his white gold wedding ring. See guidelines vs. special rules discussions, Type 1 and Creator, 3 Beginnings, pp. 42-43, *supra*).

- ✓ The rule-breaking in Truly Alien Fundamental Realities imposes some difficulties and some advantages on the Truly Alien position or just something different, which is intended to approximately even out, granting no 'special advantages' overall, or just to make an interesting *alternate* position.
- Laying It Down: Planets and stars in Galactic Space that are currently in view of a position and occupied in any way are part of that position's current 'reality' and must occupy some portion of the position's Public Space. Each star and planet must occupy a separate Monad in the Public Space, and all planets (whether colonized or not) must be adjacent on the Public Space to either their star or another planet that is part of the same starsystem. Thus, the qualifying stars and planets in the position's initial view must all be legally placed in the Public Space during setup, after the placement of Government Titles.
- ✓ Generally, whatever you currently see, hear, smell, or sense in any way forces itself into part of your consciousness of the moment; it's called sentience. During WWII, from news reports, the names of places most people never heard of forced themselves into our collective consciousness, some became etched there as part of history and lore, others faded away to obscurity again. Some sights, sounds, smells may remain in memory, related to some event in your life, while 99.9% of sensory input vanishes quickly from our consciousness once it passes or ceases.

“VLF signals are transmitted from ground stations at huge powers to communicate with submarines deep in the ocean. While these waves are intended for communications below the surface, they also extend out beyond our atmosphere, shrouding Earth in a VLF bubble. This bubble is even seen by spacecraft high above Earth's surface, such as NASA's Van Allen Probes, which study electrons and ions in the near-Earth environment. The probes have noticed an interesting coincidence – the outward extent of the VLF bubble corresponds almost exactly to the inner edge of the Van Allen radiation belts, a layer of charged particles held in place by Earth's magnetic fields. Dan Baker, director of the University of Colorado's Laboratory for Atmospheric and Space Physics in Boulder, coined this lower limit the 'impenetrable barrier' and speculates that if there were no human VLF transmissions, the boundary would likely stretch closer to Earth. Indeed, comparisons of the modern extent of the radiation belts from Van Allen Probe data show the inner boundary to be much farther away than its recorded position in satellite data from the 1960s, when VLF transmissions were more limited. With further study, VLF transmissions may serve as a way to remove excess radiation from the near-Earth environment.”

– NASA Press Release, “NASA's Van Allen Probes Spots Man Made Barrier Shrouding the Earth,” May 17, 2017

Endnotes.

¹ Commentary: Substitute “universe” for “hospital” in the Rosenhan quote; a perverse view might hold that the universe is a giant psychiatric hospital. Or at least the Earth is in regards to humanity...

² Citation: Abstract of Astrobiology article: “In this article, we address the cosmic frequency of technological species. Recent advances in exoplanet studies provide strong constraints on all astrophysical terms in the Drake equation. Using these and modifying the form and intent of the Drake equation, we set a firm lower bound on the probability that one or more technological species have evolved anywhere and at any time in the history of the observable Universe. We find that as long as the probability that a habitable zone planet develops a technological species is larger than $\sim 10^{-24}$, humanity is not the only time technological intelligence has evolved. This constraint has important scientific and philosophical consequences.” *Id.*

³ Commentary & Citation: In some far future science fiction settings, the Earth and its fate are myth. The homeworlds of invader/non-homeworld Primal States may take on this status during the game.

- ✓ [Narrator] “For 3,000 years, most people viewed the Iliad as fiction and believed the city of Troy never existed. Then, in 1870, German archeologist Heinrich Schliemann uncovered the ruins of Troy, exactly where Homer said it was. In 1876, Schliemann also unearthed the ancient city of Mycenae, in his effort to prove that Homer’s writings were more than mere poems; they included actual history. That is, except for the parts of the Iliad that tell of how the Greek gods of Mt. Olympus took sides and participated in the war, a poetic blending of history and mythology.” – *Timelines of Ancient Civilizations, Episode 3.*
 - Heinrich Schliemann was a savage amateur by modern standards and may have destroyed with dynamite and careless digging more of Troy during the excavations than the Greeks did in the capture of Troy or in the earthquakes. The arguments continue to this day, in combination with his mislabeling and wishful misinterpretation of what he found. Still, he is notable for being a pioneer and for shaping, with Sir Arthur Evans, the emerging understanding of Bronze Age Greece.
 - Oddly, this puts Heinrich Schliemann in the shadow of the same disdain that has rained on the Spanish Conquistadors, though there is a vast difference in the order of magnitude of what they did (Schliemann was digging in long dead ruins) and disdain for Schliemann is limited to professional circles because so few know of him.

⁴ Commentary: A mother incarcerated (or civilly committed) is worse than a deceased mother: You know she may come back. She’s not really gone. And not here.

⁵ Commentary: I dislike ‘desert island’ and ‘lifeboat’ type questions because in one sense, they are hypotheticals that I have a difficult time taking seriously (in addition to having read *Queen v. Dudley* (1884) 14 QBD 273 DC in criminal law class), and yet, on the other, one cannot help but to take them seriously because they are phrased such that the answer will reveal your inner person and can often strain relationships and stain your soul. I am sure that is exactly what is intended by such questions and may regard the asker as suspect.

⁶ Citation & Commentary: Of Adam Cook and Eve Norda, two adult humans, from different planets, stranded together on an empty optimally habitable planet she called “Eart-th,” Rod Sterling offers this closing narration:

- ✓ “Do you know these people? Names familiar, are they? They lived a long time ago. Perhaps they’re part fable, perhaps they’re part fantasy. And perhaps the place they’re walking to now is not really called ‘Eden.’ We offer it only as a presumption. This has been the Twilight Zone.” – “Probe 7, Over and Out.”
 - In the third part of the pilot episode of *Stargate Universe* (“Air” (2009)), some members of the expedition to the desert planet dialed one of the four Stargate addresses that were marked as locked out by Ancients starship *Destiny*. Foreshadowing, Dr. Rush had previously warned that one could not determine that a planet was safe for humans by a cursory remote scan (even though that is exactly what they did before they went to the desert planet). They sent through a remote sensor and camera device, saw a habitable planet with vegetation, breathable air and decent temperatures. Two members of the expedition – Amanda and Curtis – go through to the locked-out planet, quickly lose contact, and are stranded there when the expedition must return to the *Destiny* and the *Destiny* jumps to FTL. The immediate lesson was that there was a good reason why the address was locked out by the Ancients ship. But in the end, I half-expected to see Rod Sterling coming out of the desert delivering a lesson about rushing into the Garden of Eden....

Note that the writers, producers, network executives, and advertisers were not concerned in 1963 about offending Christian Biblical Literalists, whose frustration at the increasing marginalization of their beliefs perhaps impelled them to the various boorish absurdities and positions in the 1980s, discussed in the Excerpt of *Dangerous Games*, Primal States, *supra*, and in other places throughout GGDM.

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See Appendix EPAT1 – The Existential Patents

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See Appendix IPT1 – Inheritance & Primal States Tables – Inheritance Cost Table

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Cost Table*

See Appendix IPT3 – Inheritance & Primal States Tables – Primal States Table

“Science fiction is held in low regard as a branch of literature, and perhaps it deserves this critical contempt. But if we view it as a kind of sociology of the future, rather than as literature, science fiction has immense value as a mind-stretching force for the creation of the habit of anticipation. Our children should be studying Arthur C. Clarke, William Tenn, Robert Heinlein, Ray Bradbury and Robert Sheckley, not because these writers can tell them about rocket ships and time machines but, more important, because they can lead young minds through an imaginative exploration of the jungle of political, social, psychological, and ethical issues that will confront these children as adults.” – Alvin Toffler¹

Toffler Radar: Toffler’s argument has become the futurist theme, to wit:

- ✓ “Science fiction is the bridge between what we envision for the far future and what we see in practice today. By showing us the possible dream worlds or living hells, such works of art touch upon the most relevant moral, ethical, social or political issues linked to technological progress. One of the most pressing questions of mankind has been for millennia what the future is about to bring upon us. What will it look like? How can we prepare for it? Before the industrial revolution and the age of Enlightenment, the Gods and Goddesses and their mouthpieces such as prophets and oracles had all the answers. In the latest centuries of rapid technological progress, instead of the Gods, technology is interrogated constantly about the future – for example in the form of science fiction.

Science fiction is a form of conversation between technology and society about the future. It is a vivid conversation. It makes us think, debate and learn. And it’s not a one-way street, but rather a strong interaction – while science fiction feeds on the ground that technology offers, it also gives ideas about how to build a better world for our children. Science and science fiction walk forward hand in hand.” – The Medical Futurist (authorship unattributed), “Science Fiction Prepares You For Dream Worlds And Ethical Apocalypses,” September 24, 2016.

- **Futurology:** The origin of Isaac Asimov’s psychohistory in the Foundation novels, is an area of study called “futurology” as it was defined at the time the novels were being written.
 - ✓ “Foresight was the original term and was first used in this sense by H.G. Wells in 1932. ‘Futurology’ is a term common in encyclopedias, though it is used almost exclusively by non-practitioners today, at least in the English-speaking world. ‘Futurology’ is defined as the ‘study of the future.’ The term was coined by German professor Ossip K. Flechtheim in the mid-1940s, who proposed it as a new branch of knowledge that would include a new *science of probability*. This term has fallen from favor in recent decades because modern practitioners stress the importance of alternative and plural futures, rather than one monolithic future, and the limitations of prediction and probability, versus the creation of possible and preferable futures.” – from Wikipedia article, “Future Studies,” captured August 24, 2019 (emphasis added).

That is, psychohistory is dressed up futurology; the fictional inventor is Hari Seldon, a mathematician and professor, the result of Hari Seldon's analysis is *a set of probabilities* that suggest inevitably that the Galactic Empire is doomed (i.e. a future prediction), that a Long Night (i.e. dark ages) will follow, after which, a new galactic empire will arise. Asimov's psychohistory is Flechtheim's futurology, with prediction power.

- Toffler dealt in probabilities and trends, not predictions, e.g., “No serious futurist deals in prediction. These are left for television oracles and newspaper astrologers.” – Alvin Toffler as quoted in BBC article by Courtney Subramanian, “Alvin Toffler: What he got right – and wrong,” (July 1, 2016) following his passing in June 2016. *Prediction is the 'psychohistory' difference.*

The Future is Coming: With the advent of CGI sufficient to be entertaining, 3D realistic (not obviously animated drawings) and convincing, the question was asked whether in the future there would be any need for actors to make movies? That question is still hovering quietly in the background, no one really wants to discuss it, but from there, I heard a follow-up question asked: *If child pornography could be produced in CGI, without any actual children exploited, would it be illegal or immoral?*² The subject is such that you cannot read this without having a visceral reaction and I don't propose to even address the issue here. The point is that the future is coming and changes have forced us to reevaluate – usually uncomfortably – what was moral, ethical, and taboo in the past. Only science-fiction authors might have (and I don't know if it did) imagined or anticipated a time when non-cartoon movies could be made without human actors (even voice actors) – if science-fiction-dom did so imagine (before *Max Headroom* (1987) which wasn't CGI), it was probably with human androids (a remake of *Blade Runner* with Replicant actors?) rather than CGI. Movie making has carefully tread in that direction, for example, the motion-capture used in *Beowulf* (2007).³ Even Retrospecting requires live actors.

- **Good Vibrations:** Are adult pornographic performers prostitutes (quite aside from the fact that many of them were adult sex entertainment workers before film) or are they actors? Up to the 1980s, pandering laws designed to prosecute pimps and madams were used famously to prosecute agents who recruited performers for pornographic films, though it is improbable that there would currently be support for such prosecution legally, in the media, or by public juries. *Prostitution and pandering, of course existed long before film, and thus, film performances were not included in the development of the terminology.* But there is no doubt that pornographic performers are paid for intimate sex acts with other performers (with a lot of hyperacting and faking), and there must be some individual gratification involved to complete the scene. So are they actors?
 - ✓ “I'm always gonna pull myself apart and dissect [the work]. I mean, there's no such thing as perfection in what [actors] do. Pornos are more perfect than we are, because they're actually fucking.” – Heath Ledger interview by David Lipsky, “Heath Ledger's Lonesome Trail: The Rolling Stone Interview,” *Rolling Stone*, March 23, 2006 (available free online).
 - See continued discussion, *Reproductive Consciousness and What Is, Is, 5 Taxation & Census*, pp. 335, 338, *infra*. Note also that there is a long-running debate on Wikipedia whether porn performers meet the notability guidelines for biographical articles on Wikipedia, all the while, Wikipedia has articles on every mass-murderer jagoff who makes the evening news.⁴

Even before technology, the definitions were being stretched somewhat by nude models who posed for paintings (e.g., Sandro Botticelli's early Renaissance paintings "The Birth of Venus" and "Primavera" or Raphael's painting of his mistress titled, "La Fornarina"), and of course, by exotic dancers and other similar performers (e.g., the Banquet of Chestnuts, 1501); nudity in paintings is a feature of humanism, which was the driving force of the Renaissance. And there were religious protestations, later, during the Counter-Reformations and religious wars, many of the nude paintings of humanist artists were banned, stored away, effaced, or covered over but the trend resurfaced in the later Baroque period (e.g., François Boucher, noting that noble or respectable women sat nude for his paintings, for example, the nude, very suggestive "Portrait of Marie-Louise O'Murphy" who was King Louis XV's mistress). Do you think the artist didn't take some gratification from painting his subjects nude?

At the bottom of this then is a change in worldviews of a population, of which technology is just the latest challenge. Change of worldview is always a threat to the current *status quo* (e.g., the Church) and the inheritance of our children; it is truly what they inherit.

- ✓ In the Forever Knight episode, "Dead Issue" (1992), a nude model in the Renaissance is raped by the master artist who is painting her. She believes that her beauty caused him to rape her (her sinfulness in her view) and felt so guilty that she committed suicide. Nick Knight (a vampire), the master's pupil at the art studio, then killed the artist (the old 'an eye for an eye.'.. in literary style).

"I don't believe in inheriting money," he said. "I think it's an initiative sucker, I think it's a curse. Who's inherited a lot of money that has gone on to do things in their life? From the time I was growing up, if I felt like there was some pot of gold waiting for me, I don't know if I would have been so motivated."

– Anderson Cooper quoted by Antoinette Bueno, "Why Gloria Vanderbilt Did Not Leave an Inheritance for Son Anderson Cooper," Entertainment Tonight, June 18, 2019

Must be Funny in the Rich Man's World: Hmm...that's an interesting question. I am sure he is overstating the case a bit, I am sure there are many who inherited a lot of money and went on to do things (whatever he means exactly by that) in life. But the general idea does exist that multi-generational money corrupts and degrades, this idea perhaps traces to the increasing prideful 'uselessness' of European nobility, who possessed a sense of entitlement, in the 18th and 19th Centuries as opposed to inventors, explorers, and business entrepreneurs who were lionized as innovators.

The Inheritance: The Inheritance represents the sum of what a civilization brings to the game from its pregame ancestry. After completing all of the previous setup steps, each position receives a one-time only 'inheritance,' in the form of Inheritance Points ('IPs'), which are spent to obtain starting technologies, populations, ships, and industry and other items.

The amount of each position's inheritance is determined by the number of Fundamental Reality Cards the position kept. For each Type 1 and Type 3 Major Fundamental Reality, 100 Inheritance Points are received and for each Minor Type 1 and Type 3 Fundamental Reality, 50 Inheritance Points are received. Type 4 Fundamental Realities receive 75 Inheritance Points, Type 2 Fundamental Realities receive no Inheritance Points, and Type 5 Fundamental Realities receive 75 Inheritance Points per 'Ripple,' so they receive either 75, 150 or 225 Inheritance Points.

- ✓ The questions that must be asked regarding a proposed Type 2 Fundamental Reality are: 1) Do we have enough Inheritance Points, 2) What is gained by the Type 2 in lieu of the Inheritance Points, and 3) does it look fun to play?

The Inheritance Points must first be used to satisfy the requirements of the chosen Primal State, then second must be spent to satisfy the legitimacy requirements, if possible, of the Government Titles chosen by the position. It is not required that all Government Titles pass all Conflict Checks before the game, but if the Primal State cannot be satisfied by the Inheritance, the Concierge will choose a suitable new Primal State and/or new Fundamental Realities for the position.

- ✓ “‘That name Vanderbilt has such baggage with it, such history, and I’m very glad I don’t have that name, and my mom never felt much connection to the Vanderbilt family and I certainly didn’t,’ [Anderson] Cooper said, noting that he always identified more with his late father, writer Wyatt Emory Cooper’s, more down-to-earth roots in Mississippi. ‘One of the happiest days for my mom, she called me and said, ‘Somebody just referred to me as Anderson Cooper’s mom.’ Very happy that she’s reached that stage of life.’” *Id.*
 - There doesn’t seem to be a cardinal rule here; I have personally known people who had an important family name, made a lot of money and then inherited more, and they were still miserable beings.
- Inheritance Table: Inheritance Points (IPs) are spent to purchase the items listed on the Inheritance & Primal States Tables prior to the start of the game. The prices listed on the Tables are only used for purposes of setting up the game and once the game is in progress, these Tables are not used for any purpose; you cannot ‘buy’ things from the Inheritance Table during the game. Inheritance Points cannot be ‘created’ or used during the game.
 - ✓ No pressure here... The Inheritance Point purchases are critical to the early game, not only in terms of material items in the short term, but also in savings in Acts, Scenes, and Power Activations, which will become much clearer later. Choose wisely.
- Primal Inheritance: The minimum possible inheritance is 350 Inheritance Points (3 Major and 1 Minor Fundamental Reality). The minimum requirements of the Homeworld, Lost Colony, and Outposter Primal States (home positions) can all be met with the minimum inheritance. The minimum requirements of the Expedition Leader, Nomadic Warfleet and Truly Alien Primal States (invader positions) require more than the minimum inheritance.
- Nothing New Under the Sun Today: Players may not introduce anything new to the game during the set up process; there is no mechanic for the introduction of new Patents, Writs, Doctrinal Templates, or foundation of Colleges during the set up process; positions are limited to ‘purchasing’ only the items listed on the Inheritance & Primal States Tables.
- Purchasing Populations: The setup process is the only time when a position may ‘buy’ populations, which is a mechanic designed solely to give positions flexibility in their starting positions; all subsequent populations must be ‘grown’ from the original starting populations of that position’s unique Native Population Type. Positions may only purchase populations of their own Native Population Type during set up.

- **Patents for Sale:** All Existential Patents may be ‘purchased’ during set up at a flat rate, but a position is only required to purchase those listed in its Primal State Requirements. For each Existential Patent purchased during set up costing 60 IPs or less, the position’s choice of one Application listed in the Theory of the Patent is placed on the 1st Era Matrix, for Existential Patents costing more than 60 IPs, two Applications are received (as above), placed adjacent on the 1st Era Matrix and are connected automatically. The Applications are placed on the 1st Era Matrix wherever designated by the position, but must have been adjacent on the Theory of the Existential Patent.

✓ See generally 1 Patents, 2 Technology, and 1 Eras sections, *infra*.

Obtaining Existential Patents is easier during set up then after the game begins. If it comes to a choice of extra Existential Patents, positions are advised to obtain Industry, Stardrive, Ship Systems, and/or Orbital Shipyard Existential Patents first, followed closely by Scout Ship and Colony Transport Existential Patents if possible.

- **Star-Driven:** Prior to purchasing any starship Existential Patents, a position must first purchase the Generic Stardrive Existential Patent (GSD) *and* the Ship Systems Existential Patent (not required for Scouts). The GSD Patent is available for a flat rate of 100 RPs, the Inheritance Points from a Major Fundamental Reality while Ship Systems costs 45 IPs. *All* positions should try to begin with GSD, right after satisfying their Primal State requirements.
- **Shipyard Blues:** Positions which begin with the Homeworld, Lost Colony or Outposter Primal States *may not begin the game with ships, except Scout Ships*, unless the position has obtained the Orbital Shipyard Existential Patent and bought at least one Orbital Shipyard.

Invader positions (Expedition Leader, Nomadic Warfleet and Truly Alien) must begin the game with the required ships and may buy any ships they can legally obtain, but will need to *first* find a place to colonize and *then* build an Orbital Shipyard (if they have the Existential Patent) to build more ships in the game. They will be unable to build new ships until then.

- **Social Fiction:** Only during the set up may ‘Home’ positions ‘purchase’ Cultural Traits Pieces (Proficiencies and Aspects) and Research Pieces, which must be legally placed in the Public Space. Research is not required to be initially placed to form Research Groups.⁵

Invader positions are at a disadvantage in this respect, because Cultural Traits Pieces and Research Pieces are keyed to colonies on the Public Space, which the Invaders do not have to begin the game, but the Home positions do. The attraction of Invaders is early freedom.

- ✓ The terms used in the inheritance/setup sections are explained throughout the remainder of the rules. However, as the game is set on the premise that each position is a mature, starfaring technologically-advanced species, before the game begins, these items must be addressed during the setup. It is advisable then to have read and understood the entirety of the rules, then re-read the set up rules prior to trying to setup a position in the game for the first time.
- **Launch Pad:** All ships purchased during the set up must begin in an initial starsystem drawn as the starting position for the ship’s owner; ships purchased during the set up may not simply be placed anywhere in the Galactic Space. All population ‘purchased’ during the set up must either be on a planet or Colony Transport as required by the Primal State. All Industry, orbital platforms, and colony defenses purchased must be on/at a colony before the game.

- **Lift Off:** Acts and Scenes may be purchased by Inheritance Points (IPs) and placed on the Public Space and Powerstrip to start the game. A position isn't doing anything on the first turn without Acts at least, and possibly a Scene; it is highly recommended that positions start with Acts and possibly a Scene on a starting world or star, or the first turn will be a sit and spin. See 2 and 3 The Sidereal Stage, generally, *infra*. It might even be advisable as a strategy to 'load-up' with Acts at least for early game action after all Primal State requirements have been met. Get up and get out there! And don't forget the Tang!

“What they [critics of Lessing’s switch to science fiction] didn’t realize was that in science fiction is some of the best social fiction of our time.”

– Doris Lessing, as quoted from an interview by Harvey Blume, *Boston Book Review*, February 1998

Endnotes.

¹ **Commentary:** I am one who takes science fiction seriously as a genre for technological and social commentary. Conversely, I believe that anything that associates itself with the WWE is degraded by the association; e.g., Cindi Lauper had great potential as a both a serious and pop artist, but I feel she ruined her career by associating herself with the WWE. It was thus the ultimate insult when I turned on Sci-Fi (or was it SyFy by that time?) Channel and saw WWE. I was already dismayed by the 'reality-television' rubbish that had come to dominate the channel.

² **Commentary:** What about family incest sex simulation 'games' online that potentially might feature slightly underage (depending on your interpretation) – if cartoonish – characters? They already exist. Are you outraged? Scandalized, incensed, shocked?

³ **Commentary & Citation:** The increasing quality of photocopiers provided a technical challenge to paper money and I recall a fellow who was arrested at the FedEx on Grant Street in Pittsburgh for photocopying Port Authority bus passes. On the other end of the spectrum, the Traveller RPG imagined that the leader of the Vargr race (a Major Race descended from genetically-manipulated Earth dogs) was a completely artificial computer personality designed to inspire loyalty and a personality cult based on clinically-analyzed Vargr psychology.

⁴ **Commentary:** For anyone who might think of creating Wikipedia articles related to GGDM, see Wikipedia's notability guidelines. A mass murderer jagoff who checks out of Hotel Earth or a summer movie that few will watch after it is not in the theatres is notable for Wikipedia articles because they are instantly famous or famous for 15 minutes due to the celebrities involved; GGDM is not until it reaches the status of The Prince (1532), The Wealth of Nations (1776), War and Peace (1869), or Sophie's Choice (1979). No one will make a movie out of GGDM.

- ✓ The notability guidelines on Wikipedia are not without controversy and are not evenly applied. There are arguments, for example, on whether porn actresses (i.e. 'adult performers') are 'notable' enough to have Wikipedia pages as opposed to mainstream actresses, and whether they are even actresses or should be classed instead as adult entertainers; e.g., see the Talk page for "Aja (actress)" article on Wikipedia where some want to remove the 'actress' claiming in part that it is confusing (among other arguments). The outlines of this sort of 'notability' argument cross over into *redeeming social value* and subjective *moral worth* of the person or work in question and their contributions; it is hard to see, if that is the argument or an argument for notability, why every mass murderer or serial killer (or even St. Cyril of Alexandria) is notable for the purposes of Wikipedia articles? Yet, we cannot pretend they didn't exist and we cannot make them non-persons in the tradition of the late Soviet Union (b. December 20, 1922, d. December 26, 1991), or even Orwell's most famous book, 1984 (1948).

- The U.S. Copyright Office, for example, avoids these issues; *a copyright is not certification or judgment of redeeming social, intellectual, or moral value*, or literary value, of a work, it is simply a registration of claim of original authorship. This is necessary as part of the separation of church and state. It is true that the U.S. Copyright office serves a very different function from Wikipedia, but many people confuse the issue, they think the copyright means something that it does not.

⁵ **Commentary:** Aspect pieces will 'age-out' in the first couple of Regular Turns, so it is not entirely advisable to purchase them during setup unless required by a Fundamental Reality or Government Title.

Excerpt from Battle Report #17: Vienna 1683 – Last Ottoman Tide

Posted by user AUSTERLITZ on the Pakistan Defense Forum on July 20, 2015

Retrieved March 14, 2018 (<https://defence.pk/pdf/threads/battle-report-17-vienna-1683.386899/>)¹

CAUSES OF STAGNATION & MILITARY TRANSFORMATION

Before looking into the changing Ottoman army we look at the factors that caused this transformation:

Political: The seeds of political weakness were sown during the rule of Ahmed I (1603-1617). The sultan was the centre of the Ottoman state – sultans oversaw governmental meetings, hired and fired officials, and personally led military campaigns. But the question of succession remained vague and often led to destructive internal wars. Seeking to solve this problem, Sultan Ahmed I instituted a new system for choosing sultans. Instead of a sultan's sons being governors within the empire until their father died, they would stay at the palace in Istanbul until their time came. In most cases, they actually were not even allowed to leave the palace. This essentially made them prisoners until they became sultans. The effects of his policy were disastrous. Instead of sultans coming to the throne with experience in governance and policy, they were usually ignorant of anything but the pleasures of palace life. The result was a series of weak and incompetent rulers under the influence of the Janissaries and the harem. The slide was partly arrested by the rise of the Grand Viziers as the power behind the throne, but still this divided the centralized authority of the Ottoman state. Only one sultan led his armies in person after Ahmed I's rule (Murad IV in 1638).

This political instability also led to increasing decentralization of power to the provincial officials – a trend the first Grand Viziers slowed but couldn't eradicate. Also, since experience and talent were no longer seen as necessary by the Ottoman sultan himself, those hoping to advance in civil service were not promoted based on skill. Instead, bribery and favoritism wreaked havoc on the Ottoman government.

Economic: Three main factors caused the economic crisis of the Ottomans – the loss of trade, inflation and population pressure. These would result in the collapse of the Timariot system. The primary sources of revenue for the Ottoman state were land revenue, taxation on trade and riches from conquest.

The Portuguese circumnavigation around Africa to India had opened a new spice route to Asia. Therefore, the Turks lost their monopoly on the spice trade going to Europe. By the late 16th century, the Dutch and British completely closed the old international trade routes through the Middle East. As a result, the prosperity of the Middle Eastern provinces declined.

The cause of inflation was the influx of silver from the New World to Europe and the Middle East. The Ottoman economy was based on silver. Coins were minted in silver, taxes collected in silver, and salaries to government officials paid in silver. The huge influx of silver coming from America drastically devalued the Ottoman currency according to the economic laws of supply and demand. The devaluation of silver devastated the Ottoman economy. In 1580, 1 gold coin could be bought for 60 silver ones. In 1640 it required 250!

A result of central unity, stability and prolonged peace during the 16th century led to a population boom. The eastern Mediterranean under Ottoman rule from 1530-1580 saw a 60% average increase in population. Inflation and rising prices hurt the common people badly. There was little scope to release the pressure with new conquests. The empire had reached its logistical limits and stabilized its frontiers by 1560s. So booty from war had also dried up. Loss of revenue from war and trade, made the central treasury heavily dependent on land revenue which was now under a triple vise grip of more people to support, corruption of decentralized provincial officials and rising prices due to inflation.

Internal trade also suffered due to shortsighted policy. The Ottoman sultans allowed European merchants of friendly nations trade privileges under a series of treaties called capitulations, starting with the French in 1535 by Suleiman I for example. Europe was in a state of transition to a capitalist proto industrial society, and flush with wealth from the new world. Functioning under strict price regulations, the Ottoman

guilds were unable to provide quality goods at prices low enough to compete with the cheap European manufactured goods that entered the empire without restriction because of the capitulations agreements. In consequence, traditional Ottoman industry fell into rapid decline though this process was still at a modest stage in 1683 and would reach its climax in the next two centuries as more capitulation treaties were signed.

Technological: While the technology of the printing press was known to the Ottomans since 1493, it would not be adopted until 1726. Meanwhile the European nations had spread their technological ideas amongst the populations via this medium. In the military field the Europeans since the start of the 17th century were re-employing Roman tactical systems and a lively debate went on about military doctrine and battle employment. The Ottoman military thinkers had no such scope even if an enlightened captain did make an effort, his ideas didn't generally spread beyond his immediate unit. And any reform efforts generally died out with him. Long-term structural changes needed exchange of ideas, which the printing press enabled. The Ottoman army operated largely on oral tradition and older military texts.

Another technological change brought on by warfare were massed gunpowder based armies. This led to a revival of infantry on the battlefield. Also to resist firepower, newer and stronger designs of fortresses came into being. The warfare of the day devolved from field battles to siege and countersieges with rare occasional field encounters. The siege warfare led to decline in importance of cavalry.

EFFECTS OF STAGNATION ON THE OTTOMAN MILITARY

Breakdown of the Timariot System: The most important consequence of these technological and financial changes was the slow collapse of the Timariot system. The number of recipients increased but with the empire's boundaries having stopped expanding, land was becoming limited. The government resorted to joint holdings which limited the financial independence of the individual Sipahis. Moreover, sons of holders hereditarily received a part of their father's holdings. The system began to crumble with concurrent massive inflation – with rising prices and smaller and smaller individual holdings the Timarli Sipahis could no longer financially support themselves out of their land grants. They overtaxed the peasantry leading to unrest and engaged in corruption. Moreover the central government itself suffering from a financial crisis due to above factors and long wars with Iran and Austria in the late 16th century, began to seize Timariot holdings after the death of owners and convert them into profitable tax farms.

Turkish cavalry that had been the backbone of the army in the mobile wars of conquest were less useful to the sultans who now needed professional garrisons to run the frontier forts. The Sipahis were also increasingly vulnerable to massed firearms of European infantry on the battlefield and useless in sieges. The Sipahis were also unwilling to take part in long campaigns away from home as they had to return to govern their provinces. The government expanded the numbers of gunpowder infantry at the expense of the Sipahi cavalry – infantry being much cheaper than horsemen. As a consequence we see whereas in 1574 the empire had 40,000 Timarli Sipahis and another 50,000 light cavalry retainers (Cebeli) and 15,000 Akincis. In 1670s we see number of Timarli Sipahis dwindle to 20,000 and the Cebelis to 30,000. Akincis had been disbanded.

Rise of the Janissaries: The Janissaries, as musket-bearing light infantry with long established regimental structures and built-in combat support arms, were an ideal corps for the new battle environment. The government understandably increased their personnel strength and tasked them with additional duties. More and more Janissaries were trained and sent to provinces for policing due to the increased unreliability and ineffectiveness of the Sipahis as well as to frontier regions because of the changing nature of wars from those of pitched battles to those of siege and countersiege operations. In 1685, there were 13,793 Janissaries. This figure would rise to 40,000 by 1683.

Concurrent with the expansion of the Janissary numbers came other changes. From the late 16th century the norm of not having children was removed and the children of Janissaries were permitted to enter the

corps. By 1620 it had become a hereditary system. Moreover taking advantage of weak sultans and collapse of Timariots, the Janissaries dominated political life in Istanbul and also rewarded themselves with several large estates.

The training standards had also begun fall off. The deviserme graduation system was stopped in 1648, which was a serious decline in discipline. The Janissaries were slowly transforming themselves into a line infantry force rather than an elite corps. Meanwhile the Kapikulu light cavalry suffered cutbacks, to accommodate financial pressures. The Kapikulu Sipahis however remained a disciplined heavy mounted elite.

Mass Recruitment of Mercenaries: One development of the financial crunch of the Ottoman government and need for mass gunpowder troops was large scale recruitment of mercenaries. Mercenaries had always been part of the Ottoman system, but their numbers exploded during the 1590s war with the Habsburgs. Mercenaries were cheap to recruit, paid occasionally and could be laid off once the campaign was over. They could be recruited quickly and needed no training. They served as excellent cannon fodder and were brave, as gallant service could be rewarded with a permanent posting in the army. On the bad side they were not as disciplined as regulars, had second-rate equipment and resorted to banditry roaming the countryside in between campaigns.

Provincial governors were encouraged by the central government to hire ever larger number of mercenary warbands (largely from peasant backgrounds from Syria, Anatolia, Balkans). By the early 17th century mercenaries called by various names – largely musket armed militia like *Levants* or *Sekebans* (not Janissary Sekebans) had replaced the earlier Azaps. By 1683 perhaps half of the provincial military forces comprised of mercenaries.

Thus Ottoman forces by first decade of the 17th century (end of long war with Austria 1593-1606) had undergone a drastic transformation from its classical structure, from a cavalry-dominated force of largely provincial horse archers and heavy cavalry supported by small elite band of Janissaries and large numbers of irregulars to a more infantry oriented force – a standing army supported by lower numbers of provincial cavalry, but large numbers of provincial mercenaries.

¹ Commentary & Citation: It was incredibly difficult to find a good tactical or hour-by-hour description of the 1683 Battle of Vienna on the internet. I am thankful to have found user Austerlitz' holistic and complete treatment of the campaign and battle on the Pakistan Defense Forums. The only movie, *Day of the Siege* (2012), whose video clips are popular on YouTube and in music videos, such as Sabaton's 2016 song "Winged Hussars," is a poorly-rated film that – while it does have some interesting social milieu elements and shows parts of the siege – focuses on the logistically impossible story of an Italian monk and entirely short-circuits any decent depiction of the battle.

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“...not only do we measure change by time, but time by change, because they are defined by one another.”

(time is) “a number of change in respect of the before and after”

– Aristotle, Physics, Book IV

“Aristotle’s essay on time is the first detailed Interpretation of this phenomenon [time] which has come down to us. Every subsequent account of time, including Henri Bergson’s, has been essentially determined by it.”

– Martin Heidegger, Being in Time (1927)

“Without a doubt, Aristotle thinks of time on the basis of ousia as parousia, on the basis of the now, the point, etc. And yet an entire reading could be organized that would repeat in Aristotle’s text both this limitation and its opposite.” – Jacques Derrida

De Re: Aristotle could not discuss time as a thing onto itself (*de re*); he could only discuss it in relation to the common experience of observation of change. Similarly, Aristotle could not have described gravity as a thing onto itself, being limited to the observation that everything falls to the ground. We have reached or nearly reached the point where we can discuss gravity as a thing (e.g., gravitational waves), but time is still observed as “a number of change with respect of the before and after.” Gravity, and our perception of it, is still a slave to time. Time-travel fiction, however, implies without explicitly stating usually, that we must be able to discuss time *de re*.

- ✓ “Ironically, as a student, Jacques Derrida submitted a paper on the topic of ‘time’ to his director of studies, Louis Althusser, who passed the essay to his colleague, Michel Foucault, saying, ‘I can’t grade this.’ Foucault’s response was, ‘Well, it’s either an F or an A+’” – Willy Maley, Prof. of Renaissance Studies, University of Glasgow, contributor to, “The worst piece of peer review I’ve ever received,” Times Higher Education, August 6, 2015.
- Metaphysics of Presence: Heidegger and Derrida collectively held that Western philosophy privileges presence, what is, what appears (i.e. phenomenology), over examination of the condition that made the presence possible or impossible:
 - ✓ “Derrida’s enduring references to the metaphysics of presence borrows heavily from the work of Heidegger. Heidegger insists that Western philosophy has consistently privileged that which is, or that which appears, and has forgotten to pay any attention to the condition for that appearance. In other words, presence itself is privileged, rather than that which allows presence to be possible at all – and also impossible, for Derrida. All of these terms of denigration, however, are united under the broad rubric of the term ‘metaphysics.’” – Jack Reynolds (La Trobe University), “Jacques Derrida (1930 – 2004),” The Internet Encyclopedia.

- See full feature quote, bottom of 2 Constructural Elements, p. 200, *infra*.

This examination begins with the fact that our entire concept of time is the now, our language is naturally built on the now. This moment, this thing, this point in time. Because we are mortal, and time flows in one direction. Without special indicators in the sentence structure or without knowledge of the situation, the listener assumes we are talking about the present, present events, instead of something that happened or may happen. Our language *does not* begin with the past or future as the natural tense, and then needs to add modifiers to indicate we are speaking of the present.

- ✓ Verb tenses in English are past, present, future. Happen, happened, happening, will happen, may happen, may have happened.
- ✓ Heidegger and Derrida were not trying to change our language or time sense, and neither is GGDM. We are all mortal and short-lived. They were simply making the point that the privilege given to presence is overwhelming and intellectually crippling. They were pointing to a blind spot in our Public Space.

“Unfortunately, the clock is ticking, the hours are going by. The past increases, the future recedes. Possibilities decreasing, regrets mounting.”

– Haruki Murakami, Dance Dance Dance (1988)

Clock Speed: Most of humanity has undoubtedly assumed that time moves at the same speed for everyone (except for the gods, if we had a reason to think of it in this way). What modern science has added is the possibility that time passes at different rates relative to different observers. But, while special relativity is taught and accepted as nearly unquestionable fact by the current generations, the fact remains that no one has actually tried the famed relativistic experiment of the twins because we cannot.

- ✓ The NASA Twins Study in 2018 (identical twins Scott and Mark Kelly) measured biological changes from a year in space vs. staying on Earth. It was not a relativistic experiment with twins.
- ✓ In 1963, during troubled Mercury-Atlas 9 flight, it was detected that astronaut Gordon Cooper’s watch slowed by 1/20,000th of a second during a day in orbit. Life Magazine, May 24, 1963 trumpeted that he landed 22/1,000,000th of a second younger than if he had stayed on Earth for the day he was in orbit (Albert Rosenfeld, “A 3,000,000-year Trip in Only 55 Years,” pp. 28-34). Most of the article wasn’t about Cooper’s flight, he was just the lead hook; most of it was about explaining space-time theory (with pictures of Albert Einstein, Rudolf Mössbauer, and a young Carl Sagan). Curiously, the internet seems to have forgotten the Cooper flight’s confirmation of relativistic effects; a search on Google for “Gordon Cooper relativity” turns up no relevant hits (October 15, 2019), which shows the limit of the internet as a human knowledge base. None of the articles and secondary sources about him mentions it either (e.g., Wikipedia). I just happen to have a collector’s copy of the Life Magazine issue featuring Gordon Cooper on the cover that a friend bought for me.

Much of cutting edge science remains without direct empirical basis and is arguably closer to philosophy. Many will object to this characterization and dismiss me to the kid’s table.

Our concept of time has not changed. This is the origin of the analog clock, on which time is measured by the steady movement of hands across the numbers and marks on the face (i.e. change in distance). Any sentient being can perceive change, therefore any sentient being can perceive time. How they perceive time is often asked about cats and dogs.

Sentience Quotient (SQ) seems to be really a measure of the rate at which a creature experiences the passage of time (change); and if so, then the hypothetical SQ+50 creature must live in near relativistic time dilation. You can imagine this like the old computer commercial with the glass falling in slow motion off a table; the computer can do millions of calculations before the glass hits the floor. For a computer, a minute is an eternity.

- There is a Season: The problem with this entire poorly designed universe is that everything takes time. *Non sequitur*: GGDM is a turn-based strategy game that is designed to run continuously. Each position submits Actions which are regularly batch processed in the order they were received, as long as the Actions were submitted in the time period allocated to each position for submitting their Actions. The Actions must, of course, be submitted by a representative of the position (i.e. a known team member).
 - ✓ “[Professor Dame Linda] Partridge admits there’s definitely a limit to how long humans can live. ‘It’s not biologically feasible to live to 3,000 years. There’s constraints on how fast we run, speeds at which we can see. So without any further interventions, bodies can only last a certain amount of time,’ she says.” – Bianca Britton, “Humans Have Reached Their Lifespan Limit, Researchers Say,” The CNN Wire, October 6, 2016.
 - “Old ladies die all the time. It’s practically their job description.” – Dr. Who, “Mummy on the Orient Express” (2014).

“The local situation quickly escalated before commanders on either side, still several weeks away from the front, could control the situation.... Because of the distance to the Capital, Emperor Strephon could do little else than simply accept the Armistice. Through clever public relations, Strephon was able to turn the affair to his advantage, creating the image of himself as an effective war leader. The years following the war marked a transition of Strephon’s rule, from quiet management to a more proactive leadership role.”

– Traveller RPG Wiki, “Fourth Frontier War,” captured July 27, 2018

Communications Breakdown: There are two underlying assumptions that must be understood with regard to issuing orders to far-flung fleets and colony worlds separated by interstellar distances, lightyears from each other or from command and control centers. The first underlying assumption must be that each fleet and world contains command elements (officers and staff) who have the intelligence, initiative and authority to operate independently within a commonly understood framework of missions, ideals, and operating procedures, when out of communication range of headquarters. Even in the modern age of instant communications, it is not necessary for military or corporate leaders to issue orders to each individual in the organization; organizations have a certain inbuilt intelligence, local initiative and momentum of purpose.¹

- ✓ See also Transatlantic Cable, 1 Movement, p. 837 and EN 2, p. 843, *infra*.

- FTL Communications: The second underlying assumption is that, if ships can travel faster than light, why wouldn't an interstellar society be able to communicate at faster than light as well? This may seem to be a specious leap of logic, except that modern physics already has determined that information apparently does travel faster than light.
 - ✓ For example, the famous polarized screen experiment with two photons traveling in opposite directions at the speed of light from a single light source; one photon seems to 'know' what happens to the other, but any information exchange between them would have to occur at least faster than light. This is called quantum entanglement.

Whether justified by current science or not,² instantaneous interstellar communications is a common assumption of modern television and movie science-fiction.

- ✓ For example, in 2017 the first successful 'hack proof' communications were sent from a quantum ~~*~~ to the Earth using the concept of quantum entanglement. Scientist and serious intellectuals of past decades have always assumed that technologically advanced alien civilizations would not communicate using radio waves; quantum communications gives us the first peek at how they may actually communicate.³ That doesn't mean that there might not be mysterious radio waves out there from early technological civilizations; for example, the fifteen high frequency radio repeater bursts from a galaxy 3 billion lightyears away in 2017 may, but probably don't, represent an early technological civilization – that existed three billion years ago.

Game Actions represent some combination of orders from higher up, and individual initiative and actions 'on the ground' within the framework of mission, operational procedures, training, intelligence, and command hierarchy; i.e. a Scout Ship fired at by alien warships does not need to be ordered to retreat by HQ although the position must inform the Concierge of the intent to retreat. If players like, the game could be tailored to assume no FTL communications, relying entirely upon the initiatives of the people present, but when the game is based on either or both assumptions being true, it would not make that much difference.⁴

- Really?: There seems to be some dispute and some doubt in the professional science world about whether quantum entanglement means that FTL communication is possible. The consensus seems to reject the idea. But for game purposes, we must assume that the problem may have been solved already by a civilization capable of faster than light travel.
 - ✓ "One suggested FTL communicator is outrageously simple. It consists of a perfectly rigid rod, as many light years long as required. Since the rod is rigid, its whole length will move when we push the near end. ...

Another suggestion: take two of these lightyears long rods, hanging side by side in space. Near Earth, the rods touch; they are at a very small angle to each other so that their far ends are centimeters apart. If one rod is moved sideways it will slide over the other until, after a short time, the Earth ends of the rods are a few centimeters apart while the far ends are touching. In that short time, without any mass or energy being sent faster than light, *something* has traveled light years along the rods: the point at which they touch has moved all the way from the Earth to the far end. Could this be used to transmit information? In fact, the answer is 'no.'...

The flaw is that the entire length of the sideways-moving rod must already be moving before the rods' point of contact can travel faster than light; those at the far end would

already know the ‘signal’ was coming and receive absolutely no more information from it. Physicist call this a ‘non-meaningful superlight signal.’ We can aim a laser at the Moon and swivel it so that the bright spot moves across the Moon’s surface with FTL speed – but the spot carries no information from one part of the moon to another.” – Peter Nichols, The Science in Science Fiction (1982), p. 74.

[Interview in French translated by English subtitles]

“Villeneuve’s campaign started well. He linked up with the Spanish at Cadiz and reached Fort du France. Nelson was completely fooled. He wasted precious time in the Mediterranean and passed Gibraltar a month behind Villeneuve. But the rest of the plan didn’t run so smoothly. Missiessy was not contacted in time and he returned to Europe. Ganteaume was blockaded in port and could not emerge without a battle. So the plan had to be modified. Napoleon, in Italy, issued new orders. ...

But how could Napoleon’s orders reach Villeneuve? Remember, Napoleon wasn’t in Paris. He was constantly moving between Lyon and Milan. His orders first had to reach Paris – that took ten days – and then get to a port, in this case Rochefort. Then went out on several frigates, in case one was captured because the French navy weren’t masters of the sea. So two or three ships were sent to contact Villeneuve’s fleet somewhere in the Caribbean, they had no idea where. They had to find them first. There were so many variables. Communications were unreliable and very slow.”

– Contre-amiral Rémi Monaque, *Trafalgar: The Greatest Battle in Naval History* (documentary, 2007) ⁵

Creaky Communications: The creaky, feudalistic Third Imperium setting for the Traveller RPG is an example of a large, complex interstellar civilization that does not possess direct or instantaneous FTL communications. News, orders and information from the Capital required two months to reach the frontiers; communication travelled outward at the fastest available FTL jump ship speed (about 15 to 18 lightyears per week, jumping only from starport to starport). Supplies, trade and reinforcements took even longer. As a result, important decisions were made locally by military commanders, bureaucrats, and nobility. Most building, education and recruiting was also localized. This was an important element in the Imperium Civil War.⁶

- ✓ Conversely, the BattleTech universe featured a form of near instantaneous FTL communication to a range of 50 lightyears, which was monopolized by the semi-mystical ComStar Corporation. ComStar, with its own military assets and a proto-religion to augment the monopoly on FTL communications, was able to exert some control over the Great Houses. When the system collapsed after 500 years, the Houses resorted to messenger ships *à la* Traveller RPG.
- ✓ In the Stargate Universe series (2009-2011) the characters used Ancient “communications stones,” which allow communication over any distance by taking over another person’s body at the target location. *Yeah, you read that right.* Characters on the Destiny often swapped bodies both ways with personnel at SGC, it was a bit confusing at times during the series because sometimes they showed the actual person who was there, and sometimes they showed the body of the person who was there (*got that?*). Of course it created drama opportunities, and comedy moments, and the writers love that stuff to fill screen time.

And of course they glossed over the massive implications – personal, metaphysical, social – and legal. The program showed the ‘visitors’ to SGC being driven around in government vehicles while occupying someone else’s body, to visit family, etc. (‘hi honey, it’s me, ignore what you see’). Can you see where this is going? Imagine the lawsuit and witness testimony if something happened to the body while occupied by another’s consciousness – a car accident, a shooting, a rape, or if crimes were committed by the occupier of someone else’s body. I chuckle imagining reading that complaint, what legal theories would apply? The fact section – if declassified – would be head spinning hilarity like the complaint in *United States ex rel. Gerald Mayo v. Satan and His Staff*, 54 F.R.D. 282 (W.D. Pa. 1971) (no kidding, *Google it*).

- The blasé treatment of the Ancients communications stoness technology in SGU is emblematic of the major problem with the entire Stargate franchise (as well as much of television science-fiction): It is the attitude that if the ancient technologically advanced races figured it out, it’s safe, easy and totally ok for humans to use without regard to any possible dangers.⁷ Only once in the entire franchise do I recall a point being made about the dangers of assuming alien technologies; that was the episode where the U.S. Air Force was trying to fly Goa’uld Death Gliders (fighters) they had captured. Alien technology in GGDM should never receive blasé treatment, it should be edgy, dangerous, unknown with potential.

“According to the [Continuity Hypothesis], babbling is a direct forerunner to language. At first, infants produce universal sounds that exist in all areas of the world and in all languages. Reduplicated canonical babbling produces a number of sounds but only some of them (‘ma ma’ and ‘da da,’ turning into ‘mommy’ and ‘daddy,’ respectively) are recognized as meaningful and thus reinforced by caregivers and parents, while the others are abandoned as meaningless.... This hypothesis agrees with the claim that the anatomical changes of the vocal tract are very important, but suggests that the social environment in which an infant is raised has a greater influence on the development of language. Infants pay close attention to their caregivers’ reactions and use their feedback as approval for the sounds that they are making. This reinforcement through feedback helps infants to focus their attention on specific features of sound. Social feedback facilitates faster learning and earlier production of a variety of advanced words.

There is evidence that babbling varies depending on the linguistic environment in which a baby is raised. Current babbling research supports The Continuity Hypothesis. For example, it has been noted that infants raised in French-speaking environments display greater amounts of rising intonation in comparison to infants raised in English-speaking environments. This is likely due to the differences between French and English intonations while speaking. The ordering of consonants and vowels in the babbling of English, French, Swedish and Japanese infants also appears to resemble that of their native language. These findings support another hypothesis, the ‘babbling drift hypothesis’ in which infant babbling resembles the phonetic characteristics of a child’s native language through exposure to speech.... The babbling drift hypothesis provides further support for The Continuity Hypothesis.”

– from Wikipedia article, “Babbling,” captured November 2, 2019

Drifting in Babble: How infants learn to speak borders on the sublime. Language is a habitual repetition; this is why political correctness is objectionable to some – it interferes with habitual use of words and concepts.

From my recollection of a lecture on language learning (apparently on the ‘language drift hypothesis,’ *ut supra*), various recordings were made of babies from across the world, across many different language groups, at an age before they begin learning language. A baby will make every sound used in every language before they are six months old. You cannot tell a Chinese baby from a French baby from the sounds they make at less than a few months old.

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The International Phonetic Alphabet (IPA) represents every sound used in every spoken language in the world today. Using the IPA one could transcribe into symbols any conversation without needing to understand the language.⁸ They would simply record what they hear, meaning and content are not necessary. Every language uses a range of possible sounds, but not all; every language has a natural repetition of sounds that is pleasing to the native speakers of that language.

After about six months old, babies begin repeating the sounds they hear from adults speaking around them. As time goes on, repetition of the sounds they hear spoken becomes stronger, regular, and they begin less and less to make the sounds not used in their native language. Thus our brains are conditioned from infancy to certain language sounds and patterns, onto which are added concepts, ideals, meanings, and abstractions through our childhood into adulthood.

This is why learning a foreign language is difficult, especially one that is in a different language group and/or uses a non-Romantic alphabet. The origin of the Romani was traced both genetically and linguistically to a certain tribal group near northern India who migrated about 500 A.D. This also has a profound effect on children in multilingual families or environments, such as the border regions in Europe, where they grow up speaking several languages – I also recall a headline somewhere that multilingual speakers were found less susceptible to dementia in old age, but I don’t know on what studies or data that was based.

- ✓ Folk etymology might suggest that ‘babble’ comes from ‘Babel’ and looking at the definitions in Merriam-Webster, one could see some similarity in meaning. But according to Merriam-Webster online dictionary, ‘babble’ was in use a century before ‘Babel’ entered the English language (the 13th and 14th centuries, respectively) and thus ‘babble’ could not have come from ‘Babel’ by simple math. And Babel is, of course, connected to the Biblical origin myth of ‘folly.’ Merriam-Webster offers no connection between them, instead stating that ‘babble’ is probably imitative; the Wikipedia article has a 15-second video of a baby in a crib repeatedly uttering ‘ba-ba.’

“The examiner nodded. ‘When you see much of this, you have a tendency to speculate. Now, we regularly add to our stock of fighting men and ships, and our ability to control the effects of time enables us to operate, from the observers’ viewpoint, either very slowly, or very fast. How is not in my department, and this knowledge is not handed out to satisfy curiosity. But – it’s natural to speculate. The only way we know to slow time, from the observer’s viewpoint, is to accelerate, and increase velocity to near the speed of light. A great ancient named Einstein said there is no way, without outside references, to distinguish the force of gravity from acceleration. So, I think some wizardry with gravitors is behind this.’

He looked thoughtfully at Lance Phillips. ‘The main thing is, you see what you have to know to be one of our apprentice strategists. We accumulate strength slowly, take the toughest, most generally uncivilizable of each generation, provided they have certain redeeming qualities. These are our fighting men. We take a few standard types of ships, improve them as time goes on, and when we are attacked, we accelerate our response, to strike with such speed that the enemy cannot react. We obliterate him. He, mortified, blames the defeat on something else. His fleet was caught in a nova, the gravitors got in resonating synchrony, something happened, but it didn’t have anything to do with us. Nevertheless, he leaves us alone.’

‘After we get out – then what happens?’

‘It depends on circumstances. However, fighting men are in demand. If, say, a properly keyed signal cut power to the engines, and after some days of drifting, the warrior were offered the opportunity to enlist in some outfit that meets our standards...’

– From “The Claw and the Clock,” by Christopher Anvil (1971)

Endnotes.

¹ **Commentary:** Communications delay to the Mars rover is 4 to 24 minutes; it self-drives across the Martian terrain.

² **Commentary:** See Quantum Computing, for example. In September 2017, articles appeared discussing a quantum computing toolkit (a proto-programming language for as yet non-existent quantum computers) built from MS VS; one article included code samples. Engineers have worked the last few years on harnessing quantum teleportation for use in computers and communications. But we still don’t know the data transfer speed of quantum entanglement; any such computers would be slowed by our electronics.

³ **Commentary:** Note that the movie Magellan, also released in 2017 specifically depended on the idea that quantum entanglement could be used to communicate instantly and simultaneously across galactic distances and the obviously very old and advanced intelligences were communicating in DNA sequences.

⁴ **Commentary:** The Concierge should consider that communications may not allow far-flung colonies to be aware of the current situation at any moment. I watched a sci-fi series episode where the remaining handful of humans were imprisoned in a work camp with high walls guarded by alien robots. As the story began, there had not been an alien supply ship for over two centuries and the alien android guards were failing due to lack of replacement... The aliens had never begun exploiting or colonizing the planet after conquest, but had moved on, leaving the Earth with centuries to recover to be inherited by the human prisoners when they finally broke out.

⁵ **Citation & Commentary:** This beautiful French-produced English language (except where French speakers are interviewed) CGI/live-action documentary provides an alternative and refreshing French point-of-view on the Trafalgar campaign through the letters of Admiral Pierre-Charles Villeneuve, the commander of the Franco-Spanish fleet at Trafalgar. Notable threads in the documentary include Napoleon’s dislike of naval officers, the lack of local initiative by the French naval commanders, and confusion of orders and counter-orders and poor logistics. Conversely, Admiral Nelson disobeyed the orders of the Lords Admiralty to chase down Villeneuve after being initially fooled and displayed great tactical independence in battle.

⁶ **Commentary:** Star-spanning civilizations without FTL communications may suffer an interstellar version of the *Two Generals Problem and/or a Byzantine Fault*. Participants and the Concierge should understand what these are.

⁷ **Commentary:** The relationship that developed between the Ancients and the Humans of Earth in the Stargate universe was a parental or mentoring one. The Ancients passed their technology to humanity when they were facing extinction and could not ascend – the changes they made to themselves to achieve near immortality in this universe meant that they could not ascend. Still, we have all heard stories of pre-teen children trying to drive cars or, worse, playing with guns, paint cans, or other dangerous adult-world items. Imagine your dog trying to use the electric can opener to get his food? This especially is an apt analogy when minor races are involved.

⁸ **Commentary:** When I was first introduced to the IPA, I immediately noted the similarities to the Speed Writing shorthand system I had learned in junior business college.

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See Appendix CTC – Continuous Turn Cycle Example

*“The fellowship was a brief beginning, a fair time that cannot be forgotten.
And because it will not be forgotten, that fair time may come again.”*

– King Arthur, *Excalibur* (1981)

“Time does not exist. Only the illusion of memories exist.”

– Seiichi Kirima, *Boogiepop Phantom* (2000)

Time Unwind: There is a line of thought – possibly related to Avicenna’s Floating Man argument – that absent external stimuli and references, time does not exist in the human mind, that is, humans do not possess ‘time sense,’ we cannot ‘feel’ time (see Just Don’t Call Me Late for Dinner and Timesense discussion, 3 Reformation, pp. 1403, 1406, *infra*); this is not a denial that time exists objectively in the universe, but that organic existence (and memories) – from which the mind emerges, is also the only thing tying the mind to the universe.

Effectively within the mind, the mind has always existed and will always exist, it does not recall coming into existence and does not anticipate not existing always (e.g., Isaac Asimov’s “The Last Answer” (1980), see excerpt in Information, *infra*). It is the dividing line between the mind and the brain (which is of the body) and a reason why mind is associated with divinity that is commonly envisioned as timeless. Sit in an absolutely quiet, sealed dark room with no windows for awhile and try to figure out how much time has passed as you think, daydream, or sleep. Many such experiments have been done, and it has been used as a form of disorientation torture or interrogation technique called sensory deprivation.

- ✓ “For modern man one of the most troubling aspects of eternity lies in getting used to the slippery quality of time. With no clocks and no calendars and lacking even the alternation of day and night, or the phases of the moon, or the pageant of seasons, duration becomes subjective and ‘What time is it?’ is a matter of opinion, not of fact.” – Robert Heinlein, *Job: A Comedy of Justice* (1984).
- **Time Passages:** The ability to be elsewhere – in memories, or anticipated futures, or literary construction of places and times that have never existed and never will – of suspension of disbelief – is a key element of sapience. One of the primary mental abilities of humans is to be somewhere else without moving. This is the basis of *Dune*’s (1965) navigator guild, the ultimate form of moving without moving.
 - ✓ “Imagination will often carry us to worlds that never were. But without it, we go nowhere.” – Carl Sagan.
 - “You reach out your hand but you are all alone in those time passages...” – Al Stewart, “Time Passages” (1978).

*I have squandered my resistance
For a pocket full of mumbles, such are promises
All lies and jests
Still a man hears what he wants to hear
And disregards the rest*

– Simon & Garfunkel, “The Boxer” (1982)

Peering Over the Dish: In primary school, one gets the impression that history is infallible, that is, that we know everything about every historical person. Everyone has a place and date of birth, and of death, and a blurb of historical accomplishments and why they are important to history. This is history and this is what is going to be on the test. John Taylor Gatto might opine (and I don’t specifically know if he has commented on this) that it is all part of the design to impose the idea that everyone is being watched all the time, that everyone is accounted for, and maybe I might add that it is also part of our religious ideals that everyone will be remembered after they die, and that an important few will be immortalized in history lessons. Most people never go beyond that, the lid having been put on the dish so that they learn to not jump so high.

When you peer beyond the dish in later life, you will discover that we know the names of one hundredth of one percent of the billions of humans and human ancestors that lived. Many, we know little about but their names (e.g., Simonides of Ceos, famous ancient lyricist, or Ptolemy Philadelphus, Cleopatra’s youngest son by Mark Anthony) and/or of others who simply disappear from historical records (e.g., the embezzling Spartan commander Gylippus who fled, or the infamous sister of Emperor Venetian III, Justa Grata Honoria who may have died or been murdered, or the last Western Roman Emperor, Romulus Augustulus who may have simply walked away) – all of these people vanish into the masses once they flee outside the sphere and time in which they were important people.

Kepler’s Laws

Johannes Kepler, working with data painstakingly collected by Tycho Brahe without the aid of a telescope, developed three laws which described the motion of the planets across the sky.

1. The Law of Orbits: *All planets move in elliptical orbits, with the sun at one focus.*
2. The Law of Areas: *A line that connects a planet to the sun sweeps out equal areas in equal times.*
3. The Law of Periods: *The square of the period of any planet is proportional to the cube of the semimajor axis of its orbit.*

Kepler’s laws were derived for orbits around the sun, but they apply to satellite orbits as well.

– From <http://hyperphysics.phy-astr.gsu.edu/hbase/kepler.html>, captured October 6, 2017

The Law of Periods: Each position will have a set time period within which to submit their Actions. Each position may only submit Actions once during that period, to avoid the confusion of multiple partial and complete sets of Actions and various amendments. Actions may not be amended once submitted; the Actions received by the Concierge within the turn period are final for each position. Actions received outside the allowed period are void, and will not be considered by the Concierge. Because of the manual effort required to process Regular Turn Actions and the continuous streaming nature of the game, these rules must be strictly enforced.

- **Three Daze:** The period for submission of Regular Turn Actions will be based on the calendar system and time zone used by the Concierge. Each position will have a period of specific days to submit one set of Actions. For example, Position A might have the period of Monday, Tuesday, and Wednesday to submit their Actions. Actions for Position A would not be accepted before 12:00 a.m. on Monday and after 11:59 p.m. on Wednesday, based on the time zone where the Concierge resides.
 - ✓ While three-day turn periods would be optimal for the flow of the game, it is unlikely that the game will run on a three-day cycle as ‘real-world’ (whatever that is...) tasks pull players away. This is one of the many good reasons why each position should be run by a player team. While three-day turn periods may not be practical, the game should not be allowed to drag.
- **Forward Fumble:** Because of the continuous action principle, all days of the week will be used for running the game to keep it continuous; that is, there are no ‘off days’ or weekends off when the game is not running. Any position that fails to submit their Regular Turn Actions within the time period will have no Actions run in the Turn Cycle, however, ships that are in transit will continue moving toward their destination (law of conservation of momentum) until they arrive and the position will be subject to the effects of the Actions submitted by all of the other positions.

This game operates optimally with ten positions playing (not only in terms of the rotation of turn submission periods, but also in the level of creativity of the players and complexity of the game), on which basis, each position should have to submit Actions approximately twice to three times per month. Less positions may mean longer turn periods (or, alternatively, greater frequency of Regular Turn Actions if a faster-moving game is desired) for each position. To the extent that processing requires manual handling by the Concierge, the Concierge’s schedule will also become a factor in determining the length of turn periods.

- **Lapping Effect:** While each position has a specific period during which it may submit Actions, the periods during which positions may submit Actions will overlap.
 - ✓ For example, Position A might be allowed to submit Regular Turn Actions on Monday, Tuesday, and Wednesday; while Position B may submit Actions on Tuesday, Wednesday or Thursday, and Position C will be allowed to submit Actions on Wednesday, Thursday, or Friday, and so on continuously, until all of the positions have had one opportunity to submit Actions, and then the cycle returns to Position A.

Note that Regular Turn Actions will be processed in the order they are received, therefore, if, in the above scenario, Position B submitted their Actions on Tuesday, and Position A submitted theirs on Wednesday, Position B’s Regular Turn Actions would be processed before Position A’s Actions. Some players may find this advantageous.

“Arvast Nade, just turning from the screen, jerked back to take another look. Between his fleet and the planet, a swarm of blurs had materialized.

The things were visibly growing large on the screen, testifying to an incredible velocity.

Abruptly the blurred effect vanished, and he could see what appeared to be medium-sized scout ships, all bearing some kind of angular symbol that apparently served as a unit identification.

Now again they blurred.

Nade activated his suit communicator.

‘Secondary batteries open fi—’

The deck jumped underfoot. A siren howled, changed pitch, then faded out. Across the control room, a pressure-monitor needle wound down around its dial, then the plastic cover of the instrument blew off.

The whole ship jumped.

A tinny voice spoke in Nade’s ear. ‘Admiral, we are being attacked by small ships of the Storehouses!’

‘Fire back!’ shouted Nade. [funny that they have to be told to return fire!]

‘They’re too fast, sir! Fire control can’t keep up with them! Look out! HERE COMES—’

Nade raised his battle pincers.

Before him, the whole scene burst into one white-hot incandescence.

– From “The Claw and the Clock,” by Christopher Anvil (1971)

The Claw and The Clock: Combat is fought in rounds, with each side submitting Combat Actions for each Combat Round. Combat Rounds are run at any time that the Concierge receives sufficient Combat Actions based on the type of combat being fought (see Combat Categories, 2 Combat, p. 959, *infra*). Several Combat Rounds may be processed in one day, or a combat may continue indefinitely (as long as there are combatants) with nothing happening. Players are never required to submit Combat Actions, other than during the first round of a combat.

- ✓ In a dilatory combat, it is quite likely that one or both sides will exceed their Operational Supply Limitations and be forced to retreat to a supporting colony for resupply. Maintaining a siege or combat over several Regular Turns at an **alien colony**, or in an un-colonized starsystem, requires a significant logistical effort. See Supporting Colonies, 1 Movement, p. 840, and extended logistics discussions 3 Movement, *infra*.
- **Relativity:** Combat Rounds are run independently of, and concurrently with the Regular Turn cycling of the game. The rest of the game does not stop for the resolution of combats. While a combat is in progress, it will or may be affected by events associated with player positions taking their Regular Turn, including, but not limited to, diplomacy, news events, the arrival of additional forces, shipbuilding, and supply and other logistical issues. Units involved in combat may not move away or execute any other Regular Turn Actions until they are either victorious or successfully withdraw from the combat.
 - ✓ The Battle of Pork Chop Hill (a militarily useless piece of terrain) in 1953 during the Korean Armistice negotiations (the first part of which was depicted semi-fictionally

in the 1957 movie) is an example of how ‘other things’ are going on (that is, how the rest of the game moves on as scheduled) during an ongoing combat. In GGDM terms, this would reflect a combination of player communication-negotiation between the sides while concurrently submitting Regular Turn actions and Combat Actions.

- **Bells Rung:** Combat Actions will only be accepted for one Combat Round at a time. The Concierge will process each position’s Combat Actions and resolve the Combat Round. Random die rolls will be handled by a random die roller, with the results being emailed to all combatants (out of fairness). Once the results are received and applied, the combatants may submit the next Combat Actions. In this way, it would be possible, with everyone online, to process four or five Combat Rounds in one evening, if desired (most combats will be over in less than five Combat Rounds). The Concierge will never divulge to anyone not involved in the combat the results of the combat or any Combat Round; that is a matter for player diplomacy and intelligence.

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Clara: *How can you have a grave?!*

Dr. Who: *Because we all do, somewhere out there in the future, waiting for us. The trouble with time-travel is you could actually end up visiting it.*

– Dr. Who, “The Name of the Doctor” (2013)

X-Factor: When Dr. Who began in 1962, the world was divided by the Cold War and recovering from the social-psychological shock of WWII. It is entirely fitting that Dr. Who is a BBC production as Great Britain was the closest to and most traumatically affected country of the Anglo-sphere by the massive conflict of WWII (it is possible that Perry Rhodan served the same purpose in German culture). Dr. Who was a reaction to the creeping, palpable dread overtaking civilization at that time, and it was and is still most successful when it fills that role. To this day, Dr. Who studiously avoids anything controversial or relevant in the Real World – it is pure escapist fantasy – Dr. Who will never appear in China during the Great Chinese Famine, or in Southeastern North America during slavery,¹ or in South Africa during the Zulu uprising, or touch upon the events of the Opium Wars.² Or anything that would reflect badly on the Anglo-sphere or Eurocentric culture generally. GGDM is quite the opposite.

- ✓ “Gilles Deleuze famously argued in his books on cinema that the feeling that time, and the world with it, was ‘out of joint’ began in the aftermath of World War II, and clearly Akira Kurosawa’s *Rashomon* (1949) stands out as a film which uses flashbacks to present multiple possible versions of the past which don’t align, which couldn’t all be possible, and without providing resolution. Since the film’s attempt to place guilt in relation to a horrible act of violence can be read as an allegory of the attempt to deal with the guilt and horror of memory in relation to the atrocities of the war, it doesn’t seem unlikely that the form of the film is an attempt to deal with the trauma of its contents, allegorical and otherwise.

And as psychoanalytic critics have long argued, fragmentation is one of the primary responses to a trauma which remains difficult to process and integrate. Deleuze nevertheless aims to get beyond the limitations of psychoanalysis, and his argument about time and film is wide-ranging and goes beyond trauma, unless the trauma is seen as more than the war, but the generalized condition of living in our postmodern age. And so, in his cinema books, he traces the shift in the depiction of time in avant-

garde films in the post-war period, by means of cinematic authors such as Fellini, Resnais, Tarkovsky, and beyond.” – Christopher Vitale, “Collapsing the Fuzzy Wave: Rian Johnson’s ‘Looper’ (2012), Quantum Logics, and the Structures of Time Travel Films,” networkologies (blog), written in 2012, updated and reposted, October 31, 2014.³

Looking back at my youth, I feel like we were just sitting around resigned and waiting for the end; reading Loren Eiseley’s book, *The Modern Dilemma* (1956), gave me emotional flashbacks to the fear, the book is dripping with Cold War fear. It has been difficult for those born after 1990 to understand the world of my cohort (note how the meaning of ‘ground zero’ has changed post-9/11); and the new Dr. Who series, bereft of the background milieu of the Cold War, has had to find a new way to continue to represent hope, escapism, and a kind of higher meaning.⁴

- ✓ “Why do I write all this? Especially when I risk days of online wrath from Doctor Who fans? (Last time, I was called a c*** and a t***, among other things.) Because it’s not the scheduling. The problem is the show. People don’t like it, they can’t understand it, their kids can’t understand it. It’s overblown, sometimes nonsensical, and Capaldi hasn’t closed the deal with viewers as the lead.” – Neil Midgley, “Dr. Who Ratings Fall to a Record Low (Again),” *Forbes Magazine*, November 30, 2015.

Like the anti-hero Thomas Covenant the Unbeliever and *The Matrix*, Dr. Who seems to be something that you either love or hate, you either get it or you don’t. The new series particularly, has seemed to have its own superlative logic – sometimes staying just this side of ludibrium – reminiscent of the “X-factor” thinking introduced in Lewis Padgett’s (aka Henry Kuttner and C. L. Moore) short story, “Mimsy were the Borogoves” (1943).

*“Today was tomorrow, yesterday
It’s funny how time can slip away...”*

– Ozzy Osborne, “Thank God for the Bomb” (1986)

Endnotes.

¹ Commentary: Earlier Dr. Who was a little more adventurous, the First Doctor visited the Aztecs just before the arrival of the Spanish. Those episodes were slightly controversial in the early 1960s.

² Commentary: The newer series has just barely touched WWI and WWII and the Doctor went to a charity event for veterans of the Crimean War, 30 years after the war.

³ Citation: “While film seems to be particular suited to, as Deleuze argues, function as a ‘time machine,’ it is not the only medium which can do this. Literature can imagine multiple time lines as well, for example, but it only began to truly do this at around the same time as film began to do this, with perhaps Jorge Luis Borges ‘Garden of Forked [sic] Paths’ (1941) as one of the earliest examples. Of course, language and images of all sorts were always virtual realities of sorts, but only after World War II did time seem to truly ‘go out of joint.’ While the fissures can be seen as early as experiments with painting, such as that of Picasso or the Italian Futurists, it is only retroactively that the true potential import of these devices become clear.” *Id.*

⁴ Commentary: When I was young, I used to enjoy watching Star Trek TNG episodes, I admit it was highlight of my day when I got to watch TNG on television. Over 20 years later, when I can still watch it on the internet and DVD any time I want (and I suppose it is still re-airing on television somewhere in my way-too-many-channels line up), I find I like it far less: Star Trek TNG is too slick, too glossy, too cutesy, too utopian for me now, it makes a mockery of seriousness and it’s formulaic and mostly episodic. There are still some episodes I like to re-watch, but if I am not in the mood, I feel like turning it off 10 minutes into the program. I didn’t initially like DS9 very much, but came to appreciate it after the fact, especially the Dominion War arc. I guess this indicates a shift in worldview.

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See Appendix CTC – Continuous Turn Cycle Example

See Appendix PAT2 – Power Activations Tables 2 – Normal Sequence of Power Activations

“The view that machines cannot give rise to surprises is due, I believe, to a fallacy to which philosophers and mathematicians are particularly subject. This is the assumption that as soon as a fact is presented to a mind all consequences of that fact spring into the mind simultaneously with it. It is a very useful assumption under many circumstances, but one too easily forgets that it is false. A natural consequence of doing so is that one then assumes that there is no virtue in the mere working out of consequences from data and general principles.” – Alan Turing, Computing Machinery and Intelligence (1950)

New York City, 150,000 Years Later: Sixty years apart, or 150,000 years apart, they are both talking about emergences.

- ✓ cf. “Mathematics, law of averages. Let a complex system repeat itself long enough, eventually something surprising might occur.” – Inner Number 6, Battlestar Galactica, “Day Break” (epilogue in New York City, 2010).

Rhetorical Questions: Is ‘surprising’ inherent in or necessary to the concept and/or definition of emergences? Is the surprise simply a matter of our (very) limited intelligence; would the universe be clockwork to a higher intelligence? Or at least a set of known and closed probabilities? Is something emergent simply because of our current framework? E.g., has emergence simply replaced mythopoeic thinking in the modern age (see Mythopoeic Thinking discussion, 1 Temporal Technology, p. 809, *infra*)? Is emergence a category error? To wit:

- ✓ “Unlike classical physical processes, some quantum mechanical processes (such as quantum teleportation arising from quantum entanglement) cannot be simultaneously ‘local,’ ‘causal,’ and ‘real,’ but it is not obvious which of these properties must be sacrificed, or if an attempt to describe quantum mechanical processes in these senses is a category error such that a proper understanding of quantum mechanics would render the question meaningless.” – from Wikipedia article, “List of unsolved problems in physics,” captured April 7, 2019.

Can something not surprising be an emergence? Can emergences be useful if they are unpredictable? Is our only option to recognize that emergences happen, and that the concept is the best explanation for the observed phenomenon, but beyond our current understanding and ability to predict?

White Moves First: When a computer plays against a human opponent, any move the computer makes, one can assume that the computer has worked out all consequences several moves out because of the processing differential between the computer player and the human player. Given the time periods (years, decades, centuries) that are likely represented by a turn in GGDM, the players and Concierge can assume on a certain level that all of the consequences of an act or fact have already been played out, determined, and are known to the populations in the game. That is the processing levels are the same, given time. This may be partially represented by use of Enlightenment rerolls (see ‘do over’ discussions in Foresight and Vampire Suicide, 2 Colleges, pp. 472, 478, *infra*). However, at the same moment, the game is really about the *human players* who may not see all of the possible consequences of a move, and who, through game play, work it out from the data presented to them by the game.¹

- ✓ “As we know, the main problem of all chess programs is the very large number of continuations involved. The number of all potential positions is in the order of 10^{128} ... which is vastly larger than the number of atoms in the known universe (a pitiful 10^{80}). It is clear that no computer or any other machine can solve the game by looking at all possible continuations. ...

For the computer, it is only a question of what depth of search is required to match human strategic skill. The machine Deep Blue, which Kasparov played in Philadelphia and New York, consisted of an IBM SP/2 server equipped with a large number of special purpose chips, which do the fast calculations. Each chip is capable of processing two to three million positions per second. By using more than 200 of these chips, the overall speed of the program could be raised to 200 million positions per second. ... Today’s top PC programs ... run at up to 1,000,000 positions per second on the fastest available hardware, and realistically have a playing strength in classical chess of over 2600. They are a match for all but the top 100 players in the world; in rapid forms of chess only the top dozen or so humans can compete.

The extensive opening books that are used play an important role in the strength of computers. The collective knowledge and experience of many generations of human masters can easily be stored on a hard disk and accessed during the opening phase of the game. Even the micros know tens of millions of opening positions, and have access to full statistics for each of them.... Very often a program will play fifteen or more moves of a game before it starts calculating moves for the first time. Without the benefit of this human knowledge in the openings, the programs would be considerably weaker. While computers are gaining a substantial advantage from the vast amount of opening knowledge that has accumulated in the history of chess, they also profit from research at the other end of the game.” – Grand Master Boris Alterman, “How to Beat your Chess Computer,” undated blog article.²

Even the best human players do not and **cannot process the number of continuations** that a computer must process to match the best human players. So how does a computer lose to a human? Do humans have some asymmetrical advantage against a computer opponent with raw processing power? Additionally, note that the current strength of computers is largely due to the accumulated experience of humanity at the game of chess, e.g., opening moves, five-piece end-games. And of course, there is the classic religious quandary (not confined to Abrahamic religions): If our creations can defeat us, then might we not defeat the entities who created us?³

*“To everything (turn, turn, turn)
There is a season (turn, turn, turn)
And a time to every purpose, under heaven
A time to be born, a time to die
A time to plant, a time to reap
A time to kill, a time to heal
A time to laugh, a time to weep”*

– The Byrds, “Turn! Turn! Turn!” (1965)

Turn, Turn, Turn: All Actions received by the Concierge within a day will be processed the next day if possible. For example, the Regular Turn Actions received between 12:00 a.m. and 11:59 p.m. on Wednesday, will be processed sometime on Thursday (as the Concierge's schedule allows). Ideally, the schedule should be set such as to avoid a backlog or piling up of unprocessed Actions, which disadvantages the positions whose Turn Periods come after, because of results they could not possibly know when submitting their own Actions.

- ✓ The following section is the first mention of the game-critical triumvirate of Acts, Scenes and Power Activations. These will be introduced at length over the next several sections.
- **Clockwork Universe:** All turns received in a day period will be processed together, not consecutively, based on the order they were received, as follows: All Power Activations requiring one Act, *will process first*, then all Power Activations requiring two Acts and/or an Act and a Scene will process second, and so forth until all Actions are processed (see also Managing Act, 3 The Sidereal Stage, p. 123, *infra*). Power Activations also requiring a Scene will process after other Power Activations requiring the same number of Acts without a Scene, Scenes act as tiebreakers in the processing sequence. If two Power Activations are tied in Acts without any Scenes, or require the same number of Acts and Scenes, they will be processed in the order of Powers listed in 2 The Sidereal Stage, Table of Contents, *infra*.
 - ✓ For example, Players A and B both submit Actions on Tuesday, and Player B's Actions arrive first. Player B's Power Activations requiring one Act will process before Player A's Power Activations requiring one Act. However, if Player B has a Power Activation requiring an Act and a Scene, it will process after Player A's Power Activation requiring one Act and no Scenes.
 - ✓ Actions costing *no Acts and one Scene* will process before those costing one Act.
 - ✓ One Act is **added to** the cost of Power Activations that are not associated with an uninterrupted Government Title, if those are used in the game, see Associates & Acquaintances, 1 Government Titles, p. 580, *infra*. This is an *optional rule* in the game that can change the processing sequence of a position's Power Activations with any disruption or change in Government Titles, representing differing priorities of a succession of governments. It could be really fascinating and really annoying.
 - It is strongly suggested that any computer assistant for the game provide the position players with a current list of Power Activation processing sequence by purpose, updated for current Government Title associations.
 - The order should be the same whether Regular Turns are being processed individually or batch processed by a computer assistant in a way that all Regular Turn actions of positions submitted in a day are intermingled. In the latter situation, there may occasionally be a competition between positions as to whose order is processed first, affecting the other position's orders that are processed second. It depends on how the program is written.
 - ✓ Finally, a special 'exception' has been created (of game mechanical necessity) when Unloading RPs at a colony from Cargo Ships shares a Scene with a Construction Power Activation at the colony on the same Regular Turn: Normally, the Construction Power which requires an Act and a Scene will process before the Commerce Power activation for the purpose of Unload RPs which also requires an Act and a

Scene by virtue of the order in which the powers are listed in 2 The Sidereal Stage, Table of Contents, *infra*. However, as they are sharing a Scene (see Material Handling, 1 Construction, p. 664, *infra*), and the unloaded RPs must be used that turn or are lost, the Unload RPs action is processed before the Construction Power so that they may be used that Regular Turn.

- The gist of it is that the process is preplanned as one overall continuous action at the colony by the arrival of the Cargo Ships with RPs and the activation of the Construction Power at the colony with Unload RPs activation of the Commerce Power. It still costs two Power Activations, two Acts and one Scene total.
- **The Mouse in the Clock:** Each Power Activation requires an Interpretation. The default Interpretation is a News Event for most Power Activations. Players submitting Actions for their positions are required to provide the Interpretation (including the text of a News Event, if necessary) to go with each Power Activation and to make it clear to the Concierge exactly what the players desire to do. Any Power Activation without an Interpretation will not be processed. Players will not post News Events to the forums (though players are free to make other appropriate posts to the forums), rather, the Concierge will post all News Events to the forums when the turns are processed. Note that there are other kinds of Interpretations which may be used sometimes to accompany a Power Activation.
- ✓ The News Events section of the forums that is part of the game will be closed to posting or modification by anyone except the Concierge and players. There may be general topic discussion sections of the forums for player and/or public discussion, *depending on how much time the Concierge wants to spend moderating forums*. Posting in discussion sections may be restricted to only players in the game.

“In the context of comments posted to online news sites, the presence of a recognizable journalist engaging with commenters has been found to be associated with improved quality of deliberation with reduced incivility and increased evidence-based discourse, as compared with when no one engages with commenters or when an unidentified staff member from the news organization engages with commenters. Discussions surrounding news of health or abortion topics are more relevant but with fewer genuine questions posed than news of topics on education, crimes or guns, and economy. News of education topics has less uncivil and more relevant comments than the other news topics. People provide less evidence in their discourse when discussing news of economy topics as compared to the other news topics.”

– from Wikipedia article, “Online Deliberation,” citing to Natalie Jomini Stroud, Joshua M. Scacco, et al, “Changing Deliberative Norms on News Organizations’ Facebook Sites,” *Journal of Computer-Mediated Communication*, Volume 20, Issue 2, March 1, 2015, Pages 188–203 (available free online)

Online Deliberation: “The term online deliberation describes the emerging field of practice and research related to the design, implementation and study of deliberative processes that rely on the use of electronic information and communications technologies (ICT). Online deliberation is a relatively new field.” *Id.*

While the internet at first held forth great promise for public discourse, many news organizations have closed the comments sections for their editorials and news stories because they were overwhelmed with racist, sexist, myopic, narcissistic (and all synonyms), unintelligible, ignorant, un-informed, uneducated, insulting or trolling, politically incorrect, phobic, spam and unwanted advertisements, sometimes pornographic, and otherwise inappropriate public postings. In other words, humanity at its usual.⁴

- ✓ “Researchers have questioned the utility of online deliberation as an extension of the public sphere, declining the idea that online deliberation is no less beneficial than face-to-face interaction. *Computer-mediated discourse is deemed impersonal, and is found to encourage online incivility.* Furthermore, users who participate in online discussions about politics are found to make comments only in groups that agree with their own views, indicating the possibility that online deliberation mainly promotes motivated reasoning and reinforces preexisting attitudes.” – from Wikipedia article, “Online Deliberation,” captured October 23, 2019 (emphasis added).

Intermissions: The Concierge is the doorkeeper and the janitor of the universe. Please do not contact the Concierge and ask if another position has submitted Regular Actions or Combat Orders (if you are not a combatant). Please do not contact the Concierge and ask the status of a combat or any information that might be construed as ‘free intelligence’ on other positions. The Concierge will give very limited information about other positions, and will always first consider tossing you out an airlock and slamming the door in response to such questions, out of fairness.

- **Emergency Halts:** While the game is designed to run continuously, the game is nothing without the players, and consideration will always be given to halting the game for genuine emergencies. However, the established turn period for each position to submit Regular Turn Actions, and the possibility of multiple players playing each position, should be sufficient to work around most real-world emergencies that might interrupt the game. Therefore, an emergency in this game would be something that cannot be fixed or resolved shortly by reasonable efforts, which might then prevent a position from entering Regular Turn Actions (this is not the same as simply not entering Actions without explanation). Emergency halts will be considered on a case by case basis and will be granted sparingly.
- **Time Stop:** This game is not a computer program, GGDM will always require regular manual processing by the Concierge (with the hope that automated aids might be developed later).⁵ This includes tracking all of the turn data, updating the position information, responding to emails, and monitoring the forums decorum. Running the game will be a daily activity for the Concierge. The Concierge will do their best to keep up the daily activities of the game in a timely manner, however, should it become necessary, the Concierge may from time to time call a halt to the game (for example, when the Concierge is on vacation, putting in overtime, on trial for treason, or off saving the world, or during the Holidays). Whenever any halt to the game is called (i.e. the game is placed in ‘temporal stasis’), the turn calendar will be adjusted accordingly and the players will be informed of when the game restarts.
 - ✓ “Yahweh has claimed it, yes – he has pronounced Time Stop and torn it down.” – The Chairman speaking to Lucifer about the Rapture in Robert Heinlein’s Job: A Comedy of Justice (1984).
- **Then The Bomb Drops:** It is (sadly) possible that a halted game will never restart, that the halt is tantamount to ending the game, see End of History, 1 Resolution, p. 1456, *infra*, for

discussion on ending the game. Even with automated aids to help with the bookkeeping functions and/or a game manager-client system, the game will still always be run manually by the Concierge. This game can never be a fully-automated, human-free game program.

- ✓ “Then the bomb drops. Your game master fails to show up (‘I know it’s inconvenient, but I really should be at the birth of my baby’) or shows up but is burnt out from work stress (‘. . . then my office caught fire and we missed deadline.’). Contrary to popular opinion, GMing is not a paying profession (if it is, please let me know where to send my resume). Most GMs also have another life, one that pays the bills, feeds the children, or provides themselves with an education. Sometimes, the last thing a GM wants to face is a group of excited role-players. In these situations, a stoic GM might adopt a ‘the show must go on’ attitude and push on regardless, often with disastrous results, there is nothing more depressing to a group of players than spoiling what has been, at until this point, a long and enjoyable campaign. A far more sensible solution is for the GM to admit that tonight would not be a good time to continue this particular campaign (‘but watch out next week gang!’); he or she should take a break.” – Lee Sheppard, “In Praise of One-Night (gaming) Stands,” *Dragon Magazine* #192, April 1993.

“Avoid sarcasm and facetious remarks. Without the voice inflection and body language of personal communication these are easily misinterpreted. A sideways smile, :-), has become widely accepted on the net as an indication that ‘I’m only kidding.’ If you submit a satiric item without this symbol, no matter how obvious the satire is to you, do not be surprised if people take it seriously.” – Jerry Schwarz, Usenet Post, 1983

Godwin, Poe and the Laws: Why do we use emoticons?

- ✓ “Without a winking smiley or other blatant display of humor, it is utterly impossible to parody a Creationist in such a way that *someone* won’t mistake for the genuine article.” – Nathan Poe, christianforums post, 2005.

This has come down as *Poe’s Law* and has been generally expanded to any subject.

- ✓ Both the preceding citation and the feature quote above are from the Wikipedia article on “Poe’s Law,” retrieved September 15, 2017, and were linked back to the original source material.

Godwin’s Law:

- ✓ “As an online discussion grows longer, the probability of a comparison involving Hitler approaches one” (see also, *Reductio ad Hitlerum* fallacy).

Further, “If you mention Adolf Hitler or Nazis within a discussion thread, you’ve automatically ended whatever discussion you were taking part in and lost the debate.” *Reductio ad Hitlerum*.

- **Rhetorical Rules:** “The first renowned salon in France was the Hôtel de Rambouillet not far from the Palais du Louvre in Paris, which its hostess, Roman-born Catherine de Vivonne, marquise de Rambouillet (1588–1665), ran from 1607 until her death. She established the rules of etiquette of the salon which resembled the earlier codes of Italian chivalry.” – from Wikipedia article, “Salon,” captured October 23, 2019.

- ✓ “To be considered deliberative discussion, argue scholars, the communication and the involved interactants’ behavior has to meet criteria established by the principles of political equality and egalitarian reciprocity.” – from Wikipedia article, “Online De-liberation,” captured October 23, 2019.

In addition to Godwin’s Law and Poe’s Law, there remain basic rules of rhetoric that apply to any serious discussion or argument, e.g., the following from the movie *Fantastic Four: Rise of the Silver Surfer* (2007):

General Hager: Let me make this clear for you and your pack of freaks. I’m the quarterback, you’re on my team. But I guess you didn’t play football in high school, did you, Richards? [Hager starts to walk away]

Reed Richards: You’re right. I didn’t. I stayed in and studied like a good little nerd. And fifteen years later, I’m one of the greatest minds of the 21st century. I’m engaged to the hottest girl on the planet. And the big jock who played football in high school, he’s standing right in front of me asking me for my help, and I say he’s not going to get a damn thing, unless he does exactly what I say and starts treating me and my friends with some respect.

This movie dialogue is, of course, every nerdy teen boy’s dream (precisely the audience that comic books have always catered to). The computer industry reminds us that back in the mid- to late-20th Century, they were the nerdy, dorky kids who built the technology for an industry that now runs the world (pretty much, an Estate Government Title of sorts).

- ✓ I watched the movie for Galactus and the Silver Surfer, whom I remembered from the days I read *Epic Illustrated*, it wasn’t an awful movie, but not one I’d watch again.

The comeback response is set up by a classic rhetorical mistake – the same one allegedly made by Bishop Samuel Wilberforce (aka “Soapy Sam”) against Thomas Huxley (aka “Darwin’s Bulldog”) at the British Science Association meeting in 1860 – of personally insulting an opponent to end the argument.

This makes General Hager a poorly-written character and sacrifices credibility in the movie as it is very unlikely that any General-grade (i.e. flag) officer (or any officer) would make that mistake (cf. General Hammond in the *Stargate SG-1* series). Flag officers are usually calculating and tactful, if forceful, with their choice of words and are aware of rhetorical rules. If General Hager had perhaps been a sergeant instead, and tossed a few cuss words, the dialogue would have been more believable.

- ✓ Players in GGDM should endeavor to be General-grade officers and not Sergeants in the game and on the forums. Don’t be Soapy Sam either.

The writers get away with this shoddy dialogue not only because it appeals psychologically to the needs of the target audience, but also because insults and putdowns are the common level of argument – as demonstrated by social media – in our society, it’s the feel good, slam-dunk moment that does not prove any point; it is the argument fallacy of giving into doing what feels good instead of doing what is constructive and right for the argument.

“‘Damned gravitor,’ said Squadron A’s 2nd-Flight leader over the communicator, ‘cut out just as we finished off the lobster fleet. I was signaling for assembly on my ship, and aimed to cut a little swath through crab-land before going home. Instead, we’ve been streaking off on our own for the last week, and provisions are slim on these little boats, I’ll tell you that! What outfit did you say you are?’

The strange, roughly minnow-shaped ship, not a great deal bigger than the scout answered promptly:

‘Interstellar Patrol. We have a few openings for recruits who can qualify. Plenty of chance for adventure, special training, top-grade weapons, good food, the pay’s O.K., no bureaucrats to tangle things up. If you can qualify, it’s a good outfit.’

‘Interstellar Patrol, huh? Never heard of it. I was thinking of the Space Force.’

‘Well, you could come in that way. We get quite a few men from the Space Force. It’s a fair outfit, but they have to kowtow to Planetary Development. Their weapons aren’t up to ours; but their training isn’t so tough, either. They’d be sure to let you in, where we’re a little more selective. You’ve got a point, all right. It would be a lot easier – if you want things easy.’

‘Well, I didn’t mean—’

‘We could shoot you supplies to last a couple of weeks, and maybe a Space Force ship will pick you up. If not, we could help – if we’re still in the region. Of course, if not— The flight leader began to perspire.

‘Listen, tell me a little more about this Interstellar Patrol.’

– From “The Claw and the Clock,” by Christopher Anvil (1971)

Endnotes.

¹ Commentary: “White Moves First” is just a tradition in chess. In the hundreds of thousands of recorded chess games, white has a slight advantage, but that advantage would accrue to whomever moved first. I have always wondered if there was some racist undertone to ‘white moves first’ but whatever the case, no racism is intended here.

² Commentary: The article mentions both Deep Fritz and Deep Junior so it may be reasonably dated sometime after 2003. According to the Wikipedia article on Deep Junior, Boris Alterman was involved with the openings book for the program. Thus, he was part of the “GM team supporting the machine.” *Id.*

³ Citation: “When you have a match between such different opponents as humans and computers, you have to look at the different strengths and weaknesses of both sides during the competition. Playing against a chess computer means facing something that doesn’t have any nerves – similar to sitting across the table from an IRS agent during a tax audit. It’s quite clear what the weaknesses of a human being are – primarily our vulnerability to outside interference. We could catch a cold, be easily distracted, and so on. Obviously, we are not in the position to calculate as deeply as the machine, but we can compensate for that. It’s less clear what the weaknesses of the machine are, but a computer specialist or a chess specialist can point them out.

At the top of any evaluation by a computer, we always see the material. It always tries to translate quality and time factors into numbers that represent the mathematical balance of material. As for the opening strategy, this is quite a dangerous part of the game now, since there is a huge amount of theory on specific openings and many lines that can be exploited further by the GM-team supporting the machine. My first principles in games against computers [is] to avoid the main lines and to accept an inferior position after the opening, hoping that outside of the theoretical routes the machine will lose its horizons and will start making positional mistakes. The negative side of such a setup is that such a strategy dramatically limits your active opportunities; nonetheless, this decision has worked perfectly well many times. Computers often overestimate their chances and make positional mistakes, giving me a serious positional advantage. For example, [Deep] Fritz may weaken its king without much hesitation, simply destroying the pawn protection of the king and not paying much attention to the king’s safety before it becomes too late.” – Grand Master Boris Alterman, “How to Beat your Chess Computer,” undated blog article.

- ✓ “California’s surreal 1960s truly began one Los Angeles morning in ‘63, when pioneering dadaist Marcel Duchamp met stark naked Eve Babitz. Duchamp had by then semiretired from art to play chess. Babitz was just beginning her career as a cultural provocateur.” – Eve Babitz [Editor’s Introduction], “The Chess Player Stripped Bare,” *Esquire Classic* (free article), April 1, 2018.
 - The resulting image, which has been copied hundreds of times by others, is a classic of chess distraction. There is also the ‘chess and cleavage’ dress code debate at chess tournaments, which many feel is *sexist and unnecessary*: Would a woman who has no cleavage issue be banned from playing in a chess tournament because she is very pretty? Should she cover her face?

⁴ Citation: “Football’s an amazing sport to watch from the comfort of your own home or bar stool. Football’s a lot less fun to watch in person because of the high risk that you’ll encounter fans like the ones at Heinz Field who started a stumbling, sloppy fight just a few rows back from the field on Sunday night. It’s moronic, pointless aggression caught on a cell phone, which makes it the perfect metaphor for America in 2018. ... This is like an internet comment section come to life. What’s got these fools so riled up? Who cares? These gents don’t exactly look like they’re discussing, say, climate change policy or the opioid crisis, topics worthy of real full-throated passion.... There’s an actual play going on in the background! Which is, of course, the best time to start an idiotic flopping-fists semi-riot. ... You know these types of people, even if you’re not physically brawling with them: the get-in-your-face guy, the cheap-shot artist, the clamoring crowd, all that free-floating rage just looking for a target. Let’s break down our cast of characters [note, he references player names on the backs of jerseys worn by fans in the video]:

- ✓ **Hoodie Headbutter**: Just about the only person in the frame not wearing a team jersey. H.H. reps the team, son, not just one player. He also apparently favors ridiculous, premeditated (see: removing his lid) overreaction over reasoned discussion. [note, the fight started when this guy headbutted the next guy]
- ✓ **Not-Troy Polamalu**: He brought a plastic spoon to a gunfight. Totally unprepared for the savagery that comes his way, he’s knocked to the concrete before he’s even ready. He gets back up and wades back into the fight – an achievement in foolish determination – only to take a right to the face and drop again. And then, indignity of indignities, he’s the one getting blamed for the brawl! A reminder: in-stadium fights, as in internet fights, there are no winners.
- ✓ **Not-Antonio Brown**: Not-Polamalu’s apparent companion, her first instinct is to go right at H.H. rather than check on N-P. It’s always all about keeping the fight going.
- ✓ **Not-Casey Hampton, Not-Maurkice Pouncey, Not-Lawrence Timmons**: The Greek chorus here, trying and largely failing to restrain H.H. Lots of volume, very little actual effect. These guys are every clown who adds a ‘what about’ comment or injects political subtext into every single conversation. These guys may in fact be you....

So you know who’s the real hero in this whole absurd mess? Look a few rows down and to the right. At the 41-second mark, you can see a cat in another Pouncey jersey with a gray hoodie underneath. He takes a look up at the fight, sees the idiocy unfolding, and turns back to what’s really important here: the game. He probably spent a lot of money for those seats, and he’s not going to let a horde of brawling dimwits spoil it for him. That’s the role model we ought to emulate. Pretty much everyone else here is a total embarrassment. America in 2018, everybody!” – Jay Bushee, “How a Pittsburgh Steelers fan fight explains America,” *Yahoo Sports*, December 3, 2018.

- ✓ [Note, at about the one minute mark in the video, a Pittsburgh City Police officer arrives and the fight stops. If you think that officer’s salary isn’t a miniscule part of the high ticket price, I have a bridge in San Francisco that I’d like to sell you.]
- ✓ Personal Experience: I won the first World Championship of the World of Kaomaris (WOK) PBEM back around 1999. The game hosted the top ten players and I was a new player with a couple of WOK games’ worth experience, but was invited in because three of the top ten were unable to participate; so the last three spots were made invitational. I played the Championship game in a way that was opposite of what was expected (i.e. devised a different strategy), of what was the norm in the WOK community. This was noted on the forums during the six months the game ran, I was criticized, unflattering comments were directed at me for how I was playing the Championship game because I wasn’t going along with the way everyone else was playing the game. As the end approached, and I won, a great hostility grew on the forums, my victory was demeaned as being somehow improper (it was a game program, I didn’t violate any rules) or that I had not really won the Championship Game because of this or that ... In the end, being 20 years younger than I am now, I was left feeling not like a victor, but like a creep who did something wrong, my victory was

taken away by the ‘yeah but’ snipers or ‘what about’ rabble rousers. This is the only time I was ever champion of anything – no matter how meaningless and trivial it may seem (an international community of about 50 players) – and thus it remains in my memory, but the guttersniping is the primary memory.

⁵ Commentary & Citation: Amazon is notorious for using automations or bots to control its listings while it equally notoriously fails to keep out counterfeit sellers from China, dishonest sellers, and many other problems. They suffer a commercial version of the Scunthorpe Problem, *but should do better*. For example, I received the following notification email from Amazon on March 8, 2019 (well over a year after I stopped selling): “We are writing to let you know that the following detail pages have been removed from our catalog: ASIN: 1601252420, SKU: 13-YCWD-G9K0, Title: ‘GameMastery Campaign Coins: Gold (10,50,100)’ This product has been identified as a nonmonetized or monetized bullion, or a gold, silver, palladium, platinum, or bronze coin. Amazon prohibits the listing and sale of these products, except monetized bullion, which is allowed in the Collectible Coins section of Amazon.”

Basically, the morons at Amazon (Amazon workers pride themselves on being called Amabots) used a program to find all listings with ‘gold’ and ‘coin’ in them and then delisted all those that were not in the “collectible coins” category. In fact, the item they delisted refers to a toy coin for role-playing games, that has not a trace of actual gold in it; they were heavy I recall, but they were not gold. The iAmamorons assume that because their program identified that it has ‘gold’ and ‘coin’ in the description, it must be bullion? Rather than having a *human* check before sending out mass emails to sellers? If I were still selling on Amazon, I might spend a week arguing with iAmamorons in seller support, or I might not because I have not had these in inventory for many years. Another example:

- ✓ A couple of years ago, I received a similar notification of removal email for a WWII military miniatures set I was selling. The morons at Amazon had used a bot to search all the listings in toys & games for “rifle” and delisted every entry it found (like Google in 2018). Their intent apparently was aimed at toy guns being sold on Amazon (and why is that a problem exactly that requires all that effort to fix?), but they only use sledgehammers to crack walnuts at Amazon and thus, because the listing included “riflemen” (as in miniature riflemen, metal or plastic WWII soldier figures), the catalog listing (which I did not even create) was delisted. It took a week of aggravation and emails to Amazon before their “legal department” (imagine needing a lawyer to figure out that a listing for WWII miniature soldiers doesn’t have anything to do with toy guns being sold on Amazon) cleared the item to be relisted. Amazon makes marginal profits each year, why do they pay their “legal department” every time we have to go around their Amabot nonsense?
- ✓ This is but a couple of the dozen or so instances where I was victimized as a seller by the Amabot stupidity of Amazon; other instances included being delisted and accused of trademark violations or disputes that were factually wrong or that I had nothing at all to do with because no one at Amazon (that is, the people who push the actual buttons) understands a bit about trademarks but they are scared out of their shoes of litigation (isn’t that a nice contradiction) but are not scared of victimizing dozens of innocent sellers because sellers on Amazon are ignorant, disorganized and plentiful and there will always be more due to Amazon’s success as a platform. Everyone who sells on Amazon knows what are the problems (including using foreign call centers for customer support who use templates to solve problems instead of thinking and understanding), but Amazon either does not know how to solve the problems, or refuses to implement effective solutions due to costs and inability to admit (*ever*) that they are wrong and clueless.
- ✓ On April 8, 2019, I received the following email (in part) from Amazon: “As part of our ongoing efforts to protect our customers and enhance the customer experience, we are updating the requirements to offer products that qualify as pesticides or pesticide devices. Pesticides and pesticide devices include a broad set of products, and it can be hard to identify which products qualify and why. You are offering, or have previously offered, products that are affected ... To continue your current offers on affected products after June 7, 2019, you will need to complete a brief online training and pass the associated test. You will not be able to create new offers on any affected products until you receive approval. You are required to take the training and pass the test only once, even if you have offers on multiple products. This training will help you understand your obligations under EPA regulations as a seller of pesticides and pesticide devices.”
 - I have never sold pesticides, I sold games. The item in question from my inventory was a Q-workshop Spider Web dice bag in linen. Apparently, that is “a pesticide or pesticide device” by Amazon’s standards because it has the word ‘spider’ in the title. It is not hard to see why these guys are incompetent and ineffective at resolving issues that *actually matter*, like preventing counterfeit sellers and scam artists. I wonder if Amazon employees must undergo this online training and pass the associated test to handle linen dice bags with the image of a spider web on them?

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“The Nile was always there. Long before Cairo, long before the tombs of kings... it was the reason for everything. It’s a little hard to grasp how far this river’s been flowing. This is the rain that fell on Abyssinia. These are the waters drained from central African lakes... that have flowed 4,000 miles to make Egypt green. The Nile has its memories. The story of Khartoum is a recent one... less than a century old. That’s yesterday in this part of the world. But however far back you may go... all the Nile’s recollections have several things in common. There’s always God, for instance. Or, if you prefer, the gods.

It seems to have been quite impossible... to live beside this river... and not to have visions of eternity. And there’s always mystery. You never quite know. You wind up with a few questions that no one can answer. One more thing. Why is it that everything was always so big... oversized, larger-than-life? Vanity? Perhaps. Or visions. Vanity was always mixed up with vision. And that’s part of this story, too. But it’s the Nile that remains the original fact. The Nile and, of course, the desert. Move up, up the Nile. Leave Egypt behind and the green land. Enter the Sudan. A million square miles of desert and scrub.”

– Opening Narration to the film Khartoum (1966)

“We are like butterflies who flutter for a day and think it is forever.”

– Carl Sagan, Cosmos

Scale Creep: One of the important intellectual struggles of the last three centuries has been against human spatial and time scale.¹ Based on human living experience, a century seems like a long time and a mile or kilometer a long way, especially to the mind of a child learning history.² The universe and just about everything outside of humanity, is immensely old and vast, murky creation myths and stories of the gods, celestial spheres and faraway heavens have been replaced now with mind-numbing numbers of distance in light years, but it’s all still the same really.

- ✓ “Yu Huan (the author) observes: It is commonly believed that a fish living in a little stream does not know the size of the Qiang (Yangtze River) and the sea. The mayfly, for that matter, does not know of the changing of the four seasons. Why is this so? Because one lives in a small place, and the other’s life is short.” – from the Weilue 魏略 by Yu Huan 魚豢, Section 30, translated by John E. Hill, September 2004, from University of Washington website.

Rarely does television or movie science-fiction go beyond human time scale and spatial scale is distorted by FTL travel; Darwin’s Origin of Species came as a shock, in part, because the scale of time required was much more than the commonly accepted age of the Earth – approximately 5,000 years since Creation (from the Masoretic Text) – as calculated by biblical scholars.

A century or two earlier, Europe had been somewhat troubled to learn that the Chinese had continuous historical records reaching back at least 6,000 years and the Chinese had no record of any worldwide biblical Deluge (the actual historical deluge was a Sumarian flood about 2900 B.C.).

- ✓ “For many the most disturbing immediate problem posed by the discovery of China was its impact on the historical veracity of the Bible. According to the calculations of

the Jesuit scholar Martini, the Celestial Empire had been founded 660 years before the accepted date of the biblical deluge. However, Chinese annals contained no reference to the Flood. Could it therefore have been merely a local episode, important only to Jews and their immediate neighbors? Some scholars estimated that East Asian civilizations were flourishing even before the accepted date of Adam's Fall. Was it possible then that Adam was the ancestor of the Jews alone, and not of humanity at large? China past and present either was calling to question the universal character of Christianity, or else it was placing doubt on the accuracy of biblical chronology." – Raymond Birn, Crisis, Absolutism, Revolution: Europe 1648 to 1789 (2nd Ed., 1992), p. 169.

Most other ancient religions – Egyptians, Romans, Greeks, Chinese, Hindus – had placed the creation of the world much older (39,000 years was common) or even unknowable (Latin: *ádelon*). Geologist had, more than a century earlier (Leclerc in 1749, claimed the Earth was 75,000 years old), suspected the Earth to be hundreds of thousands of years old.

✓ Information taken from Wikipedia articles, "Dating Creation" and "History of Geology," October 4, 2017.³

➤ Military Miniatures: 'Scale Creep' is a phenomenon in the military miniatures hobby. Miniatures are measured in millimeter scales, that is, 10mm, 25mm, 28mm miniatures, where the standard for the scale is supposed to be the normal human height. So, for example, in 28mm miniatures, human figures should stand 28mm in that scale, and everything else – monsters, cars, buildings, ranges on the tabletop, are set to that scale. But the problem has always been where to measure; originally, 28mm was from the base to the top of the hat, but not all hats are made equally, a Napoleonic shako is different than a revolutionary tri-corner. Because of hats and helmets, some began to measure from the base to the eyebrows, ignoring the head under the hat, helmet, thus warping the scale.

Much of the industry has tossed scale casually out the window, creating discontinuity between models in their own systems and disconnecting miniatures scale from tabletop range scale (e.g., Axis & Allies War at Sea game). The hobby also discovered that larger miniatures allow better detailing and that larger miniatures demand better details, so there has been this long-running dispute in the industry between miniatures scale traditionalists and artists, but the overall trend has been a creep toward larger and larger miniatures.

✓ In some very strained sense, **both** military miniatures and pinball/video game scale creep is not dissimilar to human scale creep of the last several centuries, as our understanding of details has expanded, so has our sense of scale, or our expanding sense of scale has demanded minute details.

➤ Pinball Phenomenon: Military miniatures are not alone in this, before scale creep crept into military miniatures, it was already in process in inflation of pinball machine scoring. And pinball machine scoring simply carried over into arcade video games.

✓ "Pinball machine scores are just like personal finance in that it's just one person against the system trying to maximize a score. As a result, people are going to do whatever they can to get higher and higher scores. For finance, it's to feel more comfortable. For pinball, it is to make the people feel like their game has been a success.

...

What on earth do those extra zeroes do? Getting a billion points doesn't mean much anymore if all of the other machines give you a billion points. Just like in the financial world, multiplying your income (and costs of living) by 10 doesn't make you any richer than your neighbors or better off." – Andrew (acgoldis.blogspot.com), "Inflation of pinball machine scores," April 25, 2007.

Production of RPs and costs in GGDM (the 'finances' of GGDM) are expressed in simple numbers, if you have 100 RPs in the Treasury to start the Regular Turn, you feel rich. To make the game seem more 'realistic' to some, several zeros could be appended to the end of RP production and cost in GGDM so that a ship that costs 24 RPs will cost 24 MRPs (Mega RPs, 24,000,000 RPs). I frequented arcades in the early 80s and sometime around 1990 or so, I became aware of the pinball scoring phenomenon; I specifically rejected the idea in early GGDM design. A RP in GGDM is like a koku or gold piece to a peasant farmer.

- ✓ "Some games are simply more generous with their scoring systems than others. Some games will give you 10 points for an action that would earn you 100 points in another. Zeros are particularly easy to append to scores, and many games (especially old ones) do exactly that: display extra trailing zeroes that are never counted internally. Yet in the end, the extra powers of 10 are meaningless and serve only to make one's performance look that much more impressive. ...

One reason these inflated point counts happen is due to a handful of natural human biases. We like big numbers, yet are also somewhat bad at them, especially in comparison on the fly. 10 is more than 1. 10,000 is basically the same as 1,000 (as far as a ratio goes), but it seems like a lot more at first glance. Even when we start to break it down, we can trigger various human faults over how much we're getting and how much there is actually. It's very likely that early pinball designers inflated scores purely for the ability to state that you can earn more points than a competitor's and thus players of said machine were better despite, as this trope points out, it being an arbitrary distinction. Of course, once we start doing this sort of inflation, we also tend to move our internal definition of 'average'; a pinball machine that gave you scores in the 10s would, at first glance, look and feel much less impressive without some sort of context to justify it." – TVTropes.com article, "Pinball Scoring."

When I first heard of the phenomenon in the 1990s, it was called the Pinball Effect or Pinball Machine Effect, and referred specifically to inflation of pinball machine scoring. In 2019, however, on Google, 'Pinball Effect' now refers to a 2006 book of the same name by James Burke, which refers to the emergent nature of human knowledge and advancement, e.g., "The pinball effect is a metaphor of the seemingly random routes a pinball traces." *Id.* To which is then added a connection to human advancement, "Human knowledge will unadvertedly unleash unexpected consequences: new inventions or discoveries now possible because someone shared an idea." *Id.* Back to the subject:

- ✓ "Scoring is quite unique in pinball; the game is notorious for being generous with 'points,' a unit of measurement analogous to the haypenny, the microsecond, and the nanometer – they are all units of measurement that are too utterly small to be of any use whatsoever. Therefore, scoring in pinball is primarily expressed in 'kilopoints' and 'megapoints,' one thousand and one million points respectively, abbreviated 'K' and 'M.'

For being sober enough to launch the ball correctly, you are typically awarded something on the order of one million (1M) points. You gain around two thousand (2K) points whenever the ball bonks into a bumper, even though it undoubtedly did so through no fault of your own. Falling in a sinkhole can award you anywhere from 100K to 10M points and doing so repetitively can earn you enough points so that, if each point were worth a nickel, you could purchase a major world power such as Japan or Russia or Microsoft. Some pinball tables award you, as a consolation prize, 50K for losing the ball via a drop lane as opposed to between your flippers. This is a nice gesture, but 50K, in a typical pinball game, is equivalent to one point in bowling, three points in bridge, or ‘first date’ in tennis. Basically it’s like treating Michael Eisner to a dinner at Wendy’s.” – Samuel Stoddard, “Lights & Noises,” rinkworks.com, 1995-1999.

Random reward is at the heart of pinball machine scoring. GGDM may contain some elements of ‘random reward’ in terms of exploration luck and Concierge Interventions, but is not primarily – and should never be – a mindless exercise in random reward.

“‘What is off-putting about them,’ one political veteran told me, ‘is they do not grasp their essential irrelevance. They think they are special.’”

– Sarah Ellison, “Exiles on Pennsylvania Avenue: How Jared and Ivanka Were Repelled by Washington’s Elite,” *Vanity Fair Magazine*, August 27, 2017

Buzzing Lightyears: Does this remind you of the members of any species you spoke to today? I can imagine in the Galactic Salon aliens saying the same about humans.⁴

Call this GGDM setting 101 (see page number). There is no correlation between a ‘turn’ or ‘Turn Cycle’ and ‘actual’ or ‘real’ time elapsed in the game universe. That is, a turn may represent a century, a decade, or a year, or months. Some Regular Turns (or even Combat Rounds) may not represent the same amount of time as others; it is entirely possible that a turn filled with crucial events may represent a year or two, and the following Regular Turn, the aftermath, may represent the following decade or century of peace or chaos. Thus, a Regular Turn (and/or Combat Round) represents whatever amount of real time is required for some task, process or event(s) to happen, run their course, and/or complete that is important to the game. The only ‘real’ measure of time in the game are Regular Turns and Turn Cycles.

- ✓ For example, the only measure of time in baseball is outs (and in the modern game, pitch counts). Each team has 27 outs. Minutes and hours don’t matter in baseball, except to the fans, advertisers, broadcasters and anyone who hasn’t eaten dinner yet, ate too many hot dogs, has stiff old knees, or needs a restroom break. Likewise in this game, the only time that matters is Regular Turns (and Combat Rounds).
- ✓ A **Turn Cycle** is defined as the game period from a position’s Regular Turn to its next Regular Turn, during which all other positions will have an opportunity to process a Regular Turn during their set time period (see *The Law of Periods*, 2 *The Streams of Time*, p. 84, *supra*). Turn Cycles are thus relative to positions.

Likewise, there is no actual distance assigned to the physical distances between stars in Galactic Space.

- ✓ For example, the game imagines that the Starlog represents a small cluster of ‘close’ (if you are not walking...) stars among the hundreds of millions of stars in the galaxy. Alternatively participants could imagine that the Starlog instead represents the stars of an entire ‘dark matter galaxy,’ such as Dragonfly 44, where dark matter forms 99.9% of the mass of the galaxy with only a few (as in tens of thousands) scattered lighted stars burning distantly from each other. The playing area could also be located in a globular cluster (or dwarf galaxy) looking down on the galactic plane.

The only measure of ‘distance’ in the game is the difference between coordinate locations in Galactic Space, and ship speed is measured solely in the turns required to transverse between them.

- A Story Without Characters: Unless Regular Turns represent short periods of time, or the players’ species are extremely long-lived, the story told in a GGDM game is a story without literary characters.⁵ Little is known about individual Huns until they reached the Roman Empire, for example. Therefore, players should refrain from developing literary characters in their News Events and other communications. GGDM plays on a scale similar to Mike Resnick’s Birthright: The Book of Man (1982), which tells the story, in an anthology of short stories, of the rise and fall of human interstellar civilization over the period of 18,000 years.⁶
 - ✓ Instead, the position, the collective consciousness of a group of players,⁷ acts – especially through Type 4 Fundamental Realities – as a vaguely immortal archetype character of their species in all the usual ways – by speech and action in the game.

Although a game of GGDM will more likely resemble a big-screen space-opera movie than anything else, the entire lives of the characters in Star Trek might represent less than a Regular Turn; the first three Alien franchise movies might represent a ‘short’ turn of GGDM.

- A Story That Goes the Distance: The Concierge can assign actual distances to any objects in the game if necessary for the story, such as if certain pregame distant astronomical events became visible during the game.
 - ✓ For example, the unusual and previously unseen dimming of KIC 8462852 (later dubbed Tabby’s Star during the Kickstarter Project, but formally called Boyajian’s Star), located 1,480 light years from Earth, observed in 2015, occurred in about 535 CE, about 55 years after the death of the last Roman Emperor (about which very few people cared at the time or even now). In space we study old news.

Distance is also a matter of human scale (*ut supra*) that we have struggled to overcome. This is no small matter; Napoleon had apparently little idea of the distances involved in his elaborate scheme to have Admiral Villeneuve elude the British ships in the Mediterranean, sail to the Caribbean, attack shipping there, and then hurry back to the English Channel ports to support the crossing of the French Army to invade England in 1805 (see Creaky Communications, 1 The Streams of Time, p. 78, *supra*). A century and a half later, Hitler, like Napoleon who also invaded Russia, seemed to have little vision or grasp of the distances inside Russia.⁸

- A Story in Unreal Time Scale: It is not likely, however much time the participants think a Regular Turn represents, that the game will ever actually witness a super nova, natural formation of a black hole, or the birth of new stars. Even if the participants think that a turn represents centuries, or a millennia, the entire game would not even be a ‘second’ in the cosmic scale where the lives of stars are measured in billions of years (e.g., Carl Sagan’s cosmic calendar, *Cosmos*, Ep. 1), such that our sun is but a third generation star since the Big Bang.

- ✓ “After the establishment of the Roman Republic, years began to be dated by consulships and control over intercalation was granted to the pontifices, who eventually abused their power by lengthening years controlled by their political allies and shortening the years in their rivals’ terms of office. Having won his war with Pompey, Caesar used his position as Rome’s chief pontiff to enact a calendar reform in 46 BC, coincidentally making the year of his third consulship last for 446 days.

In order to avoid interfering with Rome’s religious ceremonies, the reform added all its days towards the ends of months and did not adjust any nones or ides, even in months which came to have 31 days. The Julian calendar was supposed to have a single leap day on 24 February (a doubled VI Kal. Mart.) every fourth year but following Caesar’s assassination the priests figured this using inclusive counting and mistakenly added the bissextile day every three years. In order to bring the calendar back to its proper place, Augustus was obliged to suspend intercalation for one or two decades. The revised calendar remaining slightly longer than the solar year, the date of Easter shifted far enough away from the vernal equinox that Pope Gregory XIII ordered its adjustment in the 16th century.” – from Wikipedia article, “Roman calendar,” April 17, 2019.

- ✓ “The Pontifices were in charge of the Roman calendar and determined when intercalary months needed to be added to synchronize the calendar to the seasons. Since the Pontifices were often politicians, and because a Roman magistrate’s term of office corresponded with a calendar year, this power was prone to abuse: a Pontifex could lengthen a year in which he or one of his political allies was in office, or refuse to lengthen one in which his opponents were in power. This caused the calendar to become out of step with the seasons; for example, Caesar’s crossing of the Rubicon in January 49 BCE actually took place in mid-autumn.” – from Wikipedia article, “Pontifex maximus,” April 17, 2019.

The Concierge in GGDM is *Pontifex Maximus*. Given the choice, the Pontifex Maximus chose political convenience over astronomy. Not much has changed there.

- ✓ Even science-fiction, in order to remain relevant to humans as literature, rarely violates human time scale in telling a story, or does so very carefully. I suspect that the preceding concept will be most difficult for the participants, who will naturally refer to time in the scales that they know; most games will more likely resemble Star Wars, Battlestar Galactica, Babylon 5, or Aliens than Dune or any of the various science fiction short stories that have truly epochal time scales, e.g., R.A. Lafferty, “Been a Long Long Time” (1969) or Isaac Asimov’s Robots-Empire-Foundation continuum. Probably the Concierge should not enforce this issue too much.

“I would love to believe that when I die I will live again, that some thinking, feeling, remembering part of me will continue. But as much as I want to believe that, and despite the ancient and worldwide cultural traditions that assert an afterlife, I know of nothing to suggest that it is more than wishful thinking.”

– Carl Sagan, [Billions and Billions: Thoughts on Life and Death at the Brink of the Millennium](#) (1997)

The Why Not of the Afterlife: The main question of the afterlife that must be answered for us to continue is, if there is no afterlife, what does it matter what I do on Earth, during my lifetime?

The answer to this form of the Why Not question (see 2 Disruption, p. 269, *infra*) will be discovered in the same way that a child discovers the answer to the question: If I am not going to get into trouble for doing something wrong (mom and dad aren't here), what does it matter if I do whatever I want to do? As we well know, there is a significant portion of the population who grow into adulthood without answering that question.

- ✓ Imagine that we found out that only two of the three were present in the afterlife? What would you choose if you could? Thought and feeling, but no memory? Thought and memory without feeling? Or would you spend eternity in memories and feeling with no thought? Ghost lore rarely credits their apparitions with all three, mostly ghost stories focus on memory and feeling in the afterlife; rarely are ghosts given thought.
- ✓ What if human technology evolved where we could create our own 'afterlife' to replace the imaginary one created by our ancestors? Science-fiction authors have toyed with the idea, usually without stating directly so as to not offend certain parts of the audience. For example, stories where someone's consciousness is preserved in a computer core, or transferred to a new younger body (e.g., Dr. Who's regeneration or the Cylons Resurrection Ship in *Battlestar Galactica* or the Doctor Who Missy story arc ending in "Death in Heaven" (2014)). But in most cases in science-fiction stories present it as an accidental human occurrence or as vastly superior alien technology; that is, rarely has it been explored as an intentional human-crafted technology and that sociopolitical considerations, for example, wealth disparity, economics, race, ethnicity or political connections may determine in who gets an 'afterlife' (e.g., the movie *Elysium* (2013) did not feature afterlife, but did feature huge wealth disparity in healthcare). Would this require a new class of priests or judges to determine who gets in? Would criminals be denied entry, or given entry just for the purpose of serving out multiple life sentences, before being extinguished?

The Mahjongg Metaphor – A tribute to Sandy the Storm Kitten: After thousands of years of talking about it, we don't know anything more about death than our ancient ancestors. Not really. We don't know if death is the end of the 'stream of time' for that entity, or even whether conception is the beginning of the 'stream of time' of a being.

Ultimately, it is not the playing off of pieces that we object to, as all pieces must be played off in order to solve the problem; rather, it is the order or manner in which the pieces are played off that matters to the players in ultimately solving the problem. So it is with death as well, we all die, everything dies, everything turns to dust, and we know it well, both abstractly and eventually personally; the question is, what is accomplished with each death, whether it is meaningful and revealing, or whether it is careless and senseless in the larger picture; meaningless, and whether there is, in fact, a larger puzzle at all and whether we are solving it.

“For me, it is far better to grasp the Universe as it really is than to persist in delusion, however satisfying and reassuring.”

– Carl Sagan, [The Demon Haunted World: Science as a Candle in the Dark](#)⁹

Endnotes.

¹ Citation & Commentary: How much water do you think is required for 1 inch of rain over a square mile area? According to the U.S. Geological Survey, one inch of rain over a square mile area requires 17.38 million gallons of water! Seventy percent of the water evaporates quickly back into the air. The flooding problem in urban areas is caused when the other 30% runs into streams quickly because it is prevented by concrete, roads and buildings from being absorbed into the ground properly (<http://water.usgs.gov/edu/earthrain.html>).

- ✓ For a simple experience in scale, play computer FreeCell until you are very good at it, then play double deck FreeCell, then go back to playing regular FreeCell. You will discover they are different games.

² Commentary: One day when I was 10 or 11 years old, I asked my mother's BFF how old she was. She replied that she was 34 years old. I remember that my immediate verbal response was, "Wow, that's old!" as it was instantly obvious that she was 3 times my age. My mother's jaw hit the floor and I was quickly scolded out of the room. I also remember in my 6th grade year, when we were very cold, I actually thought and said out loud to my mother that a new Ice Age was beginning; I had not understood conceptually the time scales of the last Ice Age.

³ Commentary: How old am I the little girl asked? Well, let's see, let's go back. Before the internet? Before Space Invaders? Before handheld electronic calculators, I had one of the original Texas Instruments and also one of the first electronic watches, with the red display, you had to push a tiny button on the side to see the time. Before humans ^{colonized} landed on the moon? So is this just an exercise in narcissistic curmudgeondry? No, it is a demonstration of both the limited human concept of time and what is considered modernity and the apparent acceleration of history in the 20th Century. Actually, the last two or three generations have been able to make such claims.

⁴ Commentary: It's a funny thing that back in 1999, I was determined to keep this project to 100 pages. You are now on Page 101. Keep reading!

- ✓ If you took just a single edition of Dungeons & Dragons, let's say Advanced Dungeons & Dragons from the 1980s (with which I am most familiar) plus all of the material for just one setting (Dragonlance, Ravenloft, etc.) plus all of the Dragon Magazine articles on general AD&D play, GMing, map and dungeon building, world building, weapons and armor, variant classes, magic and deities, planes etc. and describing play in the chosen setting – how many pages would that be? I'd bet it would equal or exceed the 1,591 pages of GGDM. Not many players complained, though they joked about the weight of the AD&D books they hauled around. There is always the game rules and fantasy world setting, and there are layers of dissertations, explanations, angles, arguments, analysis, details, backstories, spin-offs. A decade or two hence, I will not be around to clarify, expound, comment on GGDM, or to defend it, thus I have sought to both educate the reader and provide tone, commentary, analysis and clarity to GGDM to my mortal limits.

⁵ Commentary & Citation: On December 12, 2018 when Amazon Prime finally reached my cable box, I inaugurated it by watching the 2009 Star Trek movie, which believe it or not, I had never seen. I am notoriously uncritical of movies, as many of my other comments on movies reveal, I tend to accept the movie for what it is, let the escapism overtake me, unless I see something that is so idiotic or dumb that I disengage from the movie. After watching Star Trek 2009, I felt like I had watched a kids program mashed with one of those 1980s teen movies mashed with a modern big-screen action flick with special effects, explosions, and superficiality. A cocky group of teens led by a brash, self-assured teen hero/idol, who knows everything, tosses all of the rules, puts all of the educated, career adults in their place, zero to hero, and just happens to be lucky and right and destined for greatness. Everything is good because it all turned out right in the end, and the future is in good hands with the next generation who proved their superiority. Not to mention that it copped a bit from the beginning of Star Wars: The Phantom Menace.

I wasn't impressed; the story felt shallow and hurried. If some people claimed that the old Star Trek took itself too seriously (and that is obviously a term I don't even comprehend), Star Trek 2009 was the opposite. Notably, the film received good reviews – mostly for being a fast and loud space-opera franchise movie (e.g., Roger Ebert) – a comment on the long decline of Hollywood and Western audience literary intelligence and expectations (e.g., cf. Paths of Glory (1957), Billy Budd (1962) or even Blade Runner (1982) to Star Trek 2009, I cannot comprehend how IMDB has all four of these movies rated about the same, 8.4, 7.9, 8.2 and 8.0, respectively, why does an intelligent movie like Time Lapse (2014) get less favorable reviews than Star Trek 2009 across many sites? Excalibur (1981), rated 7.4 on IMDB is a far better (and more adult) movie than Star Trek 2009).

- ✓ I have seen many lower-budget and even crowd-funded movies recently that were far better movies than Star Trek 2009; e.g., I would recommend watching *Anti Matter* (2017), *Magellan* (2017), and *5th Passenger* (2018). The sci-fi short, “FTL” on YouTube is far better than Star Trek 2009.
- ✓ Star Trek 2009 fits perfectly in every aspect Norman Spinrad’s description of the wank fantasy, pulp science fiction formula “The Emperor of Everything” plot (*Science Fiction in the Real World*, 1990, pp. 150-151), except that it does it in the worse possible way with a big screen budget. Compare Star Trek 2009 to Frank Herbert’s *Dune* (1965) or John Campbell’s *The Hero with a Thousand Faces* (1949) which Spinrad notes as literary works worthy of acclaim that use the same “Emperor of Everything” formula (*Id.* p. 151). Although the players in GGDM have godlike control over nascent interstellar civilizations, GGDM is not an “Emperor of Everything” game – for one thing, there are no characters and no hot interstellar Princess to win – and should not be played like a pulp wank fantasy written by “armies of hacks” who “pile up mile-high mountains of adolescent power fantasies.” *Id.*
 - See full Norman Spinrad quote, 3 Constructural Elements, p. 205, *infra*.

⁶ Commentary: As an aside, when I read *Birthright* as a young teenager, I really didn’t see the main point of the book as being a reverse of the alien-invasion sci-fi trope (which I learned from reading reviews later); rather, what I remembered most and took from the book, at the age of 14, was the 18,000 year history arc, ending in extinction of humanity. I believe this was about the same time I read Brian Aldiss’ *Galactic Empires* anthologies.

⁷ Citation & Commentary: In the story “Next Orbit” (story & art by Jean Bello), a master artist from the feelings section of the ship is called to the captain’s cavern to witness the ship’s approach to another star after a long journey. There, with the godlike presence of the captain, he witnesses with excitement and astonishment, other “planet ships” (i.e. bugs) flying around a lightbulb suspended from the ceiling. *Epic Illustrated*, Vol. 1, No. 6, June 1981.

⁸ Commentary: Consider that if a similar war were fought in the United States, the frontline would run roughly from Portland, Oregon to Chicago, Illinois, a distance of about 3,400 km. If you think you have an idea of this distance, try walking across the state where you live and back again. According to one Quora forum response, the Eastern front was about 3,000 km long, though it is difficult to measure because it fluctuated much. The front stretched approximately from the Baltic Sea to the Caspian Sea, which according to Google, is about 1,200 miles.

- ✓ “The war on the Eastern Front, known to Russians as the ‘Great Patriotic War,’ was the scene of the largest military confrontation in history. Over the course of four years, more than 400 Red Army and German divisions clashed in a series of operations along a front that extended more than 1,000 miles.” – Alan Taylor, “World War II: The Eastern Front,” *The Atlantic*, September 18, 2011 (available free online).
- ✓ “According to Time magazine: ‘By measure of manpower, duration, territorial reach and casualties, the Eastern Front was as much as four times the scale of the conflict on the Western Front that opened with the Normandy invasion.’ Conversely, General George Marshall, the U.S. Army Chief of Staff, calculated that without the Eastern Front, the United States would have had to double the number of its soldiers on the Western Front.” – from Wikipedia article, “Eastern Front,” captured June 11, 2019.

⁹ Commentary: I am nothing. I am but a transient bit who circles in the back current of our time. Eventually, I will die. The world won’t rejoice even, because it doesn’t matter and no one will notice. Death is the last refuge of the world in everything; tyrants die, our beloved dies, the wretched and criminals die, pets die, we all die, turn to dust. We are all part of some future generation’s history, to be memorized and forgotten by bored school kids, our words to be recited by children until they become meaningless rote. All are equal in death. The world moves on, always with the hope and refuge in the thought that certain unpopular people will die eventually.

- ✓ If you think that there are not people who rejoice at the death of others and imagine that they are now in a place receiving whatever punishment is thought proper and fitting, raise your hand. Then go read some of the articles about the death of Fred Phelps (another transient bit circling in the backwater of some forgotten time).

Excerpt from The Russian Cosmists: The Esoteric Futurism of Nikolai Fedorov and His Followers, pp. 18-20 ¹

By George M. Young, Oxford University Press, 2012

On the positive side of his thought, more consonant with later Cosmism, [Aleksandr Vasilyevich] Sukhovo-Kobylin posits three stages in the development of humanity: telluric, or earthbound man, confined to the planet we inhabit, solar man inhabiting our solar system; and sidereal man, inhabiting all worlds throughout the entire universe. Only the third, sidereal stage of humanity brings the absolute freedom that is the goal and perfection of all human movement and development. Human evolution operates between two extremes: from the lowest, herd-like, bestial state to the human angels fit to inhabit the infinite City of God: “From the horde or ‘mob of savages,’ from the human herd begins that sociological series of steps, i.e., the advance of human society, that advance which is the process of the spiritualization of mankind, and only in infinity does that spiritualization reach its conclusion in the supreme reality of divine reason, i.e. in the Kingdom of God, the *Civitas Dei*.”

Important steps in the process of turning ourselves from human animals into human angels include becoming vegetarians, developing lighter and smaller rather than more massive bodies, and gradually acquiring the ability to fly. And flight for Sukhovo-Kobylin does not mean merely the invention of flying machines but the growth of wings and attainment of birdlike, insectlike skill of aerial self-propulsion. He writes, “The entire theory of humanity and its infinite development, i.e., the philosophy of the history of mankind, is the process of freedom from spatial constraint, in other words, its passing to spirit; the result of spiritualization (or subjectivization) is perfection, pointedness [tocheschnost]. The history of spiritualization is the history of self-propulsion, the autokinesis of mankind.” The steam locomotive and the bicycle were, in his time, the most advanced mechanical expressions of the human wish to fly. The bicycle, especially, represented “horizontal flight.”

Given the many millions of stars that recently had become visible through telescopes at this time, and given the astronomical evidence that the laws and natural processes apparent on earth were also apparent elsewhere in the universe, Sukhovo-Kobylin, writing at a time when the universe still seemed a single, unified field, reasons that our planet cannot be the only one that is habitable or inhabited: “In one word, if a sphere or planet, whose chemical composition of matter is identical with the composition of other planets, finds itself under the same forces, then their [the planets’] processes will also be identical, and their origins and development will be the same. In a word, reason is one and matter is one, and therefore their products will be identical.” But in order to inhabit the entire universe, we must evolve beyond our present, earthbound state. Sukhovo-Kobylin’s unique contribution to pre-Cosmist thought is his idea that the further we evolve, the smaller our bodies should become, and that, as we approach divinity we will also approach a vanishing point of spaceless invisibility. God is invisible, and we shall also become invisible, essentially bodiless, as we approach the goal of perfect, spiritualized, universal humanity.

These pre-Cosmist thinkers then, project several of the lines that Federov, Solovyov, Bulgakov, Vernadsky, Tsiolkovsky and others will extend further. Radishchev’s keen social concern and belief that evolution cannot have ended with man in his present state finds ultimate development in Cosmist projects to reconstitute and thus save all humanity. Odoevsky’s futuristic vision of an advanced technological world culture led by Russia finds its extensions in the scientific Cosmist speculations about control over nature and the reshaping of the universe. Sukhovo-Kobylin’s thoughts about the stages of human evolution and the changes needed in the human body and spirit point toward the Cosmist concepts of the noosphere and emergence of godman.

¹ Citation: This text from the book was found on Google Books, September 27, 2018 from the second page of results for a Google search for “sidereal stage.” It is also available in electronic form through various vendors. Russian Cosmist are considered [esoteric] predecessors to the Transhumanism philosophies of the late 20th Century.

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“There is no point in pretending to distinguish the galactic empire story as a genre. Generally speaking, such stories form part of what is known as ‘space opera’ ... The galactic empire is sort of a crystallization of space opera ... But it is the playful aspect of the galactic empire which mainly strikes the reader. This aspect led many readers, including a lot of sf fans, to despise space opera and the galactic scene... But to dismiss it just because it is playful is not good enough.” – Brian Aldiss, Galactic Empires Vol. 2 (1978) ¹

Stage Illusions: World War I was called “The Great War” until after World War II. Most ‘galactic empires’ in science-fiction stories mention only a handful of worlds (with familiar star names), vaguely referring to the masses of other worlds with no galactic spatial sense. Likewise, the empires in this game will likely only consist of a few dozen planets in a tiny patch on a trailing galactic arm. The United States, Russia, or China are exponentially more powerful, larger and more populous than the Roman Empire was in its heyday. Eras beyond the end of this game will regard your ‘empire’ as a tiny lost ancient kingdom and believe that Arthur Pendragon was the first Emperor of the First Galactic Empire, and Merlin was his Minister.

- ✓ On the internet, there is a top-down 2D view of the galaxy onto which Owen E. Oulton projected the entire area represented – a tiny patch – by the civilizations known in the Traveller RPG universe correlated to known actual stars. And that’s being very generous for illustration purposes. Traveller represented 220 x 200 parsecs in 2D.

Most human sidereal stages are actually performed on small soapboxes in the park. Our imagination has always outrun our actual abilities; I have often wondered at the effectiveness of the original performance of Henry V on stage at the Globe Theatre: How could the audience even begin to imagine the magnitude of the battle of Agincourt with only a handful of actors on the stage? We can see it better now on film, but that still falls far short of *the thing itself*, which is necessary to understand the situation and the decisions made by the characters. That *thing* we can only hold tenuously in our minds after study and reflection. So now we are experimenting with 3D VR films (e.g., the movie *Interstellar* on the Oculus Rift), stop-motion acting, etc.

- ✓ “...it would be nice to thicken the published universe into a 3D space.... However, the Milky Way is some 300 parsecs thick, with a stellar density of about 0.14 stars per cubic parsec in the vicinity of the Sun. At that stellar density, the 11k worlds of the Third Imperium would fit into a cube 43 parsecs on a side, which doesn’t allow for nearly the communications lag we find in the published universe (which measures about 220×200 parsecs). Retaining the published universe history while expanding into a third dimension would vastly increase the number of worlds found in a region that’s a year across by Jump-4 xboat. A 200×200×200 parsec space with 0.14 stars per cubic parsec would be 1.12 million stars.... That’s not practical, even with software.” – user steve98052, Mongoose Publishing Forums, November 19, 2013.

Faster-than-light (FTL) travel in science-fiction literature represents both empowerment and the illusion of empowerment. It is the power to go out *there*, it also represents some power over *time* (see time-dilation effect discussions in *Starship Jefferson* and *Assumptions of Light*, 1 Stardrive, pp. 780-781 and *Thumbing Our Nose at Einstein*, 1 Temporal Technology, p. 802, *infra*). It is the power to go and get resources, to escape the bounds of the Earth that have imprisoned human

history, to force ourselves upon the local universe. It is the power to make new history, to be different (or more of the same, but much more dangerous), across immensities of space. It is also illusion, because we are still tiny beings who cannot, for all of our achievements, drama and grandstanding, even with FTL technology, *grok* for a moment the empty immensity of time (or our immense emptiness) and space or do much about it.

The Stage is Set: The Public Space is the main playing area of the game for each position. The Public Space is composed of a continuous set of points, called Monads, forming a finite, probably irregularly-shaped plane that is generated during set up. Each position's Public Space will not be seen by or viewable by other positions.

- ✓ The ancient term “monad” has seen many uses and religious connotations throughout history; here it is used in the most basic form as a single indivisible point.
- **Standing on Spots:** Each Monad is a single distinct point of reality within the civilization's Public Space. Monads are indivisible, the most basic ‘point’ of reality. Each Monad (for game purposes) is either occupied or unoccupied, used or not used, at any specific point in time. A Monad is occupied or being ‘used’ by things placed on that Monad in the Public Space, a Monad that is currently occupied cannot be used for another placement until it is vacated. Most things placed in the Public Space will occupy a single Monad. The game also calls for ‘formations’ and ‘arrangements’ of adjacent things in the Public Space. Formations and arrangements of any sort in the Public Space are not considered ‘solid objects’; if there are open Monads within their area, arrangements and formations can overlap or interlock in the Public Space as long as each Monad is being occupied or used by only one thing at a time. Interlocking formations are defined as two formations that share a common Monad, whereas overlapping formations are those that use Monads in each other's ‘space.’²
- **The Big Actors:** It is in the nature of civilizations that Governments become the largest part of our reality; the influence of our governing authorities and systems reaches invisibly into every aspect of our civilization, our daily lives, they define our reality. Government Titles will take up more than one Monad on the Public Space; Government Titles will fill a significant amount of the Public Space for the entire game. Government Titles must be legally placed in the Public Space prior to the game. The legal placement of Government Titles is explained fully in Structural Government Titles, *et seq.*, 2 Government Titles, p. 595, *infra*.
- **Over the Edge:** Normal Galactic Space appears ‘infinite’ (or the practical equivalent) and ever expanding; what happens if or when it stops expanding is the subject of serious controversy. Of necessity, however, our reality, our Public Space, is finite and self-contained, limited by perception and need, and filled with the things that ‘matter’ at any particular time. This is not to say that it is not capable of expansion or is of a rigid form. *The ability to be both finite and self-contained, yet expandable and mutable, is a key to the Gestalt Structure of civilizations.* For game purposes, this means that the axis of the Public Space ‘wrap around,’ such that the last Monad of an axis is considered to be adjacent to the first Monad of that same axis. Thus, if the A axis of the Public Space runs from A1 to A14, A14 would be considered adjacent to A1 (this effect does not occur in the Galactic Space; x1 is not adjacent to x14). Note then, that by expansion and mutability, things that were adjacent in the Public Space may lose their adjacency. When this occurs, adjacencies will be lost.
 - ✓ Wrapping from top to bottom and side to side on a flat surface does not create a globe, it creates a donut shape. Try it with a piece of paper, bring the top and bottom

together, making a tube, then try to or imagine connecting the other two sides. Think about it the next time you are eating a donut – you are eating someone’s Public Space!

- ✓ All edges of the Public Space must meet their opposite, regardless of whether it fits or not in terms of shape, it is just assumed to happen. Due to the probable irregular shape of the Public Space, the sour cream donut (Yum!) created from wrapping the Public Space will look like one that had a bad trip from the bakery to home!
- Turnover: Only one ‘thing’ can occupy each Monad at any time, i.e. there is no ‘stacking,’ and once something is placed in the Public Space (and its relationships established), it cannot be moved except by the Concierge. Rather, the changes to Public Spaces during the game occur by ‘turnover’ as things are added and removed from the Public Space, as things come and go from the current consciousness of civilization. A successful position will be able to manage the turnover or cycling of pieces and usually have enough room in the Public Space during the game (like managing the free cells in FreeCell). Management of the Public Spaces is an important aspect of play in this game. It is possible, through Expose’ News Events, Conversion and Naturalization of **alien colonies**, advancing Technology Eras, and Reformation, to obtain additional Public Space, but it will not occur often.
- Spatial Dissonance: The arrangement and the relationship of things in the Public Spaces represents exclusively the mental structure, consciousness, cultural schema, collective cognitive schema, or epistemology of the civilization that is the Public Space. The arrangement of stars and planets in the Public Spaces bears little or no relationship at all to the actual location of those stars, planets and ships in real space (that is, the X, Y, and Z coordinates, in Galactic Space) and therefore, the Public Spaces should never be used for calculating distances in Galactic Space. Most other things placed in the Public Spaces have little or no existence in ‘real space’; to the extent that they might be deemed to have a ‘real’ existence in space, they represent collective effects of possibly widely separated people, groups, and facilities, such as research facilities on different colony planets.
- Living in Public Space: It is entirely possible for two planets, a thousand light years apart, to share adjacent Monads in the Public Space indicating that in the consciousness of the civilization, those two places are thought to be closely related, interconnected, regardless of physical or temporal distances. It is also possible, and probable, that the same stars and planets will appear on the Public Spaces of different positions at the same time, for example, if two positions have colonies on the same planet, both would have that planet on their respective Public Spaces. Having a planet or star in your Public Space also does not mean you ‘own’ the planet or star, only that you are ‘present’ there and the planet or star currently has a ‘presence’ in the consciousness of your civilization.
- Lost Places: Whenever a position no longer has a colony or a ship at a star, the star is removed from the Public Space along with any associated planet(s). Whenever a colony is captured by another position, the previous owner of the colony must remove the colony’s planet from the Public Space, which may also cause the removal of the star. The new owner must immediately place the planet and/or star of the newly captured colony on their Public Space. If there is no legal place to put a new captured colony, or planet, or star or anything from the Galactic Space that must be placed on the Public Space, non-Galactic Space pieces will be removed by the Concierge to make room as required. Objective reality trumps all.

“So all of this leads to one major question: What good reason does Uber have for developing a God View feature in the first place?”

– Patrick McGuire, “Uber’s ‘God View’ Was Once Available to Drivers,” *Vice* (Motherboard), November 20, 2014

Godhead and Pinhead: Memory from college freshman literature class, there was a literary transition around the end of the 19th century from “pinhead” to “godhead” fiction that coincided with the development of medicalized psychology (by Freud and others). In pinhead stories (e.g., Hawthorne), the reader never sees inside the character’s or narrator’s head (they are small), they never ‘see’ thoughts and feelings (you are left to deduce it), the only action is outside the characters, in the objective world (as on a stage). With the enhancement of psychological awareness, authors (I remember, for example, Guy Maupassant) began to write stories including the thoughts and feelings of characters (‘Godhead,’ bigger on the inside); the ultimate form of the story is probably Ambrose Bierce’ “An Occurrence at Owl Creek Bridge” (pub. 1890, which Kurt Vonnegut called the greatest American story) in which the entire story takes place in the narrator’s head as he is being walked out to be hanged on the bridge. The Owl Creek Bridge story relies on the objective vs. subjective passage of time, the entire fantasy takes place in perhaps a minute or less walk to the middle of the bridge, but spans days or weeks in the narrator’s mind. Godhead literature should not be confused with ‘god view’ in video gaming.

In the golden age of comics, where thought bubbles were used to reveal inner thoughts, godhead in video fiction was more common, especially in afternoon soap operas, where the camera would focus on a character’s face, and you’d hear the inner thoughts in a hollow disembodied version of the character’s normal voice without movement of the mouth, indicating the ‘voice in the head’ we all hear when thinking. The scenes also usually involved some time distortion between moments in real time, especially in a setting like a meeting, party or illegal drug transaction.

The godhead has gone out of style in movies and television shows, e.g., there were dozens of instances where we could have heard the character’s thoughts in the first season of *The Man in the High Castle*, but we never did. It has been years since I watched a new movie where the inner voice is heard; the character’s thinking is instead expressed and signaled solely in external dialogue and actions. I think cinematographers and script writers have rejected the inner voice as clunky, instead the audience relies on what they intuitively believe the characters are thinking based on what is shown in action and dialogue, and the twists, shock, and cliffhangers occur when the scriptwriter had a different thought, and the characters do something unexpected.

- ✓ The Public Space in GGDM is the ‘godhead’ model blown up to the level of civilization, it is a discussion that could have not have likely occurred a couple of centuries ago, and rests upon concepts such as the relationship of Christianity and mental health professions (see *Dream Police*, 1 *Dreamtime*, p. 132, *infra*), emotions (2 *Culture* generally, *infra*) and even the related modern concept of evil (see *Modernity Machines*, 1 *Technology*, p. 696, *infra*). All of which I would never have thought of on my own while designing GGDM; the godhead discussion in freshman lit class in college (taught by a playwright) was probably critical to the development of GGDM.
- ✓ Another striking comparison is the image in the *Andromeda* television series (2000-2005) of ships travelling through ‘slipstream’ between stars, which looks like they are navigating through a giant brain; transit time has nothing to do with actual distance,

but rather with some luck and the frequency with which ships make the same transit, e.g., like learning and neuroplasticity.

- ✓ If you search Google for “Godhead characters vs. Pinhead characters in literature” or any similar search, no relevant results are found, of course (October 16, 2019). Instead, ‘godhead’ results include religious discussions against trying to know what is in God’s head (what a ridiculous idea in any case) and ‘pinhead’ results refer to some stupid horror movie character and potential crossover movies with Michael Meyers or Freddie. Because that’s what Google and the Internet are about: the shallow, the current, the popular. So in any event, it does not appear to be a current literary fiction theory, but was useful in framing and discussing GGDM.

“For example, in 2006 the anthropologist Joseph Henrich and colleagues published a study in the journal Science based on their analysis of 15 different societies ranging from American college students to urban wage workers in Ghana to semi-nomadic foragers in the Bolivian rainforest. By having each group conduct a series of economic games, the researchers found that there was a positive correlation between how much people punished cheaters and the amount of altruistic behavior in the society as a whole.

What’s more, every society engaged in some form of costly punishment even though there was a great deal of variability between societies. The researchers’ conclusion was that altruistic punishment emerged in our species through a process of gene-culture coevolution. In other words, human psychology is biologically predisposed to enforce a system of fairness, but how much we do so depends on the culture we see reflected around us. This result was later supported by another study in 2010 that developed a model explaining how even ‘selfish genes’ could promote altruistic traits.”

– Eric Michael Johnson, “Human Nature and the Moral Economy,” Scientific American (blogs), September 23, 2013

Losing My Religion: There are very few ways to cheat at GGDM, and no reason for anyone to do so, the game is largely self-policing and is additionally, overseen by the Concierge. And there is no tangible or valuable prize for ‘winning’ the game (but it’s also free to play). Like the Peter Davidson Dr. Who episodes, the only prize at the end of the race is Enlightenment, and it’s not the diamond, but the choices.³ Obviously, any attempt to ‘hack’ another position’s game information would be considered cheating, with the predictable result that the offending players would be shamefully ejected from the game and banned. My views on potential cheating in GGDM, which I consider a minimal risk, were formed in large part by the experiences of playing two *free* turn-based online PBEM games.

- ✓ According to an interview with the band R.E.M. who had a hit song of the same name, ‘losing my religion’ is a Southern U.S. phrase meaning to lose one’s civility.
- ✓ **Judge Dredd:** Towing is for the first offense. This is your fourth violation, bar breath. You’re a menace. (1995)
- **Darkness of Silverfall:** I played in a turn-based *free* online PBEM game called Darkness of Silverfall around the turn of the millennia. I knew of the game from the pre-internet days of the early 90s when I played (and paid \$s to play) in actual PBM (Play-by-Mail or postal) games and was thrilled to find it still being run for free on the internet by the original designer. I never paid to play Darkness of Silverfall in pre-internet days. It was *free*, did I

mention that? – and there was nothing material to win by winning the game, there was no prize, you played just because it amused you. Like postal, telephone or email chess.

In the game there was a cabal of old players who had been at it for perhaps 15 to 20 years, many were probably originals from the play-to-pay PBM days. There were problems with the game design, firstly, and the game program was, secondly, buggy. This created a ‘hidden mechanics’ of the game for those who had discovered the bugs in the program and how to exploit them in addition to having mastered the strategy of the game from a hundred plays. The cabal of old players were in every game, and they usually won. While they competed with each other, they were more like old wargaming buddies (many of them may have known each other personally as well), and as a clique, they were obnoxious and abusive, and exploitive toward new players; if you played along, you could be their little buddy, but you would not be one of them.

It shortly became clear to me that they were exploiting the program bugs, and that they were not winning because they were great players, but because they knew a group of little secrets on how to exploit the bugs in the program and the illogic of the design. In the ensuing war between an alliance of new players I formed and the old guys, *I actually discovered, used and shared yet another bug exploit that they had never found* (I discovered it accidentally because I messed up entering my orders, but I figured it out), which proved my point. So, this cabal clique of old guys continued to play the game over and over, winning nothing, but racking up victories, dominating because they knew the bugs and exploits in the program? Thus, there were really two existential ‘shelves’ in the game, the old guys who could exploit the program and the new players who could never compete with them.

- ✓ Arguably, maybe they were great players. In professional sports, owners, players, coaches exploit the rules all of the time, push the envelope. But for these guys to be condescending and obnoxious to new players due to their obvious use of bug exploits and their cabal of buddies, removes any sense of greatness, of awe, for their large tally of wins (like athletes who use HGH). One of the cabal was winning each game, new players were just filler, the only real contest was between the bug exploiters. In the end, they could never see my argument on this, never admit what they were doing was wrong, I was just a loud-mouthed new player who needed to be taught a lesson.
- Empire Forge: About a year after Darkness of Silverfall, I played in another *free* turn-based PBEM game called Empire Forge. The game was young then, a few games had been completed, there were old players with a few games experience and a lot of new players, like me, coming in, quickly filling new games. Over time, I became very involved, became one of the old players. I helped improve and finish the game design’s magic system, I set up a ringer board to track every game result, a huge FAQ page, and I wrote fiction and a mythical back-story for the game. I was very open and helpful to new players and provided the FAQ page from play experience in large part because of my experience with Darkness of Silverfall.

After a couple of years, there was a game with an unusually large group of new players, I think six or seven of the ten positions were new players, with three or four older players. Early in the game, several of the new players, without warning, gang attacked my position from different directions; they had been largely uncommunicative with the older players, so I figured, ‘well, this sucks, but apparently the new players decided I was the major threat to

win the game and decided to take me out first, maybe they all go to the same high school?’ I had played in World of Kaomaris with young players who went to high school together.

I survived the onslaught with help from a couple of older allies, but finished in third or fourth place, and the game was won by one of the new players, on his very first game! The same player was simultaneously playing in two other games that I was not in, but that some of my (cabal, clique) of older players were in as well, and he won those games too, I think he won three of the first four games he completed and placed second in another. Everyone was asking who is this guy? It was a Napoleonic achievement to come in with no experience and rapidly win three games of four against experienced players with ten players in each game!

- ✓ Then the game designer/programmer who was still running the game (he wanted me to take over running the game, but I was still having fun playing and didn’t want to create a conflict of interest), discovered the ruse. Can you see this coming...? The player was registered under several different names and was using them to fill games with sock puppets, he would act as if the positions were being independently played early in the game, then allow his big main position to conquer the sock puppet positions and win the game. The designer discovered this because he was entering all of the orders from the same IP address at the same time. We were stunned that anyone would so cheat to win a *free* game with no prizes to win, other than winning. If he won any enlightenment from this it was a hard lesson. The player was banned from the game, his wins were transferred to a Hall of Shame on the ringer board.

“The warning has already been given: take your Galactic Empire with a pinch of salt. It is a gaudy balloon launched for the hell of it. See how high it goes before it pops.” – Brian Aldiss, Galactic Empires Vol. 1 (1976)

Endnotes.

¹ Commentary: The Sidereal Stage section was originally called “Space Opera.” I found some remaining references to the Space Opera section in the Expansion section during the final edit in June 2018. I think I renamed this section to The Sidereal Stage at latest, sometime in 2015. I did not discover Sukhovo-Kobylin’s “sidereal stage” of human evolution (or Russian Cosmism) until late 2018, but when understood, I found it rather fitting with The Sidereal Stage in GGDM and themes of GGDM as a whole. My files show that I discovered the word “noosphere” in August 2016, but did not know its origin with the Russian Cosmist until 2018. I have lost count of the number of these odd, almost precognition like coincidences that have occurred in designing GGDM, and I wonder, since I am not part of any circle of creative people, whether this is just the normal process of any creative work?

² Commentary & Citation: Definitions are an important part of GGDM and it is important to be very careful and consistent in definitions throughout the game. Meticulously careful.

- ✓ For example, on YouTube there is a Watch Mojo video counting down their top ten space stations in sci-fi movies and television. At the beginning of the video there is a short commentary on what they do not include in their criteria. In the case of space stations, they excluded anything with a propulsion system. But perhaps halfway down the list, they violate their own definition and end up with the Death Star from Star Wars as their top space station! Yoi! The only savior of the whole video was that they placed Babylon 5 in the top three and the fans who feel that Babylon 5 is underrated and underappreciated chimed in in praise.

³ Commentary: The MLB Hall of Fame always seems to involve a lot of hand-wringing, finger-wagging, fist-shaking debate, analysis, and oscillation; the NFL Hall of Fame has it too, but less so. Almost nothing is heard about the NHL Hall of Fame nominations.

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“Because it is not true federalism. It is a perversion of federalism. Under true federalism, there are things that the federal government does and there are things that the states do. Both are to be sovereign in their own realms. That is being lost, as states are being turned into mere administrative units of the national government. The federal government currently provides nearly \$700 billion in subventions to state and local governments. Arizona state government will receive more than \$15 billion in federal funds this year, roughly 40 percent of everything the state will spend from all sources.

This sending money to Washington to be returned with strings attached and a carrying fee deducted is wasteful and blurs political accountability. A truly federalist approach would return regulation of the individual health insurance market to the states. And let the federal government adopt a stand-alone safety net for the chronically and seriously sick.”

– Robert Robb, “Attacks on the GOP health care bill are nonsense, but it’s still a bad idea,” The Arizona Republic Opinion, reprinted in USA Today, September 26, 2017 ¹

Relative or Zero Sum?: Sovereignty is generally defined as ‘freedom from external control.’ To the extent that anyone is dictating to you how or when to do things, under threat of force or other punishment for non-compliance, or a moral-social obligation to comply, you are not sovereign. It is the *a priori* of sovereignty. A post, privilege or place that is assigned or given to you can be revoked; hereditary nobility or title systems seek security against this. Thus, sovereignty is a relative matter, we each surrender parts of our personal sovereignty for the benefits of civilization. But it is also a zero-sum matter, the loss of sovereignty by one is an equal gain by another.

- ✓ See sovereignty discussion top of 2 Government Titles, p. 586 *et seq.*, *infra*.

“You should never hand someone a gun unless you are sure where they will point it. Your mistake.”

– Commander Sinclair, Babylon 5, “By Any Means Necessary” (1994) ²

Exercise in Vital Powers: *The primary quality of any government is its authority and ability to act.* Consider a government that has the authority to act, but not the ability. Or a government that has the ability to act but not the legitimate authority. Effective government requires both and there is no substitute.

- ✓ **Rhetorical Questions:** Which comes first, does authority create legitimacy (as in a territory held by a warlord) or does legitimacy create authority (as in eras when the Church granted legitimacy)? And which one creates the ability to act?

The various areas of authority which governments traditionally exercise over their societies are divided in this game into twelve Vital Powers or hereafter, “Powers,” which collectively, can be considered the elements of sovereignty. Each position may, each Regular Turn, activate *one Power for each currently undisrupted Government Title*. A position may have up to five Government Titles, meaning that each position could potentially activate five of the twelve Powers (40% of the possible Powers) each Regular Turn.

- ✓ Placing Acts and Scenes to activate Powers represents *potentials*, like mobilization.
- ✓ Most positions will have five Government Titles, all positions must have three Government Titles. Experienced players will discover that there are some advantages to having less than five Government Titles, but that is for a later time.

Activating a Power allows the position to issue Regular Turn Actions for and do the purposes that are specific to that Power as described in later rules sections. The actions which may be taken by activating a Power are called “purposes”; some Powers have only one purpose while others have many purposes to the Power Activation. When activating a Power that has multiple possible purposes, the position must specify for which purpose the Power is being activated.

- ✓ *Except for Census and Taxation*, the same Power may be activated multiple times in a Regular Turn, for the same or different purposes.

Following is a brief description of the Vital Powers:

- **Taxation**: The Taxation Power represents the ability and need of societies to pool their resources in one or more centralized authorities in order to achieve their (greater) purposes (like building pyramids, maybe). In the game, the Taxation Power is used to collect Resource Points (RPs) from the colonies into the Treasury for use in other Power Activations. Taxation is a Power that has only one purpose.
- **Census**: The Census Power is to insure the survival of the species by protecting and nurturing the next generations. In the game, the Census Power, when activated, ‘causes’ population growth on all Friendly and Naturalized Colonies. It is not that it actually ‘causes’ population growth, which is really happening all of the time, but rather, that in taking the Census (like a real world census), ongoing population growth is realized and added to the colony’s population factors. The Census Power is a Power that has only one purpose.
 - ✓ Were our pets to become fully sapient – as in fantasy stories and in some science-fiction-imagined futures (e.g., the dog in Geneshaft who typed teletext messages on the PC) – don’t expect them to volunteer to be spayed/neutered, even if they can understand the overpopulation problem.
- **Culture**: The Culture Power of governments is to preserve, guide, and encourage cultural development and identities. This is an interactive process since the culture determines what kind of government it finds acceptable and the government, by its actions, affects the culture that created it. The Culture Power is activated for the purposes of Exposing Aspects, Perfecting Proficiencies, Cohering, Introducing Writs, Founding and Endowing Colleges, Amending Charters, and establishing Doctrinal Templates, all of which will be explained in detail later.
- **Order**: The Order Power is the responsibility of governments to prepare for and recover from disruptions, hold back entropy, and to maintain the internal order (boundaries), a combination of civil defense, social welfare, police, and security forces. The Order Power must be activated for the purposes of Declare/Move Capital Colony, Conversion/Naturalization of a conquered **alien colony**, Maintenance (against Entropy) and Government Formation.
- **Construction**: The Construction Power, as the name suggests, is the Power of a government to construct vessels (in this case, starships), build defenses, and encourage the development of industry. It is the authority and responsibility to create infrastructure; starships, as the primary means of maintaining contact between colony planets and imposing order, are part of

the infrastructure of interstellar civilization (like roads, horses, wagons, automobiles, aircraft on Earth). The Construction Power must be activated for the purposes of Colony Enhancement, Colony Defenses Upgrade, Laying Keel, Shipbuilding, Ship Supply, and Scrapping.

- **Technology:** The Technology Power is the prerogative to encourage or carry out technological research and insure that new generations of scientist, technicians, and inventors continue the endeavor. The active Technology Power is the mark of a modern technological society (modernity) more so than the traditional society, and since it is technology that makes the entire game setting possible, it becomes the essential power. The Technology Power is activated for the purposes of Research, Development of Applications, and Patent Prosecution.
 - ✓ The recognition of technology as a ‘thing’ (or phenomenon) onto itself in our civilization, is very recent. The word ‘technology’ wasn’t coined until 1859, arguably it relates to the beginning of the Industrial Revolution, the Age of Invention, and the modern scientific era (similar to the development of Geology). While we might use terms like “medieval technology,” it is not certain that the people of the Middle Ages (anywhere in the world) would have thought of themselves as possessing “technology” (they also didn’t think of themselves as ‘medieval,’ that they were living in the ‘Middle Ages,’ their system as ‘feudal,’ or their castles or love as ‘romantic,’ more on that later). It is an example of how civilization reorganizes concepts, prior to 1859, for example, Thomas Jefferson referred to them as “ingenious improvements” (see Thomas Jefferson feature quote, top of 1 Patents, p. 726, *infra*).
- **Movement:** The Movement Power is the authority to control movement within the Galactic Space controlled by the government. Since ships create and rule the interstellar civilization, the power of Movement is the power to send ships from star to star to keep interstellar civilization connected and controlled. The Movement Power has only one purpose, to begin the movement of starships between two starsystems colonized by the owner of the starships.
- **Expansion:** The Expansion Power is to explore, find resources and living spaces, and establish new colonies on suitable planets found there. The Expansion Power is activated for the purposes of ‘Looking’ for new stars (you will understand this later), Scouting (aka exploration), Loading Population, Transporting Population, Unloading Population (to existing colonies), and Landing Population (to establish new colonies).
- **Combat:** The Combat Power is the prerogative to use military force externally to attack and defend territories, and to prepare for military action. The defender in a combat is not required to activate the Combat Power to defend, local defense is automatic. The Combat Power is activated for the purposes of Combat Movement, Combat Alert, Initiate Combat, and Seize the Initiative. “It was uh, attitude adjustment...” – Hank Williams, Jr., 1984.
 - ✓ It is very important to pay attention to the number of Acts and Scenes required in advance of each Power Activation (as detailed in each section and on Appendix PAT1), poor planning and half-measures leaves a position flatfooted; e.g., after delaying, Norway finally sent out the national mobilization order by post on April 9, 1940 – equivalent to putting one Act on the Combat Power! The invasion started that day.
- **Diplomacy:** The Diplomacy Power represents the outward face of the civilization. The Diplomacy Power is activated for the purposes of making or breaking a Treaty, issuing Articles

of Incorporation to form a MegaCorporation with other positions, and to form and share Meanings (an Interpretation).

- Commerce: The Commerce Power represents the controls over the economic wellbeing of the civilization, and more specifically, domestic and foreign trade and the movement of resources. The Commerce Power is activated for the purposes of Marketing, Loading Resources and Unloading Resources from Cargo Ships, Trade Missions (departure of Cargo Ships to another starsystem), local Trucking and Carting (in-system) transactions, and issuing Articles of Incorporation to domestic Corporations.
- Special Operations: Well, this shouldn't need much explanation ... you know ... but just in case it does, Special Operations is the Power of governments to recruit and train secret forces to carry out double-double-super-secret missions (like the silly password you had to say to get into the boys-only treehouse club when you were in 3rd grade or like the silly passwords you use today to log into your computer and every place on the internet – the two are really the same game) for which governments maintain 'plausible deniability' should anything go wrong on the mission. The Special Operations Power will be activated for the purposes of Reconnaissance, Recruiting Missions, Lodging Missions, Black-ops, Treason, Training Counter-Operations, and Counter-Operations.
- Slice of the Pie: As mentioned many times in GGDM, it depends on how you choose to slice the pie. I chose to have twelve Vital Powers to represent sovereignty in the game, and the results were agreeable (to an English speaker) in that twelve was the number sufficient to cover all areas important to the game. A designer from a non-English speaking country may have chosen ten Vital Powers, as ten is a number natural to all humanity due primarily to the fact that nearly everyone is born with five digits (i.e. fingers and toes) at the end of each limb (it is the reason for our base-10 counting system).

“The Bible teaches us how to go to heaven, not how the heavens go.”

– Galileo Galilei

Cardinal Baronius: This was probably first said by Cardinal Caesar Baronius to Galileo Galilei in a conversation and the latter wrote it down later in a letter. It is thus that Galileo is popularly credited with the statement – it happens to all of us – but it is important that both of these eminent men shared a love for truth and facts, both within the Church (for the former) and ultimately, in contradiction to Church dogma (the latter). Caesar Baronius is credited with one of the best, early, and very honest attempts to write a history of the Church, *sans theology*.

So, I wondered recently, what do Christian Fundamentalist (or creationist at least) think of the discovery of exoplanets in the last few years? Does it trouble them, does it suggest evolution of life on other planets? I can see the pie being sliced either way; if creationist are narcissistic, old line dogmatic and such, they may believe that man is God's special creation and the purpose of the universe and as such, the existence of exoplanets is a threat to their beliefs. There were Jehovah's Witnesses who came to my grandmother's house telling her that we never landed on the moon and it was all a myth, a conspiracy.

- ✓ Exoplanets are the sidereal stages, they are where Scenes are placed!

It seems however, from a sampling of websites, that even Christian Fundamentalist have been pulled along with the times (with Christian literalist kicking, whining and screaming loudly):

- ✓ “For Christians, finding our future in the stars can appear misguided, but it is not – as long as Christians can separate eschatological fervor from practical science and understand God’s plan for creation. ...

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When God created the world and saw that it was good, it wasn’t just the Middle East or the Old World, but all of creation – the entire universe. Exoplanets such as those in the TRAPPIST-1 system are really no different than Antarctica or the depths of our ocean – parts of creation that are still to be explored. Indeed, they are simply further into the horizon than humanity has yet traveled.

Even if our world is on the cusp of a technological singularity, travel to other planets is still a far off possibility for the immediate future. Exoplanets are on our horizon but are merely a tiny shadow in front of something much greater. If humanity gets to the TRAPPIST-1 system one day, as a natural extension of exploring the world that God created, it will be good. In the meantime, there is no shortage of creation to explore within our reach.” – Douglas Estes, “The Exoplanets Declare the Glory of God – TRAPPIST-1 is not our new home. The Creator declared it good anyway,” Christianity Today, March 14, 2017.

Of the three samples offered here, from 2014, 2017, and 2018, Mr. Estes’ 2017 comments (*ut supra*) are the most pragmatic and even optimistic assessment by a Christian writer. It is interesting that he mentioned the technological singularity, and he impliedly chastises certain Fundamentalist and Literalist elements (“as long as Christians can separate eschatological fervor from practical science”) for having their heads in the sand.

- ✓ “In my last three blogs I described the inevitable climate instabilities that occur on Earth as a result of subtle variations in Earth’s rotation axis tilt and shape of its orbit about the Sun. For the first time, astronomers are paying serious attention to how similar variations affect the possible habitability of planets beyond our solar system. These studies are revealing extraordinarily fine-tuned design features in the solar system – and Earth in particular – that make Earth habitable not only for life, but also for animals, human beings, and global human civilization. ...

[Russell] Deitrick [University of Washington] and his team do not discuss what their research implies about Earth’s habitability. Their excellent work shows that the fine-tuning designs that have made Earth continuously habitable for 3.8 billion years of abundant, diverse life, and has made possible the existence of a large population of human beings enjoying global, high-technology civilization, has been grossly underestimated by most scientists. Their research adds to the already overwhelming scientific evidence that a supernatural, superintendent Creator personally designed Earth for the specific benefit of life and of human beings in particular.” – Hugh Ross, “Exoplanets’ Climate Instabilities Reveal Earth’s Fine-Tuning,” Reasons to Believe (reasons.org), July 30, 2018.

Mr. Ross has fallen into the anthropic puddle. Douglas Adams told a story of a puddle at Digital Biota 2 that specifically refuted, and pointed out the danger of this smug sort of thinking. See the In Our Puddle discussion, 1 Entropy, p. 231, *infra*. In the words of Carl Sagan, Mr. Ross has

confused cause with effect. See also additional related Douglas Adams quote and Children & Puddles discussion, 3 Technology, p. 720, *infra*. It is probable that Mr. Ross is repeating an argument that was making the rounds at least in the 1960s, since both Sagan and Adams refuted it.

- ✓ “Other astronomers are reluctant to abandon the old nebular hypothesis, even though it has numerous problems of its own. For instance, particles in a dust disk less than a kilometre in diameter do not accrete; they disrupt. Any ‘planetesimals’ (small bodies thought to be growing into planets) must grow fast enough to clear out a path in their orbits before inward migration sets in. Both theories, therefore, require rapid formation of planets.

The ‘bottom-up’ theories of evolutionists have effectively been falsified. For this reason, creationists should defend a ‘top-down’ model of planet formation. Believers in God should not be surprised that God created stars with orbiting bodies from the beginning. The top-down model is supported by the principles underlying the Second Law of Thermodynamics, which reveal a relentless tendency for things to become more disordered over time. That is exactly what we see: stars and planets winding down and wearing out. Some stellar dust disks that were thought to be forming planets are now believed to be the ruins of destructive collisions. If it were not for God’s unique design and care for our earth, it would not long survive.

Because evolutionists desperately want to prove that the origin and evolution of life is common in the universe, the search for habitable planets has intensified. Once again, though, the observations point to earth-like planets being extremely rare. At this time, the Planetary Habitability Laboratory website lists only one earth-size planet candidate from Kepler data out of thousands. Another 48 are labelled ‘potentially habitable exoplanets,’ but these are all in the ‘super-earth’ category: much larger than earth, which creates additional habitability issues. ...

After 50 years of failure, some SETI people still scan the skies for alien radio messages. It’s highly doubtful, however, that any such indicator of intelligence will be received in the foreseeable future.

Let’s suppose that, against all odds, they do find life. What would it mean for biblical interpretation? It depends on the type of life discovered. Intelligent life is ruled out, because we know from Heb. 9:24–26 that Christ died for sins once, and only once – for the sins of humanity. He did not have to ‘suffer repeatedly since the foundation of the world’ (i.e., the universe). Nowhere in Scripture is there any hint that Christ became incarnate for the sins of any other beings. For this reason, it is highly unlikely that alien intelligence (as opposed to fallen angels impersonating aliens) will ever be found. But what about non-sentient, e.g. microbial, life? Though one cannot rule it out, it is highly unlikely that this exists, either. All of creation seems focused around mankind on earth, and the plants and animals are part of our life support system.

All life is intelligently designed. Only humans are made in the image of God, have fallen into sin, and are in need of salvation. Christ Jesus provided grace uniquely to humans by His death on the cross and His glorious Resurrection. Unverifiable speculation about life on other planets may be fun, but in the end, it is futile. We can know for sure what we need to know: that God has provided for our physical and spiritual

needs on our superbly designed planet.” – David F. Coppedge, “Extrasolar planets: a challenge to biblical cosmology?” *Creation* 36(3):42–44, July 2014 (creation.com).

In this review, I was only looking to the expressed or apparent attitude of the author toward exoplanets, and to some extent, intelligent life elsewhere. The first two authors quoted above, included extensive science to which was attached at the end a discussion of Christian implications. Mr. Coppedge, quoted above, also included science, but in a derisive way that probably is deceptive or could be challenged as misrepresentative; there were also a few other eye-rolling statements, but the author’s overall approach to possible exoplanets was not ‘negative,’ if guarded.

- ✓ Admittedly, I quoted more of Mr. Coppedge’s article than I originally intended. Perhaps as a demonstration, perhaps out of a misplaced sense of inclusiveness and fair representation. ‘N all dat.

“It is not improbable, I must point out, that there are inhabitants not only on the moon but on Jupiter too, or (as was delightfully remarked at a recent gathering of certain philosophers) that those areas are now being unveiled for the first time. But as soon as somebody demonstrates the art of flying, settlers from our species of man will not be lacking. Who would once have thought that the crossing of the wide ocean was calmer and safer than of the narrow Adriatic Sea, Baltic Sea, or English Channel?”

Given ships or sails adapted to the breezes of heaven, there will be those who will not shrink from even that vast expanse. Therefore, for the sake of those who, as it were, will presently be on hand to attempt this voyage, let us establish the astronomy, Galileo, you of Jupiter, and me of the moon.”

– Translated by Edward Rosen (1965), Kepler’s Conversation with Galileo’s Sidereal Messenger (1610), p. 39³

Endnotes.

¹ Commentary: That is, state and local politicians can get the money they need from Big Brother without being held locally accountable for raising taxes to get the money. The big, distant Federal Government does the taxing, higher up politicians take the blame for raising taxes, and then the money is returned through subventions with strings attached. And local politicians can say, “Hey, it’s the rules, we didn’t make them, but we have to play by them.” This is the blurring of political accountability referenced by Mr. Robb.

- ✓ Sovereignty is ultimate responsibility and about taking ultimate responsibility to go with the power (i.e. “the buck stops here” – Pres. Harry Truman’s desk sign and U.S. Attorney General Janet Reno after Waco); the less responsibility you have, the more so your sovereignty is degraded.

² Commentary: Commander Sinclair was given authority by the Earth Senate to end the dock worker’s strike “by any means necessary.” It was expected that he would use force, but instead, he used the “by any means necessary” language to divert funds to improve safety and work hours for the workers. The Earth representative was ☹.

³ Citation: “*(Galileo) Galileo, (Galileo) Galileo, Galileo figaro magnifico!*” (sing it in high falsetto!)

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See Appendix AGE – Aging Out

See Appendix COM – Trading with Scene-snitching Aliens Example

See Appendix DE&A – Disruption Events, Inactive Constructural Elements & Apostasy

See Appendix PAT1 – Power Activations Tables 1 – Power Activation Costs

See Appendix PAT2 – Power Activations Tables 2 – Normal Sequence of Power Activations

See Appendix PAT3 – Power Activations Tables 3 – Scenes, Planets & Stars

“...Here we come close to one of the definitions of literary fiction. Even the best kind of popular novel just comes straight at you; you have no conversation with a popular novel. Whereas you do have a conversation (you have an intense argument) with [literary fiction].”

– Martin Amis, Experience: A Memoir (2000)

The Conversation: GGDM is the result of a lifetime of conversations with myself and the human intellectual tradition. Or more probably just myself and the ringing in my ears. I once asked my mother when I was about five or six years old, why can’t everyone be a scientist? I guess my life answered that question! I now invite the reader into this conversation.

- ✓ I always keep a copy of the current version of GGDM in my pants pocket, in case Scotty beams me up (like Eli in the Stargate Universe pilot). Scotty has never been known to beam anyone up without their pants and I hope he hasn’t changed his mind.

As I have envisioned it, a game of GGDM can be a sort of modern salon (and not saloon), without the idle aristocracy (or six-shooters):

- ✓ “A whole world of social arrangements and attitude supported the existence of French salons: an idle aristocracy, an ambitious middle class, an active intellectual life, the social density of a major urban center, sociable traditions, and a certain aristocratic feminism. This world did not disappear in 1789.” – Steven Kale, French Salons: High Society and Political Sociability from the Old Regime to the Revolution of 1848 (2006), p. 9.

Jerome Bixby’s *The Man from Earth* (2007) is a sort of impromptu salon.

“Immature poets imitate; mature poets steal; bad poets deface what they take, and good poets make it into something better, or at least something different.”

– T.S. Elliot

Acts & Scenes: “All the worlds are indeed a stage...”¹ While Vital Powers represent the authority of the government over its society, Acts and Scenes measure, in large part, the political will (and organization) of the government to act and to some extent, the popular support for government action. ‘Acts’ are markers which represent the ability to act, specifically, the ability to activate a particular Power to which they have been previously allocated by placement on the ‘Powerstrip’; while Scenes represent specific places where Actions take place.

- ✓ The Scene on the Public Space points to a place in the Galactic Space where the game looks for certain Power Activations.² It is a conduit that connects the three parts. There are other games that do this as well, regardless of how the designers may have thought of it; for example, in Queen Games’ *Shogun* (2006), players lay province cards on an actions board, indicating that the action occurs in that province this turn.

Powers whose activations are location-specific require Acts and Scenes to activate the Power, whereas Powers whose activation is general throughout the civilization (such as Taxation, Re-

search, and Census) only require Acts to activate the Power. So, the activation of Powers is governed not only by the number of undisrupted Government Titles held by the position, but also by the allocation and placement of Acts and Scenes.

- ✓ “Human action is purposeful behavior. Or we may say: Action is will put into operation and transformed into an agency, is aiming at ends and goals, is the ego’s meaningful response to stimuli and to the conditions of its environment, is a person’s conscious adjustment to the state of the universe that determines his life. Such paraphrases may clarify the definition given and prevent possible misinterpretations. But the definition itself is adequate and does not need complement of commentary.” – Ludwig von Mises, Human Action (1949), p. 11.

Power Activations in GGDM should not in most cases be considered accidental, incidental or involuntary (even considering population growth *from* Census Power activations, the activation remains purposeful behavior in the game, that is, you could absurdly determine to never activate the Census Power during the game); rather, they should be considered purposeful will and agency to a desired end that is essentially, but not entirely, directed by the central authorities. GGDM Power Activations encompass fully the axiom of human action of the Austrian School.

- ✓ One view of the setup process considers that whatever is purchased with Inheritance Points (see 7 Beginnings, p. 70, *supra*) saves dozens of Acts, Scenes and Power Activations during the early game. Thoughtful players may maximize this benefit.
- On The Soapbox: The Powerstrip consists of two rows of squares, with one square labeled for each Power. The purpose of the Powerstrip is to keep a record of the Acts currently allocated to each Power. At the end of each Regular Turn, each position *receives a number of Acts and Scenes in any combination* desired equal to the number of currently undisrupted Government Titles held by the position. Acts received must immediately be allocated to a specific Power and are added to the Acts currently in that Power’s box; while Scenes must be immediately assigned to a Monad which must contain *a star or colonized planet* at the end of the turn (if not, the Scene is lost). Thus, during the Regular Turn, a position is operating with Acts and Scenes received previously, there is no ‘borrowing’ into the future in terms of Acts and Scenes. One cannot use political will, events, or opportunity that has not yet manifested.
 - ✓ Acts and Scenes can be *purchased* during setup with Inheritance Points and it is highly recommended that positions do so to be able to activate Vital Powers on the first turn of the game. Loading up for early game action might be a strategy. See Lift Off, 7 Beginnings, p. 73, *supra*. There is no provision for moving placed acts/scenes.

Power Activations require planning, and each position’s Actions sent to the Concierge must specify the allocation of Acts and Scenes expected to be received at the end of the turn. Acts and Scenes will be received in the order listed by the position, in case of a disrupted Government Title, the last Acts/Scenes listed may be lost. Thus a position can prioritize the list.

- Shoestring Production: The number of Acts and Scenes received per undisrupted Government Title may be increased with progression to the 2nd and 3rd Eras, see Player Piano, 2 Eras, p. 770, *infra*. This is not the same as receiving more Power Activations per turn. Power Activations, Acts and Scenes collectively represent the scarcity of means to ends:
 - ✓ “Action is replacing ‘a more satisfactory state of affairs for a less satisfactory,’ and man must make use of means to attain ends. Means, in turn, are always scarce with

regard to the attainment of ends. If means were not scarce, they wouldn't be subject to economizing, and so there couldn't be any action – and this is, of course, impossible to believe. It is in this sense that human action is purposeful action – that is, making use of means for attaining certain ends.” – Thorsten Polleit, “Human Action Is Purposeful Action,” Mises Institute, August 19, 2011 (available free online), quoting Ludwig von Mises, *Human Action* (1949), Ch. 1.

- ✓ See additional scarcity discussions, 1 Government Titles and 1 Corporations, *infra*.
- **Managing Act:** When a position activates a Power, a number of Acts will be removed from the Powerstrip and Scenes removed from the Public Space as the cost of the Power activation. The specific number of Acts and Scenes required are described in each of the sections detailing the Powers, however, no Power requires less than one Act to activate, and no Power requires more than three Acts and a Scene (i.e. Found College) in combination to activate. In case of error or other unforeseen events that cause a position to be short of Acts/Scenes for a Power Activation; the desired Power Activation will be cancelled and no Acts or Scenes will be removed (the Concierge will not interrupt Regular Turn processing to contact the players).

A position with five Government Titles would receive five Acts and/or Scenes per Regular Turn and could activate Powers five times. There is a 15% chance at the end of each Regular Turn (or Turn Cycle if Regular Turn Actions are not submitted or processed), *before* new Acts are placed that each remaining Act on the Powerstrip will ‘age-out’ as political will dissipates, opportunities are lost and political theatre distraction sets in...
 - ✓ Remember that, *except for Census and Taxation*, a position may activate the same Power multiple times in a Regular Turn (but not multiple Construction Powers at the same location), if they have sufficient Acts and Scenes. Insufficient RPs will not prevent a Power Activation. Each Activation costs separately, depending on purpose.
- **Box Office Receipts:** Management of Acts and Scenes, planning, and balancing competing interests and pressures are an important part of the game, as is managing the turnover and placement of pieces on the Public Spaces. Many Power Activations may also require sufficient Resource Points (RPs) be in the Treasury at the time of activation, for example, building Starships. Resources are required in addition to will and organization.
 - ✓ It is an axiom of the universe that any time anything is done – even involuntary breathing – there is a cost in resources. If a school district has to do something, whether it is fulfilling its educational mission, busing students, or something not related, like litigation, it costs taxpayer dollars (e.g., *Kitzmiller vs. Dover Area School District*). In between involuntary biological processes and the social organic enterprises of civilization, whether private or public governmental, is administration.
 - ✓ Eating and drinking are figuratively putting money in your mouth.³ Wealthy people and nations never think of it because it is trivial to them, but it occurs to any reasonable poor person at some point, and hangs in the back of their minds every day. Smoking tobacco is burning and inhaling money; this gets more figurative attention in the old political comics showing rich men smoking cigars wrapped in \$100 bills.
- **Lost Scenes:** Scenes do not occupy or use a Monad in the Public Space, but must be placed instead on stars and planets in the Public Space. Access to Scenes on a star or planet is lost if the star or planet is removed from the Public Space.

A star may have a number of Scenes equal to one *plus* the number of colonies currently in the star system maximum. A colonized planet may have one Scene *plus* one Scene for each colony on the planet. Scenes will be lost if they are attempted to be placed on a star or planet that is not added to the Public Space at the end of the Regular Turn in which they are generated. For example, if exploration of a starsystem fails due to the Scout being destroyed or failing to arrive, that star would not be placed in the Public Space as there is no ship there. Any Scenes that the position might assign to that star at the end of the Regular Turn, are lost. This is a risk a position might take to hurry development.

Scenes never ‘age-out.’ However, all Scenes on stars and planets will be lost if the star or planet is no longer on any position’s Public Space at the end of any Regular Turn.

- **Scene Snitching:** Scenes do not have owners, no one owns the Scene; *they are unaffected by capture of the colony* and simply pass with the sovereignty. Scenes are placed on planets and stars, not on colonies, *ut supra*. If a Scene is placed on a planet or star, all positions that have **presence** on the planet or in system will see it and may become the ‘scene stealer’ in theatre-speak. It thus is possible in a Balkanized colony planet situation for positions to snatch each other’s Scenes for activations at that location, e.g., see discussion in 1 Commerce, pp. 1186, 1189, *infra*. It is also possible for positions to help each other with Scenes at shared locations by placing Scenes there to be picked up later. The economy of Acts and Scenes in GGDM is such that this is a fairly major effort and an area for horse trading or allied cooperation.

- ✓ Some snitching attempts may go unnoticed: The Scene will not be used if the Power Activation fails, see *But Nobody is Home*, 2 Constructural Elements, p. 194, *infra*.

“Most of such [science fiction writers], however, only extend the consequences of our present-day paradigms into the future. There are some who present futures in which new paradigms obviously prevail. Most of them do this unconsciously, but whenever a writer tosses out a reference to working telepathy, or working faster-than-light drive, he is talking about such a future – and of one thing we may be very sure: the future will offer us new paradigms. We may kick and scream and have to be dragged into them, but they will be there.”

– James Blish, *The Tale that Wags the God* (1987) (Kindle Loc. 603-607) ⁴

Besieged Colonies: A ‘besieged colony’ is a colony that is currently under attack and the only thing that is preventing the colony from being captured is the colony’s defenses and/or the attacker’s lack of will and/or insufficient combat power. A colony is besieged on Regular Turns only to the extent that the opposing warship(s) can enforce a blockade of normal space around the colony (see *Blockade Running*, 4 Commerce, p. 1233, *infra*). A Besieged Colony cannot act as a Supporting Colony for ships (see *Supporting Colony*, 1 Movement, p. 840, *infra*), thus a colony may be besieged to deprive the owner of a Supporting Colony. Otherwise, there is no other effect on a besieged colony, that is, blockading warships cannot cause a colony besieged to lose Constructural Elements or Scenes, and cannot directly prevent the colony from executing *most* Power Activations (see *Rousing the Rabble*, 2 Disruption, p. 271, *infra*).

- ✓ A colony which has enemy Ground Units on the surface of the planet, i.e. a potential ongoing Ground Combat situation, is not a besieged colony and can be a Supporting

Colony. Ground Combat is however a Disruption Event at the colony, see Downfall, 2 Disruption, p. 275, *infra*.

- ✓ Note, however, that a colony might suffer disruption of Constructural Elements on the Regular Turn it becomes besieged due to loss of a Ship Combat in the same starsystem. See The Burning Sky, 2 Disruption, p. 275, *infra*.

- Long Telegram: The Earth (or any colony) floating in space, is like living on a tiny island in the vastness of the ocean, or like living on a farm or in a village in the middle of a vast plain: Invaders, raiders and bandits can appear at any time from any quarter without warning and approach with great speed. Without walls and vigorous defenses, all of the advantages go to the invaders (e.g., Thulsa Doom's mounted raider attack on the plains village at the beginning of Conan the Barbarian (1982)). Thus, after reliable, repeatable FTL travel becomes reality (i.e. fact), paranoia may develop naturally in nascent interstellar civilizations, guiding their development. As noted by George Kennan in the Long Telegram, February 1946:
 - ✓ "At bottom of Kremlin's neurotic view of world affairs is traditional and instinctive Russian sense of insecurity. Originally, this was insecurity of a peaceful agricultural people trying to live on vast exposed plain in neighborhood of fierce nomadic peoples. To this was added, as Russia came into contact with economically advanced West, fear of more competent, more powerful, more highly organized societies in that area. But this latter type of insecurity was one which afflicted rather Russian rulers than Russian people..." *Id*.
- High Guard: A siege condition exists after the first round of a Colony Combat when:
 - 1) The attacker does not issue any further Combat Orders, *except* Raid/Strike orders (see World in Flames, 4 Carriers & Fighters, pp. 1083-1088, *infra*),
 - 2) The attacker has units present that can initiate combat,
 - 3) The colony defenders have not retreated or cannot retreat, and
 - 4) The defenders have not or cannot Seize the Initiative (see 3 Combat, p. 971, *infra*).⁵

For example, a Carrier with a Fighter Complement, accompanied by two Era Warships, attacks a Colony. In the first Combat Round, the defenders destroy the two Era Warships, leaving only the Carrier with Fighters. The colony still has Defense Bases, which cannot retreat. The Colony Combat has not ended because all units of a side have not either retreated or been destroyed. The attacker decides not to retreat the Carrier, instead letting the Colony Combat become a stalemate by not continuing the attack (except Raids); this stalemate is called a siege. The Colony Combat can drag on indefinitely until something changes.

- ✓ See generally Combat and Carriers & Fighters sections, *infra*.

- Passive Siegecraft: The siege condition described here is a passive siege, more of a blockade of the colony planet from space and perhaps on the ground as well. In a passive siege, the main strategy is to starve the defenders, inflict privations, affect their morale, and hope for faction infighting and a traitor who will open the gates. In GGDM, most colonies are considered to necessarily be self-sufficient in food, energy and material resources, with their own manufacturing and mining, *so that a passive siege generally will not work in that way* but there is plenty of room for Special Operations mayhem. Few sieges are completely passive, perhaps the main practitioners of passive siege warfare were the Assyrians.⁶

- ✓ “The economic attack was the most simple and obvious form of siegecraft. Cities were sometimes surrounded for years by encamped foemen who reared walls of their own to cut off trade and supplies. Assyria, whose appetite for war exceeded her ability, had a peculiar addiction to blockades which endured until a new generation grew up to manhood. But the defenders were at no great disadvantage in a contest of this sort, and often they could better supply themselves than an invading army subsisting on ravaged territory. Hence the threat of starvation usually had to be supplemented by a physical attack on the walls and a moral assault on the will, nerves and courage of the beleaguered.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 29.

Most sieges in history feature assaults on the walls and sallies by the defenders; the besiegers are often under the threat of relief forces arriving behind them and partisan warfare against their supply and communications (e.g., Siege of Vienna, 1683). If Besiegers in GGDM want to capture the colony, Ground Combat and/or Black-op Special Operations may be necessary.

- ✓ In many periods of history, such as those of the ancient city state monarchies, or impoverished and divided Medieval Europe, siege warfare was dominant. The side that lost or declined engagement in the field could surrender control of the countryside and retreat to their supplied castle or fortified city to hold out until the attacker either gave up or circumstances changed. The attacker then had to commit to the weary task of besieging the place, while watching his rear for attackers or partisan warfare against supply lines. Bribery and betrayal were potent weapons to open the gates.
- ✓ There is story potential for Concierge Intervention and Special Operations in sieges; e.g., the food stores of Jerusalem seem to have been *intentionally, preemptively destroyed* in an *act of faith* by Zealots during the epic Siege of Jerusalem in 70 A.D.
 - “Hope is not a strategy.” – Mike Sullivan, Pittsburgh Penguins Coach.

“Not everyone is capable of writing junk fiction: It requires an authentic junk mind. Most creative-writing teachers have had the experience of occasionally helping to produce, by accident, a pornographer. The most elegant techniques in the world, filtered through a junk mind, become elegant junk techniques.”

– John Gardner, The Art of Fiction: Notes on Craft for Young Writers (1991) ⁷

Endnotes.

¹ Commentary: Yes, I know that’s not quite what the original Bard said ... but it is what the 51st century clone said.

² Citation: “They are key locations in the drama that led to President Trump’s impeachment: the steakhouse table where Trump’s private lawyer set out a nameplate, ‘Rudolph W. Giuliani, Private Office.’ The upstairs hideaway, where Giuliani’s team planned its outreach to Ukraine. And the expensive bar, where Giuliani’s team met an odd figure: Robert F. Hyde, a big-talking ex-Marine who claimed to have the U.S. ambassador to Ukraine under surveillance. All three places are within 300 yards of each other, in the lobby of the Trump International Hotel.” – David Fahrenthold, Josh Dawsey, Jonathan O’Connell, “‘It was like a breeding ground’: Trump hotel’s mix of GOP insiders and hangers-on helped give rise to impeachment episodes,” The Washington Post, January 16, 2020.

³ Commentary: Need a dieting mantra? Eat less, spend less, weigh less, shit less, waste less. Works for everyone.

⁴ Commentary: The title, The Tale that Wags the God, is a rich, convoluted writer’s joke based on the common phrase, ‘the tail wags the dog.’ “Wag the dog” became somewhat popular after the 1997 movie of the same name. As Stephen King pointed out in Eye of the Dragon (written long after Blish), “God” is “dog” spelled backwards.

- ✓ “We wanted to call our show God Talk, after the famous Tappet Brothers of Car Talk fame, but the name was already taken, so we settled on The God Whisperers – ‘god’ and ‘dog’ being anagrams.” – Rev. Craig Donofrio and Rev. Bill Cwirla (“The Manly Doctors of Divinity”), from godwhisperers.org

⁵ Commentary & Citation: In Babylon 5, the EarthGov sent six destroyers to besiege the Proxima III colony (Proxima Centauri). The destroyers did not bombard the colony and did not probably have enough troops to capture the colony, instead besieging it on the ground (in GGDM terms, probably a Ground Combat where the attacker is not prosecuting) while blockading in space. The colony does not appear to have had any orbital defenses. Therefore, a siege condition occurred. During the siege, one of the destroyers intercepted and destroyed a civilian transport loaded with 10,000 people trying to escape (in GGDM terms, Blockade Running). The news of this was a major event that caused the Battle of Proxima III (Babylon 5, “No Surrender, No Retreat”), beginning the Earth Civil War.

⁶ Citation: “Encircled by walls of masonry rising abruptly from the water’s edge, and easily provisioned by the ships in its two harbors, this island city had already withstood an Assyrian siege of thirteen years.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 28 (referring to the ancient city of Tyre on Lebanon’s coast).

⁷ Citation & Commentary: Likewise, it takes a different sort of mind to write Young Adult fiction. After reading a summary of Paolo Bacigalupi’s young adult novel, Ship Breaker (2010), I thought it seems like it could be made into a movie if they didn’t get too juvenile. I began wondering about the definition of Young Adult fiction as a genre and I found a helpful article on Writer’s Edit, “3 Key Differences Between YA Fiction and Adult Fiction”:

- ✓ “Bearing in mind that YA [Young Adult] fiction will almost always be authored by adults, well-written YA stories nonetheless have an authentic voice that rings true to the young adult experience. This voice establishes itself in a few ways: primarily through the concerns, motivations and inner thoughts of the protagonist/s, and through the style in which the story is written or told. A teenager has different priorities, worries and thoughts than an adult, and this comes across in YA fiction. This goes some way towards explaining the prominence of certain tropes (e.g., love triangles) and the prevalence of certain themes (e.g., self-discovery and friendship) in YA. These are all typically young adult experiences, things teenagers tend to focus on more than adults. YA and adult fiction explore different sets of concerns, neither one of which is more or less important than the other.” *Id.*
- ✓ “In YA fiction, for example, a sense of immediacy and ‘in-the-moment’ storytelling is favoured, often delivered through close third person/first person point of view and/or present tense prose. Adult fiction is more likely to be told in the style of a reflection on the past, mostly using third person narration, sometimes presenting an omniscient perspective. Reflective, more ‘lyrical’ prose is often favoured over the more action/plot-focused style of many YA books. ... Let’s consider two examples, both hugely popular fantasy series, one classified as YA fiction and the other as adult: J.K. Rowling’s *Harry Potter* series and Patrick Rothfuss’ *The Kingkiller Chronicle*. Each series has a single main protagonist and a story that spans multiple years of that protagonist’s life, but there are key differences between the two that mark out their categories. Perhaps the key defining difference between the two is the voice and the way the story is told.” *Id.*
- ✓ “Our final key difference between YA and adult fiction is found in the themes of the story, and how they are explored. This can be a tricky one. Many people have made the mistake of assuming the themes explored in young adult fiction are more trivial than those of adult fiction, or that themes explored in adult fiction are off-limits in YA. This simply isn’t true. Some themes are definitely more specific to one category or the other – coming of age in YA, for example, or existential musings in adult fiction.” *Id.*

I obviously haven’t the mind to write YA fiction; my youth wasn’t that great, and I don’t want to remember it in that way: I think that writing good YA fiction probably depends on having a good youth. GGDM is *conscientiously adult* – whether you consider it fiction or not – the needle redlines on every facet described above as adult fiction.

- ✓ The best example between adult and young adult fiction is the difference between Jerome Bixby’s *The Man from Earth* (2007) and the sequel (2017). Mr. Bixby thought about and wrote the story over 30 years, there is very little action, but when there is, it is necessary. The entire work is an existential conversation wide ranging over all topics of humanity, but which remains in touch with the lives of normal people. Whereas the sequel, written in less than ten years by his son, is an ‘action adventure’ with existential musings which is the young adult or ‘new adult’ equivalent in film, and was criticized as being a pilot for a TV series (Neil Young, film review, *The Hollywood Reporter*, October 12, 2017). The sequel was underwhelming in comparison such that it was hard to review on its own merits (Anthony Ray Bench, film review, *Film Threat*, October 12, 2017). The creators uploaded the sequel to Pirate Bay in January 2018 for free distribution.

The Universe Doesn't Care About Your 'Purpose'
Excerpt from Article by Joseph Paul Carter,
Ph.D. Candidate, UGA
Published in the New York Times, July 31, 2017

Purpose is a universal human need. Without it, we feel bereft of meaning and happiness.

A recent ethnographic study draws a strong correlation between purposefulness and happiness. Purpose seems beneficial to overcoming substance abuse, healing from tragedy and loss, and achieving economic success. Businesses and organizations champion goals as ways to unify employees and customers under the banners of brand strategy, community, and well-being. America, in fact, is founded on the idea of purpose: life, liberty and the pursuit of happiness. One election cycle after another, Americans rally around candidates personifying deeply rooted ideals of what our country is supposed to be.

But, where does purpose come from? What is it? For over two millennia, discerning our purpose in the universe has been a primary task of philosophers.

Aristotle believed that the universe is saturated with it, that everything has an intrinsic drive. Our word purpose comes from the Greek *telos*, a goal that stipulates what and how something needs to be. For Aristotle, the universe and everything in it has an essential directive. Any deviation from it belies truth and reality. Teleology concerns order, stability and accomplishment. The goal of my grandfather's T-Bird, for example, is to function successfully as a form of transportation. From cars, trees, animals, all the way to the cosmos itself, Aristotle argued, each thing has an inherent principle that guides the course of its existence.

What about human beings? In his *Nicomachean Ethics*, Aristotle tells us that our purpose is happiness or *eudaemonia*, "well-spiritedness." Happiness is an ordered and prudent life. Good habits, a sound mind and a virtuous disposition are some of the steps that lead us there. For Aristotle, nothing is more fundamental for us.

In many ways, we still think like Aristotle. Most everyone strives for happiness. Today, the standing dogma is that purposelessness and disorder are nihilistic. Whether you're mulling a major life change or healing from trauma, being told that there's no purpose in life might be particularly devastating. The chances are better that you're looking for an ultimate explanation. Or you could simply be searching for that something or someone meant for you — God, a soul mate or a calling of sorts.

I'm certainly no Aristotelian. Not because I reject happiness. Rather, as a materialist, I think there's nothing intrinsic about the goals and purposes we seek to achieve it. Modern science explicitly jettisons this sort of teleological thinking from our knowledge of the universe. From particle physics to cosmology, we see that the universe operates well without purpose.

The laws of physics are inherently mechanistic. The second law of thermodynamics, for instance, states that entropy is always increasing. Entropy is the degree of disorder in a system, for example our universe. Physical disorder is all about equilibrium — everything resting randomly and uniformly. Leave your hot coffee on the desk and it

will cool to ambient temperature. The coffee molecules are more organized because they are moving faster and working harder to sustain a higher temperature than the surrounding air. But heat transfer results as the coffee molecules expend more energy. As energy is expended, the temperature of the coffee drops and equalizes with the air. Entropy increases since the molecules in the system are now less organized as the overall temperature becomes more uniform.

Now, imagine this on the cosmic scale. Just as the temperature of the coffee and air equalizes, the Earth, our solar system, galaxies and even supermassive black holes will break down to the quantum level, where everything cools to a uniform state. This process is known as the arrow of time. Eventually everything ends in heat death. The universe certainly started with a bang, but it likely ends with a fizzle.

What's the purpose in that, though?

There isn't one. At least not fundamentally. Entropy is antagonistic to intrinsic purpose. It's about disorder. Aristotle's world and pretty much the dominant understanding of the physical universe until the Copernican Revolution is all about inherent order and permanence. But the universe as we understand it tells us nothing about the goal or meaning of existence, let alone our own. In the grand scheme of things, you and I are enormously insignificant.

But not entirely insignificant.

For starters, we are important to each other. Meaning begins and ends with how we talk about our own lives, such as our myths and stories. Sean Carroll, a prominent cosmologist and theoretical physicist at the California Institute of Technology, makes this case in his recent book "The Big Picture." Fashioning himself the "poetic naturalist," Carroll argues that meaning and purpose "aren't built into the architecture of the universe; they emerge as ways of talking about our human-scale environment." Even materialists can't deny the fact that purposes somehow exist to give us meaning and happiness.

Anthropologists like Dean Falk recently suggested that goal-directed behavior is also evolutionarily advantageous. This doesn't imply that evolution itself has a purpose, of course. (Though some have argued otherwise.) What it does suggest is that as purposeless as human evolution is, we generally benefit as a species from a belief in it.

The 20th-century German philosopher and intellectualist Hans Blumenberg, in "Work on Myth," provides a way to explain this curious concomitance of teleology and evolution with what he calls the "phantom body" of the development of civilization: "The organic system resulting from the mechanism of evolution becomes 'man' by evading the pressure of that mechanism by setting against it something like a phantom body. This is the sphere of his culture, his institutions – and also his myths."

Purpose springs from our longing for permanence in an ever-changing universe. It is a reaction to the universe's indifference to us. We create stories about the world and ourselves as contours, "phantom bodies," of the inevitability of loss and change. Myths appear timeless; they have what Blumenberg calls an iconic constancy. Stories pass through generations, often becoming traditions, customs, even laws and institutions that order and give meaning to our lives. Purpose grows out of the durability of human lore. Our stories serve as directives for the ways we need the world to exist.

An indifferent universe also offers us a powerful and compelling case for living justly and contentedly because it allows us to anchor our attention here. It teaches us that this life matters and that we alone are responsible for it. Love, friendship and forgiveness are for our benefit. Oppression, war and conflict are self-inflicted. When we ask what's the purpose of the recent gassing of Syrian children in the Idlib Province or the torture and killings of Chechnyan homosexual men, we ought not simply look to God or the universe for explanations but to ourselves, to the entrenched mythologies that drive such actions – then reject them when the institutions they inform amount to acts of horror.

The purposes and goals we create are phantom bodies – vestiges of and memorials to the people, places and things we stand to lose and strive to keep. Purpose indexes the world's impermanence, namely our own. Sure, my grandfather's T-Bird will function well as transportation once I'm finished. But, that goal only makes sense as an enduring reminder of the stories and memories of him. Purpose is about loss, or at least the circumvention of it. And there's nothing wrong with that. We create purposes to establish happy endings in a universe where endings are simply that – endings.

**The problem isn't that life is unfair
– it's your broken idea of fairness**

**Excerpt from blog by Oliver Emberton, oliveremberton.com
(2014)**

Unless you're winning, most of life will seem hideously unfair to you.

The truth is, life is just playing by different rules.

The real rules are there. They actually make sense. But they're a bit more complicated, and a *lot* less comfortable, which is why most people never manage to learn them.

Well-meaning intentions don't matter. An internal sense of honour and love and duty count for squat. What exactly can you and have you done for the world?

Abilities are not prized by their virtue. Whatever admiration society awards us, comes from the selfish perspectives of others. A hard working janitor is less rewarded by society than a ruthless stockbroker. A cancer researcher is rewarded less than a supermodel. Why? Because those abilities are rarer and impact more people.

We like to think that society rewards those who do the best work.

But in reality, social reward is just a network effect. Reward comes down mostly to the number of people you impact.

Write an unpublished book, you're nobody. Write Harry Potter and the world wants to know you. Save a life, you're a small-town hero, but cure cancer and you're a legend. Unfortunately, the same rule applies to *all* talents, even unsavoury ones: get naked for one person and you might just make them smile, get naked for fifty million people and you might just be Kim Kardashian.

You may hate this. It may make you sick. Reality doesn't care. You're judged by what you have the ability to do, and the volume of people you can impact. If you don't accept this, then the judgement of the world will seem very unfair indeed.

People like to invent moral authority. It's why we have referees in sports games and judges in courtrooms: we have an innate sense of right and wrong, and we expect the world to comply. Our parents tell us this. Our teachers teach us this. Be a good boy, and have some candy.

But reality is indifferent. You studied hard, but you failed the exam. You worked hard, but you didn't get promoted. You love her, but she won't return your calls.

The problem isn't that life is unfair; it's your broken idea of fairness.

Take a proper look at that person you fancy but didn't fancy you back. That's a complete person. A person with years of experience being someone completely different to you. A real person who interacts with hundreds or thousands of other people every year.

Now what are the odds that among all that, you're automatically their first pick for love-of-their-life? Because – what – you exist? Because you feel something for them? That might matter to you, but their decision is not about you.

Our idea of fairness isn't actually obtainable. It's really just a cloak for wishful thinking.

Can you imagine how insane life would be if it actually was 'fair' to everyone? No-one could fancy anyone who wasn't the love of their life, for fear of breaking a heart.

Companies would only fail if everyone who worked for them was evil. Relationships would only end when both partners died simultaneously. Raindrops would only fall on bad people.

Most of us get so hung up on how we think the world should work that we can't see how it does. But facing that reality might just be the key to unlocking your understanding of the world, and with it, all of your potential.

**William Barr: Death is inevitable, legacies are meaningless,
Article by Alexandria Petri, Washington Post, May 31, 2019**

(Note to GGDM readers, the following is fiction and satire;
it's just what the lady does, but can you deny it?¹)

"Everyone dies and I am not, you know, I don't believe in the Homeric idea that you know, immortality comes by, you know, having odes sung about you over the centuries, you know?" – William P. Barr, asked about his legacy as attorney general

Everyone dies. This much is known.

I am a meat puppet wrapped for a brief time around a ghost, dragged from one point to another by forces beyond my control.

Afterward? I do not care what Homer says, that songs bring immortality. We are, when we are gone, only imperfectly recollected dust. One must not dwell on this.

Even before death, we die many times, little unmarked farewells, things that will simply never be seen or done by us again, words that will never be linked with our names another time, though we do not notice their departing until after they are absent: reverence, duty, honor. Our bodies grow lighter and heavier than we were accustomed. Our names carry a different weight in the public mouth. They echo at a different angle.

Imperceptibly we bid farewell to all that we are. Our faces become unrecognizable. The words we speak lose their meaning. We become our own ghosts.

The body is replaced many times before it is entirely gone. By the final replacement, we have ceased to notice. The atoms we would miss have not been there for years. We are a walking vacancy in place of a person. At first the replacement is a replenishment, and then it becomes a sapping – of our strength, our beauty, our wisdom, everything we are. But there is no way to direct it not to happen. So it does not do to mark or measure these changes. You are, and then you cease to satisfy, and then you die. There is no room for regret. Let the dead past bury its dead.

Ultimately, does anything we say or do echo even for a moment? Is any legacy more than a collection of imperfect sketches of an object already fled too far to grasp? Memory is an act that must take place in time, but the living are too greedy to remember. There is no legacy. There can be no legacy.

I have been to the desert. I have seen the ruin that is all that remains of the works of men.

The wrack is coming for us. The great oblivion encroaches daily. It will sweep away all our petty fortifications against time and make mockery of all our noblest works. We are dust. Only the cockroaches will remain. And to them our memorials will be illegible.

They will remember nothing of all these monuments of meat.

That is why I have been proud to serve as Donald Trump's attorney general.

¹ Citation & Commentary: “Wade A. Carpenter, associate professor of education at Berry College, has called his books ‘scathing’ and ‘one-sided and hyperbolic, [but] not inaccurate’ and describes himself as in agreement with [John Taylor] Gatto.” – from Wikipedia article, “John Taylor Gatto,” (citing to two Educational Horizons articles by Professor Carpenter, available free in PDF online).

- ✓ Though it is satire – and satire is necessarily hyperbolic and one-sided by nature – Ms. Petri's article may be taken as axiomatically true in the above sense, even if not agreeable to most people.
- ✓ It is quite likely that the same is true of or the same accusations might be leveled against GGDM at this point. *Nolo contendere*.

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“A mythic map of Australia would show thousands of characters, varying in their importance, but all in some way connected with the land. Some emerged at their specific sites and stayed spiritually in that vicinity. Others came from somewhere else and went somewhere else. Many were shape changing, transformed from or into human beings or natural species, or into natural features such as rocks but all left something of their spiritual essence at the places noted in their stories.” – [The Encyclopaedia of Aboriginal Australia](#)

Doctor Who: *Dreams. They’re funny. Ha, ha, ha. They’re disjointed. They’re, they’re silly. They’re full of gaps. But you don’t notice, because the dream protects itself. Stops you asking the right questions.*

– Dr. Who, “Last Christmas” (2014)

Jury Verdict: During the Age of Reason/Enlightenment and early Scientific Age, the term “interpretation” acquired a slightly negative sense of human fallibility, superstition, irrationality as science, empiricism, and rationality pushed against religion, astrology, numerology, and local superstitions. Yet, despite scientific utopian dreams of a completely rational, logical, empirical, scientific civilization (e.g., Mr. Spock), interpretation remains very much a part of our daily lives, our humanity, our civilization.

Interpretation exists where humans must make decisions or conclusions about things which are not empirically certain, of which we do not have full and complete knowledge, or to which empiricism does not apply. X-rays and radiological films, and other diagnostic tests, are *interpreted* by medical professionals. A *jury verdict* (verdict: to speak the truth) is the conclusion reached from the jury’s interpretation of the direct and circumstantial evidence presented to them during trial and their common background of beliefs, life experiences, memories, and ideals.

- ✓ Science-fiction writers love this stuff; for example, RoboCop’s memory being admissible as evidence, or Philip K. Dick’s short story “The Minority Report” (1956).
Someday, juries may travel in time to witness the actual events and decide.

The standard of a jury verdict is not absolute certainty, it is either *beyond a reasonable doubt*, or *by clear and convincing evidence*, depending on the matter. And there is not clear evidence that juries adhere to or understand either one, which is why there are appellate procedures. There is no appeal from an erroneous medical interpretation or failure to diagnose, but you can sue them.

“When scientists attempt to formalize the principles of the empirical sciences, they use an interpretation to model reality, in the same way logicians axiomatize the principles of logic. The aim of these attempts is to construct a formal system that will serve as a conceptual model of reality. Predictions or other statements drawn from such a formal system mirror or map the real world only insofar as these scientific models are true.”

– from Wikipedia article, “Interpretation (philosophy),” captured
November 30, 2015

An Interpretation: Interpretations are the means by which life, and particularly intelligent star faring life forms, impose their reality on the local universe.¹ Interpretations are the ‘crack in the door’ through which intelligent life muddles the less than absolute truth of the expanding universe. Interpretations are the labels written in the sand in the sandbox.²

The core definition of “interpretation” is the assignment or determination of meanings in relation to something that is under consideration. Daily interpretations are based on intuition and judgment from experience within our cognitive and cultural schemas. Intuition and interpretation intertwine, nearly inseparable, in human intelligence. Interpretation is a primary act of sapience.

- ✓ “The ‘*Biological Brain*’ is a nonlinear tool that has been designed by millions of years of evolution to navigate an external world full of incompressible nonlinear dynamics. The ‘*Emergent Mind*’ is simply a reflection of how the brain is wired up. The brain tries to understand the external world by trying to build abstract nonlinear models; and it does this by trying to best fit the models to the available data (as we say in model speak)... In the real world, we used [sic] abstract models all the time to give us a qualitative understanding of something. A map of the London Underground is a perfect example. [Image of London subway map omitted, but you know what it looks like if you have ever seen an abstract subway, light rail or bus route schedule with a map.] This map is obviously not an exact representation of locations in physical space, but it is nonetheless a good enough model to give us a good understanding of the nature of the underground network. Similarly, at the subconscious level the mind attempts to build a qualitative, or ‘*intuitive*,’ understanding of everything in the external world. And it is the ‘*integration*’ of all this intuitive understanding that results in the ‘*Emergent Conscious Mind*.’...” – Kieran D. Kelly, “The Emergent Mind,” Incompressible Dynamics (blog) (<http://www.kierandkelly.com/>), captured February 16, 2019 (emphasis in original).³

- While ‘designed’ is a poor choice of words in the preceding quote, it was not offered here for that purpose. Writers really should not use ‘designed’ and ‘evolution’ in the same sentence in that way. And “wired up” – ugh! I recently mentally kicked myself for using “framed up,” gotta lose the up, keep it level. “Up” has long plagued the English language, Dean Inge used “peopling up” in 1919 in *Outspoken Essays*, “The Future of the English Race.”

GGDM is perhaps such an “abstract nonlinear model” that was necessarily flattened out and made as linear as necessary for the ‘real world’ as a simulation game.

- **Interpretation of History:** The caution with interpretations is the same as the caution with emergences – do not assume that it is always a favorable outcome for humanity either in the given moment or in the long term. History (and the current news) has shown that people will read a page and make it into whatever meaning suits them (unless it is highly technical writing), or as is commonly said, people hear what they want to hear and ignore all else (e.g., Simon & Garfunkel, “The Boxer” (1982)). This will happen in GGDM Interpretations (and even in the rules reading) as much as in the real world. In terms of blame, in each case, would it have made any difference if the writer or speaker were better at their craft, had been clearer in their writing or speaking, or is the blame on the audience? Or on the education system? Or on political ideologies? Or on human selfishness? This is a long debate reaching to all spheres of human civilization; sometimes it is tragicomic.

- ✓ “Like other Presidents, perhaps even more so, Mr. Trump tends to hear what he wants to hear at settings like this, either tuning out contrary voices or disregarding them. Through hard experience, other leaders have concluded that direct confrontation can backfire, so they have taken to soft-pedaling disagreements. Even Trump favorites like Boris Johnson, the populist new Prime Minister of Britain, tread carefully. On Sunday, Mr. Johnson expressed qualms about Mr. Trump’s trade war with China, but appeared to take pains not to offend the easily offended president. ... While the president relishes confrontation, he tends to avoid conflict in person, saving his vitriol for long-distance social media blasts.” – Peter Baker, “Rule 1 at the G7 meeting? Don’t get you-know-who mad,” New York Times, August 26, 2019.
- **Official Interpretation:** This entire game is an interpretation (a vision I offer), just as your life might be someone else’s bad dream. That goes nowhere, so let’s leave it over in the corner for now. Within this game, there are six (or seven, it’s a bit fuzzy) ‘game mechanics’ or ‘game devices’ that are officially considered Interpretations: Fundamental Realities, News Events (including Expose’ special News Events), Writs, Patents, Interventions, Meanings (including Shared Meanings), Collage.⁴ An Interpretation must accompany each Power Activation and the default Interpretation is the News Event, for example, if Patent Prosecution fails.
 - ✓ A Thesis Statement issued by one position against another (see Disputation, 2 Reformation, p. 1391, *infra*) is not an official Interpretation. A Collage issued in resolution of a Reformation (see Here I Sit and A Soul from Purgatory Springs, 3 Reformation, pp. 1399, 1401, *infra*) is an Interpretation by the Concierge of Thesis Statements.
 - ✓ The Concierge does not have ‘Power Activations’ and uses Interpretations to guide.
- **Technodreams:** A Patent is only an Interpretation on the turn in which the Patent is successfully prosecuted. Thereafter, the Patent becomes part of the reality of the game. Thus, a position may not cite the use of the Patent on any subsequent turn to fulfill the requirement of having an Interpretation paired with each Power Activation.
 - ✓ For example, a new ship Patent is introduced into the game. On the turn the new ship Patent is introduced, it is an Interpretation and may be used to fulfill the requirements of an Interpretation accompanying the Technology Power Activation for that purpose. However, subsequently, the new ship Patent may not be used as the Interpretation accompanying each Construction Power Activation used to build the new ship type.

“The history of sex-difference research is rife with innumeracy, misinterpretation, publication bias, weak statistical power, inadequate controls and worse. Rippon, a leading voice against the bad neuroscience of sex differences, uncovers so many examples in this ambitious book that she uses a whack-a-mole metaphor to evoke the eternal cycle. A brain study purports to discover a difference between men and women; it is publicized as, ‘At last, the truth!’, taunting political correctness; other researchers expose some hyped extrapolation or fatal design flaw; and, with luck, the faulty claim fades away – until the next post hoc analysis produces another ‘Aha!’ moment and the cycle repeats. As Rippon shows, this hunt for brain differences ‘has been vigorously pursued down the ages with all the techniques that science could muster.’ And it has exploded in the past three decades, since MRI research joined the fray.”

– Lise Eliot, “Neurosexism: the myth that men and women have different brains,”
Nature, February 27, 2019

“[David] Rosenhan’s experiment shows how psychiatric and medical diagnoses are related to the labeling theory. This theory states that deviance is a product of external judgements, or labels, that modify the individual’s self-identity and change the way others respond to the labeled person.

By negatively labeling those seen as deviant from standard cultural norms, the behavior of individuals may be adjusted to coincide with the terms used to describe them. People actively label certain acts as deviant and others as normal, creating distinct stereotypes. In this article, Rosenhan uses hard labeling to argue that mental illnesses are manifested solely as a result of societal influence.”

– from Wikipedia article, “David Rosenhan,” captured April 17, 2019 ⁵

Pseudo-patients: In order to be released, the pseudopatients were required to sign papers agreeing with their psychiatric diagnosis and take anti-psychotic medications, e.g.:

- ✓ “All told, the pseudo-patients were administered nearly 2100 pills ... Only two were swallowed. The rest were either pocketed or deposited in the toilet. The pseudo-patients were not alone in this.” *Id.*

The absurdity of being required to agree with your psychiatric diagnosis is astounding and offensive: Has a cancer patient ever needed to sign a paper agreeing with their diagnosis (though cancer patients can be labeled ‘in remission’) to then be in remission? What if society decided you could be civilly committed or admitted for being an atheist, Luddite,⁶ Protestant, Catholic, Jewish, Republican, Platonic, Gnostic, Nazi, environmentalist, skeptic, punk-rocker or just being opposed to the government and your own culture (see Soviet diagnosis of “Sluggish schizophrenia” and U.S. DSM-5 “Oppositional Defiant Disorder”), then had to sign a paper admitting to the diagnosis to be ‘in remission’ to be released? THX 1138 anyone?

- ✓ “Despite their public ‘show’ of sanity, the pseudo-patients were never detected. Admitted, except in one case, with a diagnosis of schizophrenia, each was discharged with a diagnosis of schizophrenia ‘in remission.’ The label ‘in remission’ should in no way be dismissed as a formality, for at no time during any hospitalization had any question been raised about any pseudopatient’s simulation. Nor are there any indications in the hospital records that the pseudopatient’s status was suspect. Rather, the evidence is strong that, once labeled schizophrenic, the pseudopatient was stuck with that label. If the pseudopatient was to be discharged, he must naturally be ‘in remission’; but he was not sane, nor, in the institution’s view, had he ever been sane.” – David L. Rosenhan, “On Being Sane in Insane Places,” *Science*, Vol. 179 (Jan. 1973), pp. 250-258.
- ✓ “In a sermon at Tehran’s Mosalla Mosque on January 17, Khamenei – the highest authority in Iran – said those who took to the streets had been victims of deception by foreign media and would not change the opinion of most Iranians.” – “Iran’s Khamenei Defends Military Amid Anger Over Downed Plane,” Radio Free Europe, January 20, 2020.

- This is only about one step away from the Soviet Union, one step away from classifying disagreement with the government as a form of mental illness: Those who are deceived by foreigner media are infirm of mind.

*“Since the time of Constantine, in fact, Western history has been plagued by the impossibility of policing belief rather than practice. After all, how do you decide what someone **really** believes, or does not believe?”*

– Prof. Michael Kulikowski (Pennsylvania State University), “Christians were Strangers: How an obscure oriental cult in a corner of Roman Palestine grew to become the dominant religion of the Western world,” Aeon, January 30, 2017 (emphasis in original)

Dream Police: Interpretations are very powerful things to individual humans as well as the masses. I spent a hot May afternoon working on a community garden with a religiously perfer-vid lady who interpreted everything moment by moment as a personal message from God and shouted it to the world. Frankly, she was driving me nuts, but I held my cool and started thinking about Karl Marx’ famous quote, “Religion is the opium of the masses.” It certainly seemed to apply at that moment. Later, based on circumstance I will not relate, I decided that she is really terrified of dying, despite what she says, and that her behavior was *bravado*.

Most of the time in our society today (in the ‘democratic West’), people are allowed to keep their interpretations – it is impossible to see inside someone’s mind (it drives control freaks nuts) and we can only guess from their actions, behavior, conversations and writings what they *truly believe* (and most people are not clear with themselves about even that point) – and we only try to alter another’s personal interpretations (or civilly commit them) when they are perceived as dangerous to themselves or others. The same problem that occurs in God, treason, romantic love.⁷

The current version of the Western preoccupation (obsession) with what people actually think rather than do – that lead to modern psychological (mental health) sciences as a medical practice and sprawling theory – originates with Christianity, to wit:

- ✓ “Some of these theological works focus on detailing heresies – wrong beliefs – of which there was already a rich variety. Because Christianity centred so much on beliefs rather than ritual behaviours, the policing of what did and did not constitute true and acceptable belief has always preoccupied Christian theologians and been a central dynamic in Christian politics.” *Id.*
- ✓ “Such disputes mattered, not least because Christians who believed the wrong thing would forfeit eternal life – or worse, ensure their own eternal damnation. Right belief, by contrast, opened the path to eternal salvation.” *Id.*
- ✓ “In the divisions of Anabaptism Luther sees a sign of its ungodliness. The Anabaptist limitation of baptism to the believer he considers entirely impossible, since the baptizer cannot look into the heart of a man to see whether he really believes. Such a baptism is a ‘baptism upon adventure’ (Mark 16:16), even if there is talk of ‘the sure faith;’ for the confession of the one to be baptized proves nothing, since he too is not ‘sure’ of his faith since he is of course not free of temptation. (One is impressed with Luther’s rejection of all anchoring of the grace of baptism in a human or emotional

activity such as ‘trusting and building upon oneself and not upon the word of God alone.’)” – from GAMEO⁸ wiki article, “Martin Luther,” May 6, 2020.

Or, putting it another way, would modern mental sciences exist in their current form without the triumph of Christianity in the West? Up to about 1300 A.D. medical doctors were required to have clerical training and clergy and medicine, until the age of science, has long been intertwined. Is it then surprising that eventually mental states of humanity (e.g., psychology) – long the obsession of Christianity – became a medical science in the late 19th Century? Sanity or normality in modern psychological sciences is nothing more than ‘right belief’ with a new tag, and insanity is another incarnation of “damnation.”

- ✓ “Contrarian Theodore Dalrymple ... has frequently described modern psychology as a modern religion, or pseudo-religion. The medical establishment is the brave new priest class, while the anxious therapy patient replaces the penitent sinner. If so, then Dalrymple must be a heretic of the first order. On March 24, Encounter Books will release his latest ... in which he contends that psychology has done more to impede human self-understanding than to advance it. Moreover, deference to psychology has led to a culture of self-obsession and diminution of personal responsibility.” – Spencer Case, “Doubting Psychology,” [Review of Dalrymple’s Admirable Evasions: How Psychology Undermines Morality (2015)], National Review, March 21, 2015.
- ✓ See power of civilization-level interpretation discussion, 2 Commerce, p. 1205, *infra*.
- ✓ See discussion of emotions, 2 Culture generally, *infra*. See also development of modern concepts of evil and emotions, Modernity Machines, 1 Technology, p. 696, *infra*.

“For example, the fact described by the true statement ‘Paris is the capital city of France’ implies that there is such a place as Paris, there is such a place as France, there are such things as capital cities, as well as that France has a government, that the government of France has the power to define its capital city, and that the French government has chosen Paris to be the capital, that there is such a thing as a place or a government, and so on. The verifiable accuracy of all of these assertions, if facts themselves, may coincide to create the fact that Paris is the capital of France.”

– from Wikipedia article, “Fact,” captured February 3, 2017

Citing Wikipedia: There is a general aversion in academia and professional circles to citing to Wikipedia articles, many or most schools and teachers and professional journals will/may not allow Wikipedia citations. Issues with citing to Wikipedia include amateur writing, editorial bias, editorial wars, the fact that the article may be changed later, and oftentimes, lack of verification and sometimes incorrect information. This is understandable, however, the majority of Wikipedia articles are written by unpaid people who are knowledgeable of the subject, and who genuinely care about the subject of their article and producing a good product. Other than hot button political topics, articles about celebrities and living political figures, or about specific products and trademarks, most Wikipedia articles are stable, informative, and generally well written.⁹

Additionally, regardless of your view of Wikipedia, you can look at the quote independent of the source, and see that the quote stands on its own merits for the purpose for which it was offered;

just because it came from Wikipedia doesn't make it incorrect, unusable, or a bad citation. Note also that the Washington Post and other media outlets have been occasionally citing to *Wikipedia articles* in the last few years, see discussion, 1 Diplomacy, EN 2, p. 1107, *infra*.

“I realize that I’m only one person, telling one person’s story. And I realize that the plural of anecdote is not data. My experiences are largely supported by the data, but they aren’t universal.”

– Greta Christina, “Puritan Pundits Should Chill Out – Here Are 5 Reasons I’m Happy I’ve Had Lots of Casual Sex,” *Alternet*, August 28, 2011 (emphasis added)

Flavors of Fact: Official interpretations should generally be regarded as facts within the current game in the same way that events in a story become facts to the characters in that story and to the audience even though they know or believe it is a work of fiction. Interpretations become ‘official’ by the process of:

- 1) Fitting within the definition and format of a particular interpretation type in the game,
 - 2) Being accepted by the Concierge (a liberal judgment call),
 - 3) And, *if necessary*, by also being ‘published’ in some form within the game.
- **Accepting the Diagnosis:** Oddly, it seems in the Rosenhan experiment, *ut supra*, that the psychiatric diagnosis only became ‘real’ when the patient accepted it by signing a paper agreeing to the diagnosis (so that they could be released). But medically, it was ‘real’ enough for the hospital to administer medications regardless of whether the patient agreed or not, or even took the medications. This is consistent with the way that mental phenomenon, including dreams, have been treated in the West throughout history, and consistent with the initial basis for the medicalization of mental treatments – they only become ‘real’ when they manifest themselves in either psychosomatic symptoms¹⁰ or socially-criminally deviant behavior, or a threat of injury to self or others. The rest of the time, they are just æther.
- ✓ The acceptance requirement of ‘official interpretations’ by the Concierge is similar to the situation described by Rosenhan in his famous experiment, where the players are the psychiatrists and the Concierge the patient. However, the question has been raised in Skinner Box experiments with pigeons whether the student is training the pigeon or the pigeon is training the student? In GGDM, the position players accept Fundamental Realities dealt by the Concierge (as the psychiatrist must accept as factual in some manner what is being reported by the patient who is being diagnosed) and News Events are ‘accepted’ both when posted by the Concierge and when they can no longer be modified by the players (see 2 Dreamtime generally, *infra*).
- **A Thing Done:** A fact is a thing which is done, something that has actual existence or occurrence, the quality of being actual, or information that has objective reality.¹¹
- Objectivist, positivists, and empiricism insist that facts are independent of humanity (e.g., gravity), however, it is axiomatic that appreciation of facts and application of facts in any way meaningful to us, cannot be independent of human perception and interpretation.¹²
- ✓ Another alternate definition of Fact: “Event, item of information, or state of affairs existing, observed, or known to have happened, and which is confirmed or validated

to such an extent that it is considered ‘reality.’” – Business Dictionary, businessdictionary.com.

This latter part of the definition is particularly relevant to Holocaust deniers, moon landing deniers, and those who think that millions of people voted illegally for the Democrat candidate in the 2016 Presidential election. My only response to these types is a suggestion that they acquaint themselves with the dictionary definition of “fact.”

- **Loud Barking:** Dogmatism is not fact, but is a ubiquitous part of our discourse (that’s a fact).
 - ✓ Oxford Living English Dictionary at *dogmatic*: **1:** Inclined to lay down principles as undeniably true.
 - Raise your hand if you are guilty! (*raises hand*)
 - ✓ Merriam-Webster online dictionary at *dogmatic*, **1:** characterized by or given to the expression of opinions very strongly or positively as if they were facts.
 - E.g., “Only humans are made in the image of God, have fallen into sin, and are in need of salvation.” – David F. Coppedge, “Extrasolar planets: a challenge to biblical cosmology?” *Creation* 36(3):42–44, July 2014 (creation.com). ☹ Really????
 - See Cardinal Baronius, 2 *The Sidereal Stage*, p. 117, 119, *supra*, for full quote.

Now ... that said, to what extent are my arguments and assertions in GGDM dogmatic? There is always a certain risk in trying to advance an argument or new possibilities, *to argue, one must very strongly express opinions*. In one of my worst arbitrations, we had a client who turned out to be a wet noodle on the stand; the case had to settle. Additionally, I think there is a fuzzy line between dogmatism and *a priori*; if a statement or assertion is generally accepted as *a priori*, then it is not dogma to those who accept it. Thus to the intelligent design believer and creationist, Mr. Coppedge’s statements may be considered *a priori*, and certainly not dogma. Yet, there are clearly statements and positions that are dogmatic, and a word needed to be invented long ago to describe them as a category of fallacy.

- ✓ Ted Koppel to Sean Hannity on CBS Sunday Morning: “You have attracted people who are determined that ideology is more important than facts.”

“But, if you make opinion and fact synonymous you can do or say whatever you want because, in the immortal words of Jeffrey Lebowski, ‘yeah, well, that’s just like your opinion, man.’ ... Opinions, of course, aren’t facts.”

– Chris Cillizza, CNN Editor-at-Large, CNN Politics, May 1, 2017 (referring to *The Big Lebowski* (1998))

“Opinion has to earn the status of strict knowledge.”

– Avi Sion, from abstract for his book *Phenomenology* (2005)

Five Types of Facts: Facts are not what they seem at first glance, they come in different flavors and shades. Judgment is the process of determining what sorts of facts are being presented and what they mean in the context of what is being decided; what weight or value alleged facts should be given to the matter under consideration.

There are approximately five classes or types of facts: There are Sensory Facts, Repeatable Facts, Accepted Facts, Deduced Facts and Uttered-Disputed Facts.

- ✓ Facts that appear currently in front of you, that is, sensory facts. Whether or not you are dreaming, awake or hallucinating or misapprehending sensory input is irrelevant to you, as, of necessity, what you sense at any moment is accepted as fact, normally without question. Your memory is fact to you, until disproven.
 - Consider this in the context of a broad range of situations such as magician and illusionist performances, movies, storytelling, video games, virtual reality, religion, ventriloquism, alcohol and recreational drug consumption.
 - **Doctor Who:** You know what the big problem is in telling fantasy and reality apart? ... They're both ridiculous. – Dr. Who, “Last Christmas” (2014).
 - I cannot imagine or credit that I wrote every single bit of this preposterous mimicry of intellectual endeavor. Yet, though I do not remember every single thought or keystroke, I know that I wrote and edited every version of GGDM all the way to this Final Version; the temporal continuity (i.e. Temporal Constructural Element) of memories over decades is fact *to me* until disproven. How would my design memory be disproven? Descartes come forth!
- ✓ Facts that can be proven by repeated and repeatable demonstration, such as physical laws, measurements, astronomical observations, and performance specifications.
 - For example, that the Earth is not flat. NASA has checked this out pretty thoroughly and most everyone is satisfied that the Earth is generally spherical.
 - In the dream-like movie Navigator: A Medieval Odyssey (1989), the characters who thought the Earth was flat reasoned that if evil were on one side of the Earth, good must be on the other side (envisioning the Earth like a coin, heads or tails).
- ✓ Things that are accepted as fact (having been actual at the time) due to the weight of other evidence deemed credible such as writings, photographs, artifacts, witness accounts, official papers, oral traditions, and so forth (i.e. history).
 - For example, the ‘fact’ that you were born. It is certain, from the common experience, that you do not remember being born. It is also certain from the common experience that you were born.
 - Here is the peculiar thing: The passage of time quickly renders many factual claims or narratives unfalsifiable. Contemporaneous records are lost, memories are lost, the rains come, people become tombstones. What we have then are narratives that cannot be disproven by any direct means and often compete with or are not quite in synch with other narratives. This is

what keeps historians up at night. We can only decide overall what seems more or less credible and given enough weight, those become ‘historical facts’ by general acceptance.

- ✓ Facts that can be deduced from other facts, or are necessary and fit within the framework of other accepted facts.
 - At law, there are certain claims which do not require direct evidence to prove; circumstantial evidence is sufficient. Courts are not required to be purblind or willfully ignorant when faced with lack of direct evidence. Similarly, early modern physics engaged in much of the same, the existence of subatomic particles was circumstantial.
- ✓ Facts that others uttered a factual claim (sort of meta-facts); where, while the claim may be disputed, that it was uttered or published by a particular actor or author at a particular time and place, is a fact,¹³ e.g.:

- “It’s only true that the president said it, not that it was the truth.”¹⁴

It can also be a fact that someone has or has offered an opinion, but an opinion is not fact and is subject to dispute.¹⁵

- Those who wish to dispute that certain historical events happened, often resort to this type of argument, the admission that everyone says it happened, that it is “officially” accepted as history, that it is widely believed to have happened, but that it’s all distorted or, worse, made up (usually claimed to be a collusion between the Government and Hollywood). And so on.

There is a very short line at which this would be considered sophistry, for example, the Stanford Encyclopedia of Philosophy article “The Analysis of Knowledge” begins:

- “What does it take to know something? It’s not enough just to believe it – we don’t know the things we’re wrong about.”

I could contend however, that I know the things I believe, and I am not wrong about that.

Of necessity, official Interpretations are ‘facts’ or ‘laws’ in the game universe, they are not just another position’s *opinion*. They must be respected as facts. They are dreamfacts. That is, what are called interpretations and opinions in the ‘real world’ are facts to the speaker and more generally, to civilization, *opinions are fact in the third and fourth orders of natural phenomenon*.

- ✓ “Dreams of war, dreams of liars, dreams of dragon’s fire, and of things that will bite.” – Metallica, “Enter Sandman” (1991).

“Known widely as Nazi chic, it’s different from the skinhead or punk swag you find in the West. The trend stretches beyond Korea – in China it was fashionable to dress up like Nazi officers in wedding photos, and a Hong Kong store once hung Nazi banners throughout their shop. In India, a Hitler boutique (with a swastika dotting the i) opened in Ahmedabad in 2012. In Indonesia, Soldatenkaffee, a bar named after a Parisian Nazi hangout and decked out with Hitler quotes and Third Reich flags, has (despite a temporary closure due to outrage) operated in Bandung since 2011; the Indonesia pop star Ahmad Dhani recently performed at a rally for 2014 presidential candidate Prabowo Subianto in Nazi regalia.

*But the worst offender in Asia is Thailand. In 2007, some Thai students had a Nazi-themed parade, and in 2012 a school held an SS sports rally. Some Thai language books that use Hitler in their exercises [sic], and a Bangkok KFC knockoff briefly called itself Hitler and used the Führer's face in place of Colonel Sanders's. In 2013, the country's top university had to apologize when students painted a giant mural of superheroes that included Hitler, with which they posed **Sieg Heil-ing**. And naturally they have Nazi-themed pop groups as well."*

– Mark Hay, "Nazi Chic: The Asian Fashion Craze That Just Won't Die," Vice, February 12, 2015 (emphasis in original)

Grinding Chic Fact: *Facts* have a great pull on the human worldview and the ability to suspend disbelief. The two-decade run of grindhouse Nazi-exploitation films demonstrates the matter perfectly; had anyone before 1945 proposed making or actually made such a film, they would have been rejected on the basis of sick insanity, and would have failed in the market due to moral outrage and the inability of the viewers to suspend disbelief because no one would ever do those things, or even want to see them portrayed on film, even knowing it is all fake. But after the second World War, the Nazi-exploitation films of the 1960s and 1970s were still sick, morally outrageous, extremely gross – but there was one important difference: they were based (very loosely) on recent historical facts, the climb to audience suspension of disbelief was much shallower, and there was a fascination in a certain part of the population with portrayal of the sadistic and masochistic acts in pseudohistorical Nazi chic.

- ✓ Compare the foregoing to stories that were written about travel to the moon before any living creature from Earth had experienced the zero-G of low Earth orbit. In 1611, Johannes Kepler wrote a story called *Somnium* which presented a trip to the moon in a dreamlike sequence – because, how else would you get to the moon other than by consulting a demon and having a dream? The unpublished *Somnium* may have led to Kepler's mother – a disrespectful, cantankerous old woman according to Carl Sagan – being charged with witchcraft.
- ✓ By 1898 however, when HG Wells published *War of the Worlds*, the readership had no difficulty suspending disbelief of life on other planets, advanced non-human intelligences, aliens travelling from Mars to Earth, and the existence of microbes. As the story was not morally outrageous (even considering the destruction of cities...and millions of dead...), and a basis of facts, systematic knowledge, and accepted conjecture (e.g., Christiaan Huygens book in 1690 arguing the probability of intelligent life on other planets) existed that made the story acceptable within the worldview of the time, if at the same moment, still quite *avant-garde*.
- ✓ "Last November, the all-girl Korean band Pritz took a ton of flak for performing in provocative outfits. ... But the criticism about these new outfits was different from the normal questions about purity or branding. It was about how much they looked like Nazi uniforms. Pritz's outfits featured sleek-yet-heavy black dresses, high collars, and red armbands with a black cross in the center of a white circle – four short lines away from swastikas. Amid the inevitable castigation from South Koreans and foreigners alike for their insensitivity, the band's managers claimed that no one on their creative team had any idea the getups would be construed as Nazi-esque." *Id.*

“The Dreaming... provides a moral authority lying outside the individual will and outside human creation... although the Dreaming as an ordering of the cosmos is presumably a product of historical events, such an origin is denied. These human creations are objectified – thrust out – into principles or precedents for the immediate world... Consequently, current action is not understood as the result of human alliances, creations, and choices, but is seen as imposed by an embracing, cosmic order.” – Myers, E. (1986)¹⁶

Endnotes.

¹ Commentary: What letters make up the word cat? Oh? Are you sure about that? When asked the question, “What letters make up the word cat,” many, if not most, literate English speakers will answer c-a-t with a certain indignation. But isn’t the answer really k-a-t? No? Who said so? Or perhaps I could answer t-a-c? Or c-a-a-t would not be more correct or incorrect than c-a-t as they contain the same letters. This goes to the essence of language, which is merely an agreed upon set of interpretations (in written form it is rules, grammar, punctuation, structure, and pronunciation – i.e. orthography of the language), and most of what passes for knowledge is merely language, while language struggles to express the most basic knowledge.

² Commentary: I am aware that either I may be accused of promoting “doublethink” or stating that “two plus two equals five” or that this game system might suggest the existence of a supreme being. None of this *matters* in the game.

³ Commentary: The ability to identify truly emergent minds *in our civilization* is something that humanity is very terrible at currently (IQ tests are woefully inept); we are always caught by surprise (we have enough difficulty understanding the mind as emergent *ipso facto*). Many who are considered gifted, extraordinarily talented, prodigal and are pampered in their youth add nothing remarkable to our society as adults (in fact, the high intelligence of famous serial killers has been a study in fascination, *Google it*), while others who are overlooked, tip the apple carts over later in life, even if just once, when circumstances permit. We attribute this to some mystical wonder of the human mind, by various mechanisms, but in the end, we are lost because we don’t even know where we are. Perhaps there is a hidden boon in this though, because the ability to detect true emergent talents would entail all sorts of risks of oppression, misdirection, and engineering (e.g., *Brave New World* (1932), *Ender’s Game* (1985)) for political, religious and establishment purposes of the moment; no establishment-supported paradigm, organization, business model or arrangement wants its apple cart tipped by some unheard of emergent upstart.

- ✓ “The brain is one of the [most] complex structures we’ve ever tried to understand. It consists of 86 billion interconnected neurons that somehow conspire to bring about our mental lives. They do so by forming networks at various scales: local neural networks are themselves part of larger constellations that in turn form interconnected regions that constitute the brain. The result is a complex, dynamic system that has global properties which cannot be reduced to the properties of its building blocks.” – “Social Cognition and the Brain/The Emergent Mind,” U21 (universitas21.com), captured February 16, 2019.
- ✓ “Over the last 400 years Physics has become the science that we have come to rely on to explain the behaviour of the universe, but in reality the universe has a range of behaviour from simple to complex. And although mathematical physics is good at explaining the obvious linear dynamics of cause and effect, it turns out that it fails quite miserably when it comes to explaining the not-so-obvious nonlinear dynamics of ‘*Natural Evolution and Emergent Complexity*.’.. Physics is, in a sense, a science of linear dynamics, a science of ‘*dynamics without feedback*’; such dynamics are indeed easily compressible, but the real world is a world that abounds with feedback, a ‘*nonlinear*’ world full of ‘*incompressible dynamics*.’.. Fortunately for us Mother Nature long ago figured this out, and evolution set to work designing a biological tool to model complex nonlinear dynamics. [Note: In the simplest possible terms, linear dynamics are dynamics where the effect is proportional to the cause, and nonlinear dynamics are where the effect can be disproportional to the cause.]” – Kieran D. Kelly, “The Emergent Mind,” *Incompressible Dynamics* (blog), (<http://www.kierandkelly.com/>), captured February 16, 2019 (emphasis and note in original).

- While ‘designed’ is perhaps a poor choice of words in the preceding quote, it was not offered here for that purpose. Writers really should not use ‘designed’ and ‘evolution’ in the same sentence in that way.
- ✓ “My purpose in this article is to discuss the bearing of the new theories of mind upon the old and tantalizing mind-body problem. Recent writers do not seem to appreciate how the problem has been shifted, nor how completely the old classical solutions have been superseded. I think that in the future we shall not continue to hear much about interactionism, parallelism, epiphenomenalism, double-aspectism, etc., except as interesting historical theories. It remains, however, to inquire much more carefully and thoroughly than I can in this brief paper, whether the emergent theory will be adequate to cover the facts.

It is my belief that more progress has been made in the past fifteen years in coming to an understanding of the real nature of mind than in all the centuries since Aristotle. We are, indeed, coming back somewhat to his view, which was that the mind is the use, perfection, entelechy of the body. We are accustomed to hear about the points of difference between the Neo-Realists, the Pragmatists, the Freudians, and the Behaviorists, but the points of agreement are more significant. These schools pretty well agree in regarding mind as adaptive behavior, as specific response, as selective control; more exactly, as that integration of vital processes which enables an organism to respond as a unit to a new situation in such a way as to conserve and enhance its well-being....

In defining the mind as that organization of vital processes which makes adaptive behavior possible, it is mind that I am speaking of and not consciousness. Endless confusion and misunderstanding would have been avoided, if psychologists and philosophers had steadfastly used the word ‘mind’ to denote this kind of behavior, this sum of capacities, and not the word ‘consciousness.’ It was most unfortunate that in the last decades of the last century, when suspicion began to attach to the words ‘soul’ and ‘mind,’ psychologists fixed upon the word ‘consciousness’ to stand for the psychological life in general. ... In recent years this relation is becoming clear. I shall refer presently to consciousness in its relation to the body, but at present I am speaking not of consciousness but of mind.

It is, therefore, with a decided feeling of relief or even of emancipation that we discover that the new conception of mind sets us free from all the old so-called ‘solutions’ of the mind-body problem, from interactionism, from parallelism, from epiphenomenalism, from the double-aspect theory, from subjectivism, and from materialism. I believe these ‘isms’ have been superseded. So also probably has the expression theory, the transmission theory, and the instrument theory. The brain is not the instrument of the mind. Rather the brain is the instrument by means of which nature achieves the mind. Mind and body do not interact, as interactionism and dualism teach. The mind is not a form of the mechanical interplay of atoms, as materialism teaches. The body is not a phenomenon or appearance or externalization of mind, as idealism teaches. Mind and body are not parallel as psychophysical parallelism teaches. Neither are they two sides or aspects of the same reality, as the double-aspect theory teaches. You cannot represent the relation of mind and body by any system of parallel lines, whether merely parallel, interconnected, or correlated with a third line, nor by two lines one of which is the shadow of the other. Mind is something which the body achieves, or which nature achieves by means of the body. If you must have a diagram, the ladder will be better than the parallel bars. When nature achieves the molecule, the atom ceases to be the thing of primary importance, worth, or even of reality. When nature achieves the cell, the molecule is eclipsed. When the organism is achieved, the cell is eclipsed. When mind is achieved, the body is eclipsed. Mind is a new reality, gained, achieved, won. It is, in Aristotelian phrase, the form of the body.

Evidently, if we want a name for this new notion of the relation of mind to body, we may call it the emergent theory. Mind emerges from the body. The theory of levels has taken the place of parallelism, interactionism, and the double-aspect view. It is hard to say which of these theories was the most unsatisfactory and the escape from them is wholesome. All the dualistic theories were unconvincing. There is no magic about the number two. Nature having achieved two, goes on to three and four. The monistic theories were little better, although, if mind be the supreme reality, there is a sense of the word ‘reality,’ which admits of a monistic interpretation, a monism of value perhaps. But the pluralistic view of reality is most satisfactory. Mind is real, consciousness is real, body is real, and so are many other things.” – G.T.W. Patrick (George Thomas White Patrick), “The Emergent Theory of the Mind,” *The Journal of Philosophy*, Vol. 19, No. 26 (Dec. 21, 1922), pp. 701-708 (available for free on JSTOR).

- ✓ “Metaphysics, said the late nineteenth-century idealist philosopher Bradley, is the finding of bad reasons for what we believe on instinct; but metaphysics has changed in the meantime, and is now the finding of bad reasons for what we cannot possibly believe however hard we try. All I can say is that the disbelief in the reality of consciousness or personal identity has never prevented anyone from copyrighting his book in which that unreality is argued; and I very much doubt that any author of such a book has ever been completely indifferent as to the bank account into which its royalties were paid.” – Theodore Dalrymple, Admirable Evasions: How Psychology Undermines Morality (2015).

⁴ Commentary: Thus, this game is the opposite of a ‘math exercise.’ It is also not a ‘language syntax exercise.’

⁵ Commentary: This summary is a fair reading of the original article which I retrieved from the Wayback Machine some years ago.

⁶ Commentary & Citation: Soviet Marshal Grigory Kulik is described in Wikipedia as a conservative officer, incompetent, Stalin-sycophant, “murderous buffoon,” who interfered with the modernization of Soviet forces, resisted mechanization and opposed tank production. In a Ranker article, he is described as a “military Luddite” linking to Roger Moorhouse’s The Devil’s Alliance: Hitler’s Pact with Stalin, 1939-1941 (2014) on Google Books where Moorhouse describes him as a “buffoonish liability,” “bullying incompetent,” possessed of “startling incompetence” and “antediluvian attitudes,” and that he “seemingly yearned for the simplicity of an earlier soldiering age.”

- ✓ I worked at a law firm once beginning in 2008 that did not have direct deposit for paychecks, despite years of promises. Their excuse was that it was very difficult to set up and their accountants didn’t know how. I called them out on their nonsense excuses by pointing out that the U.S. Marines instituted mandatory direct deposit when I was in Okinawa, Japan in **1986**. By 2008, 22 years later, direct deposit wasn’t new, or any great mystery and the firm was either lying or incompetent in the most basic, routine administrative tasks.

⁷ Commentary: This discussion is continued in Pieces of April and The Happy Hurdle, *et seq.*, 4 Culture, pp. 408-409, *infra*.

⁸ Citation: GAMEO – Global Anabaptist Mennonite Encyclopedia Online.

⁹ Commentary: It is unlikely that the low brains who spend their valuable free time vandalizing and editing certain Wikipedia pages to fit their current political, conspiratorial, sexist, or racist fantasy – instead of reading actual intellectual and educational books – will have heard of topics such as the Taiping Rebellion, metaphysics, the Laws of Logic, Kepler’s Three Laws, or the Dragonfly 44 Galaxy. Thus, those types of pages are probably safe.

¹⁰ Citation: e.g., “One night when Gubara was almost eighty years old, he was woken by a knock on his door. It was a pair of policemen, there to inform him that his studio had been confiscated by the government. Gubara was incredulous; but they’d brought proof. He looked at the letter they showed him, then looked up to the ceiling where moments before a neon lamp had been. Now there was only a thin line of light. The news had caused a psychosomatic reaction referred to as hysterical blindness.” – Nadja Kornith, “The Omega Man – Gadalla Gubara and the half-life of Sudanese cinema,” Bidoun (bidoun.org), Issue 20, Spring 2010.

¹¹ Citation: Merriam-Webster online dictionary at **1: a & b, 2:, 3:, and 4:**

¹² Commentary: Phenomenology then, appears to be the study of when and how facts occur or the generation of facts, and in what flavors they come. What sets phenomenology apart from what came before is its acceptance of looking and appearance as a *basis of fact*, and thus, fact is embraced in all of the orders of natural phenomenon (see Aspects of Sociology, 2 Culture, p. 371, *et seq.*, *infra*) *equally* to the extent that they can appear to us in some form. Within GGD, official interpretations are the axis of looking and appearance of facts in the game.

- ✓ The problem with third order facts from a medical point of view is that they only appear to the patient. Medicine was made to treat second order phenomena (“the vital organic”) and is not equally suited to the treatment of third order phenomena (“the mental organic”), and is completely unsuitable to address either of the other two orders (“the inorganic” and “the super-organic, or social”). Thus, third order ‘disease’ or ‘disorder’ is only known when it manifests itself in unusual behavior and criminality and has not been accepted as factual otherwise.
 - This second-third order (or in the old sense, perhaps the mind-body division) dichotomy, incidentally, is why mental health treatment has divided into two distinct groups: the medical doctors (i.e. psychiatrist and neurologist) who can prescribe medications render medical opinions, and the non-doctors (i.e. psychologist, therapist, and counselors).

- ✓ I woke up this morning and immediately as I got up started thinking of this (and I have no idea why; was I dreaming it, is the origin external? Almost as if by external prodding?) and it shortly manifested itself in this writing; this is not unusual behavior for me, but may be for much of the rest of humanity, and it's not criminal in most nations unless the thoughts manifesting themselves are against the government, cultural prohibitions or the domestic tranquility and good public order: As James Baldwin pointed out, "A reasonably sensible man is satisfied with thinking."

- Has this phenomenon always been there? In the not too distant past, such 'external prodding' would have been taken as supernatural, divine or satanic, depending on how presented; e.g., Saint Francis of Assisi or St. Ignatius of Loyola, both of whom would likely be placed in a psychiatric hospital now, many Biblical figures (who would be in the same hospital with them), or even people executed for being seers, oracles, witches. Nowadays, it is ancient alien spirits and various other inventions channeled to explain such phenomenon for some individuals or groups, e.g., The Urantia Book.

¹³ Commentary: At an arbitration in Manhattan where I was working one day, a witness was shown an excerpt of a Congressional Investigative Report, which was read into the record. The witness did not agree with or like the conclusions of the report, but was forced finally to admit that, yes, those were the words printed on the page and that they had been read correctly, and that it did appear to be a legitimate Congressional report.

¹⁴ Citation: Aaron Blake quoting unnamed source familiar with Sondland's expected testimony, "Gordon Sondland is about to blow a hole in Trump's Ukraine defense," Washington Post, October 13, 2019.

¹⁵ Commentary & Citation: I was fortunate when I asked my Clarence Marsh Case question on the Philosophy Forums in February 2019 (see 2 Culture, EN 9, p. 375-376, *infra*), to find someone who was actually interested in philosophy of social sciences. Over the course of a few days, the thread basically became a conversation between myself and user Galuchat, who is an academic in the south of England and didn't seem to mind my posts quoting from original materials or carefully written arguments. Within a short time after that conversation concluded, I discovered the basic flaw of the Philosophy Forums: The regular posters rarely refer to or quote original material and often don't seem to grasp exactly the issue they are arguing (they also don't fully read what is written before jumping in with knives in each hand, just like regular people, just like I've done in my youth); and they are offended or don't know how to respond when someone quotes source material in making arguments on the forums. Perhaps it was because I was new on the forums arguing in threads with the old boys club (which would also be a problem of human nature), but I am sure that my posts quoting source materials were ignored (or that they offended) because the people arguing there don't know how to respond to well-written posts, they have no source materials of their own to quote and my posts were not in accord with the casual free floating, source-free opinion style of argument on the forums. I came then to appreciate again a bit of Cicero from Rhetorical Theory class:

- ✓ "In fact controversy about a word has long tormented those Greeklings, fonder as they are of argument than of truth." – Marcus Tullius Cicero, Of Oratory (55 B.C.), Bk. 1 (trans. E. W. Sutton and H. Rackham) from Patricia Bizzell and Bruce Herzberg, The Rhetorical Tradition (1990), p. 207.
- ✓ Alternatively: "A controversy indeed on the word ORATOR has long disturbed the minute Grecians, who are fonder of argument than of truth" – Cicero on Oratory and Orators (1875, reprinted 1970), Translated by Rev. J.S. Watson, p. 18, found on the Internet Archive (archive.org) March 19, 2019.
- ✓ For context, I come from a civil legal professional background. Hardly a paragraph is filed (except for the Complaint) with the court in pleadings without citation to case law, orders, rules, testimony, exhibits, Bates-numbered documents, discovery responses, or prior pleadings in the case. We had an attorney who worked previously as a clerk to a judge; he said that when they received briefs he would skim through the pages to see whether the party cited sufficiently to case law in their arguments, if not, the brief was tossed aside. Briefs without citation to prior case law or rules are useless. Similarly, when going to court, attorneys bring notes, citations, and copies of pleadings and whatever else is needed, they come prepared.

¹⁶ Citation: Myers, E., Pintupi Country, Pintubi Self: Sentiment, Place and Politics among Western Desert Aborigines. Australian Institute of Aboriginal Studies, Canberra & Smithsonian Institution, Washington, D.C.

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See Appendix NEWS – News Event & Modification Example

“Truth Decay is defined as a set of four related trends: increasing disagreement about facts and analytical interpretations of facts and data; a blurring of the line between opinion and fact; an increase in the relative volume, and resulting influence, of opinion and personal experience over fact; and declining trust in formerly respected sources of factual information.

Four drivers, or causes, of Truth Decay are described: cognitive bias, changes in the information system (including the rise of social media and the 24-hour news cycle), competing demands on the educational system that limit its ability to keep pace with changes in the information system, and political, sociodemographic, and economic polarization. Various agents also amplify Truth Decay’s trends.

The consequences of Truth Decay manifest in many ways. The most damaging effects might be the erosion of civil discourse, political paralysis, alienation and disengagement of individuals from political and civic institutions, and uncertainty about U.S. policy.”

– Jennifer Kavanagh and Michael D. Rich, Rand Corporation,

https://www.rand.org/pubs/research_reports/RR2314.html, captured January 18, 2018

No Noose is Good News: Surely, it is no coincidence that Truth Decay sounds to the English speaker like, “tooth decay.”

A News Event is the *default Interpretation* related to each of the source positions’ Power Activations that is ‘broadcast’ to all of the players in the game through the use of the News Event game forum (each new News Event is a top level thread).

- ✓ There are some instances in GGDM where another Interpretation substitutes for the News Event on the Regular Turn the Power Activation occurs. These allow ‘invisible’ Power Activations that may be deceptive to the ‘card counting’ type players who watch to see how many Powers are activated by each position each Regular Turn.

The player submitting the Regular Turn Actions for their position will provide the full text of all required News Events in the correct format, which will be posted to the forum by the Concierge when the Actions are processed. While many online games have a forum where players can post comments about and discuss the game, the forum in this game is part of the game, not just about the game, so pay attention, or you may soon find that, “A funny thing happened on the way to the Forum...” (Roman farce, Broadway musical & film, 1966). All News Events must contain the following elements:

- **The News Brothers:** Each News Event must contain the issuer, i.e. the name of the position from which it originates. The issuer of the News Event will be published on the forums with the text of the News Event (for the purposes of retaliation – err, reaction to the News Event by other positions). It’s like an official press release – they can’t be anonymous. News Events cannot have fake issuers – if you want to blame something on someone else, see Plausible Deniability, 3 Special Operations, p. 1314, *infra*.
- **Power News Hour:** Each News Event must indicate to which Power Activation it applies. This does not have to be in the text of the News Event, and it will not be published on the forums (as that would constitute unnecessary ‘free intelligence’ for the rest of the players).

The only purpose of this component is so that the Concierge may judge if the proposed News Event ‘reasonably relates’ to the Power Activation to which it belongs and to insure that there is an Interpretation properly paired with each Power Activation.

- Truth or Dare: Each News Event must include an indication as to whether it is being presented as (absolutely) True or False by the issuer (aka, ‘spin’). This component will be published on the forums as it is information necessary for other positions to react to the news.
 - ✓ The Concierge and players should be aware of the *non-sequitur*; it informs humanity’s view, both collectively and individually on a daily basis, of the universe. None are spared.
- Text Message: The News Event must contain a short text blurb which describes the news and is reasonably related to the Power Activation to which the News Event relates. A News Event may be as simple as ... text which simply states what occurred during the Power Activation ... or it may be something a little less truthful/more creative/artful. The presentation of a News Event as absolutely true or false has little bearing on the actual truth or falsity of the event described in the text message (the Concierge may exercise discretion here).
 - ✓ Merriam-Webster online dictionary at *journalism*: **2:b** writing characterized by a direct presentation of facts or description of events without an attempt at interpretation.
 - So here’s the headspin: News Events in GGDM report ‘facts’ (i.e., Power Activations or even in some sense, made-up game facts for storytelling¹) and must be reasonably related to the Power Activation with which they are paired ... but they are also official Interpretations, *imposed* as ‘facts’ on the game universe, see Official Interpretation and Flavors of Fact, 1 Dreamtime, pp. 130, 134, *supra*. The tail that wags the dog. *Check?*
- News You Can Use: The subject or target of the News Event does not always have to be the issuer of the News Event, it may be adversely targeted at other positions. But it must always be related to a specific Power Activation (in terms of subject) of the issuer of the News Event, even if that Power Activation has no relation or effect on the target of the News Event (but it’s a fuzzy kind of thing, you know, a judgment call, an interpretation). The Concierge may reject or modify News Events targeted at other positions, based on his superior knowledge, if those News Events are deemed to be either impossible based on the Fundamental Realities and other factors of the targeted position, or if they are inconsistent with the evolving storyline of the game. The Concierge will exercise this authority *as rarely as possible*, preferring to give the most liberal possible interpretation to News Events.
 - ✓ Exploding Kittens not exploding?
- News Effect: A News Event must describe a concrete effect on the game, which is immediately applied to the game. The ‘effect’ of a non-adverse News Event that simply reports the Power Activation to which it is related is the Power Activation, and nothing else (a feedback loop). The further a News Event deviates from the Power Activation to which it relates, the more likely it will require some kind of an effect description. Adverse News Events targeted at other positions always require an effect. The effect should be clearly described in the text of the News Event. The effect of the News Event is considered immediate.

- ✓ “A feedback loop is a term commonly used in economics to refer to a situation where part of the output of a situation is used for new input.” – Financial Times Lexicon, captured October 8, 2017.

“Arthur C. Clarke’s famous phrase that ‘any sufficiently advanced technology is indistinguishable from magic’ certainly applies to tech’s impact on politics and society. While technology can greatly improve how or what we do as humans, it cannot yet change human nature. Social media has made people more able to maintain relationships, but it hasn’t led to better relationships. ...

Social media websites like Facebook, Twitter and Instagram certainly make it easier and cheaper to spread ludicrous beliefs, but these ideas existed long beforehand. The critical difference between now and 15 years ago is not the existence of social media platforms but rather that more and more people have decided to build businesses on selling nonsensical stuff to people who want to believe it.”

– Matthew Sheffield, “Fake News: Much more than Facebook scams and Russian trolls,” Salon, September 27, 2017 ²

The Taxil Hoax: Mr. Sheffield chose his words carefully because he knows it’s not a new phenomenon. For example, Léo Taxil who lived in late 19th Century France, made a career first out of satirizing and criticizing the Church and clergy, then converted to Catholicism, met the Pope personally and went on to spin wild unfounded tales about the Freemasons, whom the Church opposed.³ He sold thousands of books filled with nonsense and falsehoods, continually pushed the envelope of sensationalism and creative fact-making, and filled dinner halls with gullible people who paid to hear him speak.

His career, probably not coincidentally, coincided approximately with the Dreyfus Affair and rampant anti-Semitism in France, and the beginning of tabloids. He was in short, a journalistic huckster in falsehoods. Finally, after promising to produce a witness in person at a lecture hall in April 1897, he admitted the entire run was a massive hoax, his conversion to Catholicism was a hoax, and thanked the angry audience.⁴ He was escorted out by police in what must have been a near riot, and moved away. He died ten years later.

Information was gathered from Wikipedia articles, “Léo Taxil” and “Taxil Hoax” January 26, 2019, though I have known of this for many years previous. I especially recommend reading his interview confession published in the National Magazine, an Illustrated American Monthly, in September 1906 (he died six months later), which can be found in the Wikipedia article, “Taxil Hoax.”

- ✓ While Mr. Taxil’s strong self-serving, self-justifying 1906 public confession will drive ethicists to fits, they also contain a sad and useful observation of public gullibility (and the state of journalism), at least in the late 19th Century. Taxil’s comments gain credibility when considered in conjunction with other late 19th century phenomena such as Joseph Smith and the bizarre murderous career of H.H. Holmes; suggesting that Western populations in the late 19th century displayed an unusual level of credulity, probably a result of social customs, education and worldview.

- ✓ Mr. Traxil’s confession goes some long way toward explaining supermarket checkout line tabloids; the ones that hawk stories about UFOs and all sorts of weirdness. There are two sorts of tabloid viewers, the ones who find humor in the utter ridiculousness of their front page claims – the best one ever for me read, “Vampires in the US are dying of AIDS” (although the recent claim that NASA has a child slave colony on Mars is, per Mashable, enough to melt your brain) – and the ones who take tabloids entirely seriously, as if they were some sort of ‘underground press,’ printing truths that others would hide. I knew one of the latter type in my youth. But this pales in comparison to the number of people who follow – and believe – the bizarre bile conspiracy theories sent over the airwaves by certain modern talk-show hosts after the FCC withdrew the Fairness Doctrine. Still, there is a common thread from tabloid nonsense to modern political conspiracy theory and echo-chamber talk shows.

“The brain is a microcosm, creating its own stories. People then live out these stories.” – Seiichi Kirima, Boogiepop Phantom (2000)

“Human nature denies the past in order to justify the present. But do you believe there is anything in the present worth justifying?”

– Boogiepop, Boogiepop Phantom (2000)

The Nature of News Events: Although players can and most likely will use News Events as weapons against each other (these are called adverse News Events throughout GGDM), the News Event is not ‘caused’ by the issuer, rather, players should treat News Events as merely being reported by the issuer, whatever the outcome. News Events are neutral in nature, they represent entropy in the universe, and serve as a vehicle for players to create part of the background of the game and even engage in ‘storytelling’ (even if that story is the use of News Events as a weapon). Because News Events are not ‘caused’ by the issuer, they therefore, cannot be considered as inconsistent with any Meanings or Shared Meanings (see 3 Diplomacy generally, *infra*) that are held between the issuer and the target (though using News Events against Shared Meanings might be considered passive-aggressive behavior...playing outside the lines...stepping out).

- ✓ “We got the bubble-headed bleached blonde, comes on at five, she can tell you ‘bout the plane crash, with a gleam in her eye, it’s interesting when people die...” – Don Henley, “Dirty Laundry” (1982).

Note that News Events don’t need to be introduced to ‘explain everything’ that occurs in the game. This would be a fallacy against fuzziness. Sometimes things just happen, and the mystery serves better than the explanation. The excessive compulsion to explain everything and tie up all loose ends is a fallacy into which some famous fiction franchises have fallen.

- A Story of V: Retaliation against a News Event should only be in the form of a News Event and should not occur ‘in the game’ (by activation of the Combat Power to attack the issuer, to ‘kill the messenger,’ for example) as the *issuer* of the News Event is not the *cause* of the News Event (such actions should be considered poor decorum).

However, a distinction must be made between: 1) retaliation in-game (e.g., Combats, Break Treaty, etc.) *against issuers* of News Events and 2) perceived retaliation *by issuers* of News Events against in-game actions.

- ✓ For example, Position A launches a Raid or Strike against civilian targets at Position B's colony (see 4 Carriers & Fighters generally, *infra*), it is *colorable* for Position B to subsequently issue a News Event indicating that some peaceniks of Position A's government or population object to killing civilians, with a reasonably-related effect.
 - Merriam-Webster online dictionary at *colorable*, **1**: seemingly valid or genuine. The most common example now is 'colorable argument.'

This would actually be part of the natural storytelling flow of the game. Again, Position B is not the *cause* of the News Event (actually, Position A is) and should not suffer in-game retaliation by any other position for it.

“Why these numbers matter: If we lose the confidence that good ideas will overtake bad ones in the marketplace of ideas, if we lose the sense that we may disagree with offensive comments our neighbors say but we'll defend to the death their right to say them and if we lose the willingness to honestly debate hard issues, then the United States will keep becoming more tribal and, eventually, less free.” – James Hohmann, The Washington Post, October 23, 2017

Keep the Sand in the Sandbox: This game is for the players, and the Concierge will not intervene in player disputes about the fair use of News Events (however, News Events must follow standard forum/journalistic rules regarding acceptable language and decorum⁵). While there is a potential for great abuse of News Events (home planets blowing up mysteriously, and such), News Events are self-policing (as GGDM is designed to be self-policing and minimally invasive⁶), in that what one position can do with News Events, another position can do equally in retaliation, until either the players have wrecked the game through lack of restraint, retaliation, and escalation (sort of like, you know, what we do on Earth), or the players establish a standard, a *stare decisis*, a body of rules and precedents on what constitutes acceptable uses of News Events.

It is strongly suggested, *as an insulation against game silliness*, that News Events never be allowed to work *dues ex machina* effects as follows:

- ✓ A News Event may not work to conquer, steal, or take ownership of anything from another position. If you want to do that, you have to get your hands dirty and send in the war fleets. News Events may often be used to 'make something out of nothing' but cannot be used to take something that already exists from another position.
- ✓ A News Event may not work to directly elicit intelligence, it may not substitute as a Special Operation or intelligence question. There is, however, an overlap such that News Events may frequently act as Special Operations Black-ops or Counter-Operations, tit-for-tat.
- ✓ A News Event (except by the Concierge) may not be used to eliminate a position from the game (i.e. cause extinction) or to declare the end of the game, or to declare anyone the victor or to otherwise improperly influence the end or victory in the game.

- ✓ A News Event (except by the Concierge) cannot be used to simply make a star or planet ‘not exist.’ News Events can be used to make very bad things happen to stars, planets, whatever (all in generally poor taste), but they simply cannot ‘not exist’ once they have been discovered through exploration in the game (even if the newsmaker owns it).
 - ✓ A News Event may not be used to start, create, cancel, delete or modify another Interpretation (e.g., Kairotic Moment, Reformation, Writ, or Patent). That is, you cannot just ‘undo’ someone’s Patent with a News Event that says it doesn’t exist, nor can you ‘wish away’ a Kairotic Moment, Reformation or Thesis Statement when it is no longer convenient.
 - ✓ A News Event (except by the Concierge) cannot be used to instantly Convert or Naturalize an **alien colony**, or to cause it to defect from its current owner to another position.
 - ✓ A News Event cannot be used to cancel or delete, or even modify, a Fundamental Reality or add or remove Monads from any Public or Diplomatic Space.
 - ✓ A News Event cannot be used to create or make something exist in violation of the basic rules of the game. An exception might be made to this rule if doing so would be intriguing or of great interest to the game, but it should only be done after consideration and consultation with the Concierge.
 - ✓ A News Event should not retcon (‘retroactive continuity’) established history like a bad movie series or comic book. And please avoid nuking the fridge.
- **Fancy Foreign Words:** *Stare Decisis* is always the case cited by the next guy who gets caught. Apple, Inc. overlooked trademarking Steve Jobs’ name. Two brothers in Italy looking to open a clothing company started using Steve Jobs as the name of their company because they discovered it wasn’t trademarked; Apple sued them in European Court. In December 2017, Apple lost the suit even though defendants admitted freely that they intended to exploit and benefit from Steve Jobs’ name recognition (and used a similar logo, a J with a bite mark, like the Apple computer mark) without either his permission (or Apple’s permission) and without paying him or anyone for it. Presumably, if the name had been trademarked, they would have chosen another name and logo for their company. The next defendants in a similar situation will cite to this case decision when arguing they did nothing wrong.
- ✓ “*Deus ex machina* means ‘god from the machine.’ In Greek plays, no matter what happened, everything was solved in the end when a god (played by an actor strung up on ropes over the stage) came down and changed everything. In an RPG, it’s the same idea. Under *deus ex machina* GMs, the game’s rules, world, and story are all changed on whim, often several times per game. This problem often goes hand-in-hand with Monty Haul troubles: The GM gives away tons of treasure, then has NPC gods take it all away again. This is the poorest way to manipulate plots, and few players stand it for long.” – Steve Maurer, “The Pitfalls of Game Mastering,” *Dragon Magazine* #170, June 1991 (emphasis in original).
- **Diplomatic Protest:** A position that is the target of a News Event may file a Diplomatic Protest with the Concierge against the issuer within 24 hours of the posting of the News Event

by sending an email. The Diplomatic Protest will not be posted to the forums, unless requested.

A Diplomatic Protest does not require the activation of the Diplomatic Power, or any Power, and is not an Interpretation. Upon *acceptance* of the Diplomatic Protest, the Concierge will assess an Intervention Potential against the protestor and an Intervention Potential Plus (IP+) against the issuer of the News Event (another feedback loop of sorts).

- ✓ Diplomatic Protest has nothing (other than very generally) to do with the Diplomacy Power in GGDM.

Hostility is not an argument. For example, the anti-feminism I witnessed growing up in the 1970s consisted mostly of moustached, naked hostility, crude humor, and low-brow, below the waist line commentary – as is often the case in disputes between the sexes. Anti-feminism was not led by men of intellect and education writing eloquent truths (and certainly not by Bobby Riggs), rather it was a general hostility enforced by institutional and social discrimination. In reaction, political correctness and anti-discrimination legislation was introduced into the public consciousness. Thus, *a protest to a News Event should not consist merely that the target position doesn't like it*; the protest must be something more substantial regarding abuse, game wrecking, or bad decorum from the issuer of the News Event.

- ✓ “Any gun looks impressive when it fires blanks and makes a lot of noise.” – Prince Rudolf (Omar Sharif), *Mayerling* (1968).
- **Seconding That:** Any other position may second the Protest by sending an email within 24 hours of the original Diplomatic Protest email. A second to a Protest will cause the Intervention Potential assessed against the original protestor to be removed. A third to the Protest will add one Intervention Potential against the original issuer of the News Event. All subsequent support for the Protest will be ignored.
- ✓ Martin Luther protested diplomatically (in the manner of his times) abuses of Church power in 1517. His protest was seconded by burghers and some Electors of the Holy Roman Empire, whose protection he needed. He later protested the uprising of the peasants against the Electors and magnates that became the German Peasant's War (1524-1525) and was seconded in that by the magnates and Electors of Germany whose support he (thought he) needed more than the support of the masses of peasants. *When you act because you need support* instead of because something is ‘right’ you are a politician (essentially, that's the definition); by 1524, Martin Luther was a politician, if not before, if not always. Within ten years Luther was marginalized.

“Act only according to that maxim whereby you can at the same time will that it should become a universal law.”

“Act as if the maxims of your action were to become through your will a universal law of nature.”

– Immanuel Kant, *First Formulation of the Categorical Imperative*

Universal Legislator: Perhaps another way to think of Interpretations in GGDM is by way of Immanuel Kant's *universal legislator*. Kant's First Formulation of the Categorical Imperative, above, is especially relevant.⁷

In GGDM, the acts of the players via Interpretations become the universal laws of the game, even if only history – history may be regarded as a universal law in the same way as gravity: history will always exist, ever-present because of the directional flow of time (though there is a question of whether it is history if no one is there to record it?), see Temporal Constructural Elements, 1 Constructural Elements, p. 173, *supra*.

Kant's Third Formulation continues in part: "the idea of the will of every rational being as a universally legislating will," and in the Kingdom of Ends, he states, "Act according to maxims of a universally legislating member of a merely possible kingdom of ends." GGDM through various Interpretations makes the players the universal legislators of the game universe.

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There are some critics who charge that Kant's Categorical Imperatives are simply a rephrasing of the Golden Rule: "Do unto others as you would have them do to you." The Golden Rule can certainly also apply to GGDM (e.g., News Events, Diplomatic Protests), and is linked to the previous discussion of *stare decisis* in the game (*ut supra*). The Golden Rule, however, is never sufficient by itself to apply to all situations or religions, whereas Kant's Categorical Imperatives and universal legislator present a more complex, formal and nuanced system for resolving the ethics of acts.

- ✓ In Prof. Peter Suber's 1982 game "Nomic" the collective acts of the players change the rules of the game; as a group, the players act as universal legislators in the universe of the game. That is, in fact, the point of the game, players score points for changing the rules.⁸ Nomic was intended to demonstrate the politics of self-amending systems, such as the U.S. Constitutional government. I believe there is a strong continuity from Immanuel Kant (d. 1804) to the U.S. Constitution,⁹ and "Nomic" – not surprising since Mr. Suber is a professor of philosophy.
- ✓ Suppose as a universal legislator, I passed a law that every human above the age of eight years was required to nicely pet a cat every day. All cats would agree with that, even the feral ones if they could be made to understand. The dogs would probably object though (Diplomatic Protest), unless a law were passed that every dog must be petted nicely and have their head or belly scratched at least once a day. The cats would surely object to that (Diplomatic Protest), after finishing their afternoon nap, unless the barking of the dogs woke them up sooner.☺
- Unprintable Responses: Would you be offended if I told you, "Believe what you are told and do as I say because I said so and don't think or ask questions?" Of course you would and your response would probably be unprintable (aside from the question of commanding anyone to believe anything, see religion & psychiatry discussion, Dream Police, 1 Dreamtime, p. 132, *supra*). But that was the party line of the Church for over a thousand years (as Voltaire famously pointed out); anyone who thought, and thought differently, was a heretic or at least a suspect and shunned skeptic (e.g., Joanna of Castile, aka 'Joanna the Mad,' Galileo Galilei) and they launched Crusades and Inquisitions across Europe against Christians to make this point (e.g., the anti-Hussite crusades, the Roman Inquisition).
- ✓ This is reasonably similar to News Events and other official Interpretations in GGDM and on some level, will generate the same responses.¹⁰ Things exist in GGDM because some of the participants say so and that may not sit well with others. This echoes religious history in the real world, but there are two important differences in GGDM: First, other than the Concierge, all participants have the same authority in

the game (that is initially, the relationship of the positions is not oppressive) and second, the participants are collectively responsible for the game universe (as opposed to being, or maybe while also being, exploitive). Within the history of major religions, neither of these conditions is usually true: Religion allied with secular authority becomes autocratic, oppressive and exploitive. The Concierge must, of course, carefully avoid the appearance of being allied with, or exploited by, any position.

It is vital that no position be able to suppress or curb the ability of another position to post adverse News Events. The dogma of the Church could not force the sun, planets and stars to go around the Earth so as to become truth. Any position that is oppressed and censored by another is less sovereign; to the extent that anyone else can tell you what to do or not do, you are less sovereign (see *Relative or Zero Sum*, 2 The Sidereal Stage p. 114, *supra*).

Santa Claus: *You are deep inside this dream, all right, and it is a shared mental state, so it is drawing power from **the multi-consciousness gestalt** which has now formed telepathically and...*

– Dr. Who, “Last Christmas” (2014) (emphasis added)

Suspension of Disbelief: Suspension of Disbelief is the first requirement for *the multi-consciousness gestalt*; to gain something emergent, one must shed rationality. This is probably why we have a difficult time defining the terms; they work better when they are fuzzy.

- ✓ “As a writer, it is your job to keep the reader believing in your story, even though you both know it’s fiction.” – Margaret Atwood, Master Class video trailer.

In creative works of fiction and works of historical narrative, the audience depends on the author to supply the relevant facts of the situation in which the characters find themselves. The actions of the characters are measured against the facts supplied. *Suspension of disbelief*¹¹ depends on many factors including the internal logical consistency of the facts presented, the character actions and results, the extent to which the audience accepts the authenticity of the presentation.

- ✓ “It’s probably obvious by now, but movies like this aren’t for everyone. Your enjoyment (or tolerance) of the story requires a very strong suspension of disbelief, as nothing is explained in any kind of logical manner. Things just happen and, like the 14th century villagers, we’ve just got to accept them at face value. The fact that these occurrences – from the Black Plague and time travel to an endless supply of easy coincidences – are perceived by their primitive minds as evidence of a divine being doesn’t really matter: within the context of this story, such beliefs are perfectly justified.” – Randy Miller III, “The Navigator: A Medieval Odyssey (Blu-ray)” review, DVD Talk, July 24, 2018.

The audience must accept the events happening in a fictional world as authentic or real to the characters in the world, unless and until the author breaks the fourth wall or provides some clue that they are not (e.g., as in dream sequences, visions of a possible future, hallucinations). Character actions in a story, and position actions in GGDM, cannot be deemed authentic if they ignore or contradict established story facts known to the character.

- ✓ I was chastised at least once by an adult in my teen youth for “talking about fictional characters as if they were real people” (exact words I recall); I believe I may have

been talking in that instance about the characters from the Saga of Pliocene Exile (Julian May, 1981) and the person I was talking to (and rambling on) probably had no idea (or care of) what I was talking about. I am sure that I was (and am) quite annoying. Who knows, but I think it likely that they were correct, in fact I feel it is so, that fictional characters in the books I read were more ‘real’ (important, mattered) to me than the people around me, my family, the masses of students in my high school, the people on the field work crews where I spent my summers: Shadows all.¹² I don’t remember who chastised me but I remember the chastisement, the slight embarrassment I felt, but also the resentment and unfairness of it – the characters, stories, ideas and places of fiction in my mind had greater presence than the unhappy ‘real world.’

- Wall of Understanding: “[Alexander] Cain assumes his own interpretation with cut and paste ignoring the larger context of what is going on in the passage.” – Nick Peters, “A Brief Look At Alexander Cain,” May 6, 2015 (forum post, TheologyWeb). Context is an important concept. For example, you could read the Wikipedia articles about Faust (both the historical and literary figures, which are separate articles) and Faustian Bargain and absorb a lot of facts and history; but a whole new level of meaning arises in understanding the time and place where the figures allegedly lived:
 - ✓ For example, Martin Luther was born and lived in Germany in approximately the same period attributed to the Faust characters, published the 95 Thesis during that period, and the period during which the historical Doctor Faust(s) (there may have been two) were noted as travelling throughout Germany, coincides with the German Peasant’s War, the first rumblings of the Protestant revolt against the Catholic Church and the institutions legitimized by the Church. And let’s not forget the Black Death.
 - ✓ Thus at that time there was considerable acrimony, with the Protestants calling the Church corrupt, and the Church accusing the Protestants of being in league with the devil, and false doctors and charlatans roaming about.

Another example of context, Pink Floyd’s “Another Brick in The Wall (Part 2)” taken out of *sociocultural context* when released in the U.S. market as a single, was completely misunderstood by American youth as being an anti-education anthem (i.e. what they wanted to hear – and our society is to blame for that as well); and the endless replay on MTV of the video certainly reinforced it. Those who misunderstood are not the kind who would look to find out they were wrong; they preferred to keep their selfish ignorance.

- ✓ “PINK Floyd singer David Gilmour has said it ‘wasn’t a good idea’ to release one of the band’s most famous singles because of its refrain ‘we don’t need no education.’ Gilmour, speaking on the Andrew Marr Show on Sunday, was responding to Marr’s statement that he never ‘got’ Another Brick in the Wall (Part 2) with the presenter describing its lyrics – ‘We don’t need no education / We don’t need no thought control... Teacher, leave those kids alone’ – written by Roger Waters as ‘reactionary.’ [Gilmour speaking] ‘Roger [Waters] would say that it’s all in the context; I suspect now... I’m not sure how good an idea it was to put something like that out as a single,’ said Gilmour. ‘Roger was talking about the type of teachers and teaching that was fairly common in schools when we were growing up. But I think I wouldn’t put that out as a song right now.’” – Brian Campbell, “Pink Floyd’s Gilmour regrets Another Brick in the Wall lyrics,” The Irish News, November 2, 2015.

- See discussions of the Lancastrian system, Gradgrind, 1 Colleges, p. 463, *infra*.¹³

➤ **Conspiracy Theories:** All conspiracy theories must begin with a statement or claim that is opposite of or contradicts in some way the official or generally accepted understanding or explanation of a historical event (or sometimes, just the state of things, such as whether Earth governments have had secret contact with extraterrestrials). Around the contradiction are added and built up a different interpretation of facts (sometimes omission of facts), and suggested ulterior motives – because there is always a question of why ‘they’ are hiding something or lying on such a scale.

The whole package is then spun rhetorically on an unsuspecting audience in a way that doesn’t provide for questioning (which is why printed conspiracy theories are less effective). Conspiracy theories can be good or bad fiction (e.g., the alleged Nazi base in Antarctica), but sometimes there are actual conspiracies; rarer still is the ability to prove them definitively.

“White-gold was valued highly in Egyptian times. It was used as a symbol, close to the symbolic nature of yellow or white. White was symbolic of omnipotence and purity to the Egyptians – a symbol that is still valid today. Often used to represent the simple but sacred part of the Egyptian life ... Yellow for the Egyptians linked to the sun and gold, which were symbolic of their imperishable, eternal and indestructible nature. The Egyptians regularly used yellow in their art work to portray the gods, which they believed had gold bones. ... Tie white and gold together in a wedding ring and you have a symbol of purity, sacredness, eternity and an indestructible nature – all of which are the substance at the very heart of a marriage.”

– Marie Coles, “Traditional Connotations of White-Gold From the Ancient Egyptian Civilization,” ezinearticles.com, June 18, 2010

White Gold Wielder: The white-gold wedding ring is a key element of Stephen R. Donaldson’s Chronicles of Thomas Covenant the Unbeliever series and the final book of the Second Chronicles of Thomas Covenant is titled, White Gold Wielder (1983) wherein Thomas Covenant finally becomes the white gold: omnipotent, pure, imperishable, eternal, indestructible, beyond the world, and symbolically married to Linden Avery.

A game of GGDM (the story) is an (hopefully) educational, stimulating, collaborative, but adversarial work of fiction created by the participants. The unique feature of participatory group fiction creation is that the group is both the author and the audience at the same moment.¹⁴ The group thus has the dual and simultaneous responsibility of both providing the facts and accepting and acting on the facts of the game universe in a manner that encourages continued participation.

Group storytelling in GGDM is a collective emergent narrative, which is more powerful than a single-person emergent narrative created by video game play (see Emergent Narrative discussion, 3 Constructural Elements, p. 205, *infra*). With some professional postgame tweaking, the GGDM collective emergent narrative might raise to the level of a sci-fi work without characters (or maybe like Mike Resnick’s Birthright: The Book of Man (1982)).¹⁵

- ✓ To be successful as a collective emergent storytelling game, players must step out of the player view and think of the game as telling an epic history of starfaring people.

It is about these people, doing something, out there, and not about mechanics of Regular Turn actions, or failed Power Activations or regrettable decisions.

- The Urantia Book: One of the most intense and incredible (modern) acts of singular group storytelling or fiction is The Urantia Book, which may have involved up to 500 people over the course of four decades. According to the story, the book was received and written down via channeling from celestial beings visiting the Earth. Analysis has indicated that possibly up to nine people authored the book. Copyrights have expired on the book, which is now in the public domain. The free book, which is available online, is 2,197 pages in the indexed edition, which, considering the time it was created (mostly between 1925 and 1942), is astounding, and probably required many authors (if you don't accept the claimed authorship by celestial beings).

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If you want to read it, start on Page 53 of the PDF where you will immediately find such stunning concepts as “the geographic center of infinity and the dwelling place of the eternal God” (Forward). Infinity by common definition doesn't have a center, because it doesn't have boundaries. Their description of universes of universes circling around universes is not automatically infinity, it is finite.

- ✓ “Gooch notes that while its ‘somewhat dated, elegant’ prose could be read as fiction, due to its claim of divine inspiration ‘the book invites reactions far more scathing than [it] ... might otherwise merit.’” – quote and basic information taken from Wikipedia article, “The Urantia Book,” October 6, 2018.

The Urantia Book is not mentioned here as ‘recommended reading’; I downloaded it and read most of the forward and sampled pages here and there throughout the book. I found it tedious, condescending and confusing, and not all that interesting (see Lost in Ludibriums and preceding feature quote, 2 Kairotic Moments, pp. 1435-1436, *infra*); it is not the contents of the book that are interesting (rather the opposite), but the history and existence of it.

- Prester John: One of the most curious stories circulating around Medieval Europe was that of a ‘Prester John’ who reputedly ruled a powerful semi-mythical Christian kingdom ‘somewhere’ in the East. The story circulated for centuries, unsubstantiated, was embellished and rose in popularity whenever European Christianity felt threatened, as by the Mongol invasions, Saracens, Fatimids or the Seljuk or later Ottoman Turks; Prester John was supposed to lead an army of knights to attack Europe's enemies from behind. It was popular enough that someone even tried a fraud in the form of a published letter from Prester John in the 12th Century. This was in a time when Europeans were not even certain where India was located, or for that matter, Abyssinia (Empire of Ethiopia), or their extents and powers.

Prester John was associated with India at times, Abyssinia at others (Abyssinia was thought to be part of India in some texts); there was a known Jewish population in Ethiopia, the Beta Israel, who claim descent from the Tribe of Dan, and exiled Christian communities through Syria, Armenia, and Persia. Lack of European firm knowledge of anything beyond the Middle East (a solely European term, BTW) is almost comical; de Gama's ships finally reached Mozambique, Mombasa, and Malindi, just south of Abyssinia, and then onto the real India in 1498. And there was no Prester John or mythical Christian kingdom anywhere to be found. But the fevered dream had its purpose, just as people of the Cold War looked to benevolent cosmic spirits and advanced aliens to come save us from ourselves (against which Carl Sagan wrote in Pale Blue Dot (1994)).

- ✓ The *original* Battlestar Galactica (1977) was a sci-fi Prester John story – the beleaguered, embattled colonial refugees searching for a mythic kingdom of humanity to save them in the unknown depths of interstellar space.

“There are not always two sides to every story.” – Bob Simon

“Sometimes our job – our only job – is to stand there and point: This is what’s happening. Pay attention. Look here. Help here. Fix this.”

– Christina Ruffini (eulogizing Bob Simon) ¹⁶

Endnotes.

¹ Commentary & Citation: In a manner similar to the Traveller Bulletin published by GDW for the Traveller RPG game that was crucial in the unfolding Imperium Civil War in the transition from the Classic Traveller universe.

² Citation: “Christopher Blair produces false stories he insists are easily identifiable as satire rather than news. His pages can rack up millions of views, and at least part of that audience believes the material is true. Blair, 48, runs eight websites and five Facebook pages from his home in the northeastern US state of Maine. He says the claims his articles make are ‘ridiculous,’ such as that President Donald Trump’s current term could be extended by three years. But his content is widely shared by people who take it as fact, contributing to the spread of false information online. Blair – a self-described ‘liberal troll’ and political activist – says he knows what to write for his right-wing ‘target audience’ through years of ‘being embedded in their world.’ He does not hold that audience in high regard. ‘They live on... fear and hate and misinformation and very specific storylines that everybody knows aren’t true except for them,’ he told AFP. His content is rife with disclaimers: Satire. Fake news, fact-check. Nothing on this page is real. If someone clicks through to Blair’s articles, instead of instantly sharing them based on a headline, the warnings are visible. But often, it appears that people do not. Asked why people believe and share the articles, Blair answers: ‘Confirmation bias.’” – AFP, “Master of false news gives right-wing Americans headlines they believe,” February 16, 2020.

³ Commentary: The Freemasons became the target of the Church in France and especially Italy, because they were generally associated with the Carboneria (Giuseppe Garibaldi was a member of both) and both were strongly anti-clerical. The Freemasons were associated with France also, but the Carboneria, a native Italian organization, was very similar in all respects, except being French. Being French in late 19th Century Italy was very complicated, and not a in a good way, between the conquest of Napoleon I and the French occupation of Rome under Louis Napoleon (later, Napoleon III) in support of the Papacy. The secrecy and anti-clerical stance of the Freemasons also led to repression attempts in other European nations of the 19th Century and created a burgeoning industry of story fabrication and caricature of Freemasonry (e.g., Leo Taxil) for the gullible public of the late 19th Century.

⁴ Commentary: See Propaganda and Cartoon World discussions of The Big Lie, 1 Diplomacy, pp. 1091, 1106, *infra*. Hitler was born in April 1889 and was about 9 years old when Taxil admitted his hoax and walked away. Though Hitler probably never referenced Taxil directly, he accused Freemasons of being a Jewish tool in *Mein Kampf*. Freemasonry was banned in Germany in 1934, their property confiscated and Freemasons were rounded up, executed or sent to concentration camps where they were considered political prisoners. From Wikipedia article, “Suppression of Freemasonry,” January 26, 2019.

- ✓ So, while people might laugh at other gullible people spending their time and money on nonsense and transparently spurious claims, and some people making money from it, these are often just symptoms of deeper social movements and problems as demonstrated by the history of the last century.

⁵ Citation: “Journalists are obliged to report what people do. What people say is another matter. If I shoot you, my act of aggression will be described as it occurred. If I insult you I’ll be paraphrased. The American press thoroughly covered the Charlie Hebdo massacre – except it refused to publish examples of the cartoons the Islamist killers claimed to be avenging. ‘At what point does news value override our standards?’ asked Dean Baquet, editor of

the New York Times, which decided the cartoons were unprintable and as a reward was accused of ‘absolute cowardice.’ ... Virginia McCaskey is matriarch of the family that owns the Bears. If her son, George McCaskey, chairman of the Bears, tells reporters after a 5-11 season that his mom is ‘pissed off,’ what can they do but say so? But 20 years ago they wouldn’t have said so: dashes and euphemisms would have been marshaled to keep the sports section fit for eight-year-olds. It’s still fit for eight-year-olds, but they’re more worldly than they used to be. Jagoff is another matter.... *Jagoff* means the worst kind of jerk, all right, but it’s been traced back to northern Britain, where a thorn bush is known as a jaggerbush and to jag means to prick or poke. Immigrants brought jagoff to Pittsburgh, where it’s a proud regionalism....” Michael Miner, “When you call someone a jagoff, what exactly are you trying to say?” *chicagoreader.com*, January 13, 2015.

⁶ Commentary & Citation: Color analyst Bob Walk made this same argument in a Pirates baseball broadcast in June 2018 against those in baseball who are calling for a ban on defensive shifting (the baseball fad of the last 5-10 years). He said that the baseball players could defeat defensive shifting by simply hitting the ball to the side vacated by the defenders (“you could drive three school buses through the gap on the left side of the infield”) – the old baseball maxim “hit it where they ain’t” – and that imposition of a ban on defensive shifting would be an artificial rule to something the game can cure naturally.

- ✓ In a broadcast early in the 2019 season, he further commented – with some indignation – that it has taken players “three years to figure it out.”

⁷ Commentary: Kant was trying to find a rational basis for human moral behavior and to do so, he asked us to view it from a height, to be above and outside of ourselves when morally considering courses of action. I believe some of the criticisms of Kant on this are misplaced: While Kant was trying to find a rational basis for human nature, I do not believe he was deluded in the least that humans are rational or would always follow a rational regimen of moral decision-making. He only needed to pretend that we are better than we actually are to be universal legislators.

⁸ Citation: “Nomic is a game in which changing the rules is a move. In that respect it differs from almost every other game. The primary activity of Nomic is proposing changes in the rules, debating the wisdom of changing them in that way, voting on the changes, deciding what can and cannot be done afterwards, and doing it. Even this core of the game, of course, can be changed.” – Peter Suber, *The Paradox of Self-Amendment* (1982).

⁹ Citation: “Kant’s enthusiasm for the French Revolution, the American Revolution and the Irish efforts to throw off the English yoke are well-known. It earned him the unenviable epithet of ‘the old Jacobian’; though he condemned the excesses of the Reign of Terror and the execution of the King and Queen, these events which turned many of his compatriots against the Revolution and all its works did not make Kant modify his adherence to the principles of the Revolution; and even it was believed that he was to go to Paris as advisor to Sieyès.” – Lewis W. Beck, “Kant and the Right of Revolution,” *Journal of History Ideas*, Vol. 32, No. 3, July-September 1971, pp. 411.

¹⁰ Commentary: Just like when Peter arrived in Rome and informed them that they were sinners and had to quit their adulterous lifestyles. Whether Peter was ever in Rome is the subject of a massive debate (which I will not rehash here, *Google it*), unhappily for official Roman Catholic doctrine, but if so, it logically follows as to why he was crucified or killed while in Rome!

¹¹ Commentary: Reviewers of *The Time Traveler’s Wife* (2009) complained vaguely about an illogic of the movie or logical faults in the movie, more than one reviewer mentioned it. Whatever those are – none of the (secret cabal of) reviewers thought to back their assertions with evidence and explanation – they didn’t occur to me while watching the movie. I have seen a number of movies over the years whose faults jump out at the viewer and I usually immediately lose interest when my suspension of disbelief is disabused. However, it is also well known that holes can be poked in any plot, book or movie, starting with the underlying assumptions required and proceeding from there, and anything fantasy- or especially, science-fiction, literature tends particularly to run afoul of logic. Just as any work can be psychoanalyzed to profile the author, discover mental illness and cognitive defects (police do this, historians do this), and degrade the value of the author’s arguments and achievements. GGDM’s setting is science-fiction and the game story probably isn’t going to make categorical-syllogism sense.

¹² Commentary: I started working when I was 13 years old, and I am not talking about shoveling snow, mowing lawns a few times or delivering papers for pocket money or an allowance. I did *also* have an evening paper route from the time I was 12 years for over two years, so my early work days were about 12 hours and for extended times in my youth I worked seven days a week, because I also helped someone else deliver papers early Sunday morning.

¹³ Commentary: The Pink Floyd sociocultural context discussion was originally an endnote in 2 The Big Bang; it was deleted in mid-2018 during editing as irrelevant to 2 The Big Bang. The endnote was the result of a discussion that I was having at the time with a friend about “Another Brick in the Wall (Part 2),” Charles Dickens’ Hard Times (1854) and the Lancasterian school system. I read shortly afterward (so the conversation may have been in 2015) an article where Mr. Gilmour expressed regrets over releasing it as a single in the United States. Fortunately, I was able to recover the endnote from July 2018 back up files (and amazed that I had a memory of having written it – sort of the underground burrowing effect in time) and also found The Irish News article still online, though I am not certain that is the original article I read back then, but is very similar.

- ✓ We went to see Roger Waters’ The Wall at the Consol Energy Center (home of the Pittsburgh Penguins) on July 3, 2012, it was a fantastic show. We had seats off to the side of the stage, a dozen or so rows up, and the airplane in the beginning flew right over our heads and crashed into the wall.
- ✓ I think it was the 2012 show, because it was right after we went to see the Asia 30th Anniversary Tour at the Carnegie Library Music Hall in Homestead.

¹⁴ Commentary: There is at least a colorable argument that dogma (*ut supra*) and religious morality kills fiction in a culture, especially when they are backed by legitimized force. The best-known example in the West is that of Shakespeare and his censor(s) (e.g., the Master of Revels, and the ferocious censor of the Holy Office in Spain, Guillermo Sanchez), but there were countless others, then and now (e.g., Thomas Bowdler’s The Family of Shakespeare (1807)). In a country where dogma and piety abound, the audience is not watching the works to be entertained, they are looking for violations of dogma and piety, or if they are being entertained, their line between entertainment and offense is extremely thin; there is no patience, no charitable feeling toward the entertainers. And it is well known that dogma tried to bite science as well, until it was eventually moved off to the side and tied to a leash.

¹⁵ Commentary & Citation: After reading another movie review accusing the movie that I just watched – and liked – of having wooden dialogue and wooden characters (which apparently I didn’t notice), I searched the internet trying to understand the criticism. I’ve always wanted to write science-fiction short stories. But I have no feel for writing dialogue, no real feeling for characterization of humanity, and without that, any short story I might write will simply look like my text in GGDM (or perhaps something like Franz Kafka’s “Metamorphosis” (1915)). I searched for an article that can explain what makes dialogue wooden; there are a bunch of forum discussions out there, but none of them really nailed the point for me beyond the superficial. I found a long blog by fiction editor Beth Hill, giving categories and examples of bad dialogue in fiction, and I knew that I’d trip over every one of them, except perhaps that I would not replicate Ayn Rand’s 70 page uninterrupted John Galt speech. My tendentious pedant style in GGDM text, which some might call preachy at times, developed to fit the task of conveying GGDM as I envisioned it. Fortunately, it is not fiction dialogue. Only the movie 2001: A Space Odyssey (1968) struck me as being stiff. For the aspiring fiction writer: <http://theeditorsblog.net/2011/11/03/bad-dialogue-bad-bad-dialogue/>.

- ✓ I apparently don’t know jack about what makes a good or bad movie. After watching Somnus (2016) in 2018, I read about ten reviews of the movie. I was sure wooden dialogue would be tossed out, but it was not mentioned in any of the reviews. In any event, I won’t say Somnus is the best movie I’ve seen, but I didn’t think it was awful exactly – but close. Pulling the deceased wife’s head out of the ship’s AI core was the worst part. The main point that turns me off on a movie is either too much action/explosion so that there isn’t really a story (or without context, which frequently occurs in the beginning of anime series), or worse, movies that are just dumb or offend my intelligence: I hated Demolition Man (1993).
- ✓ I finally found a movie whose dialogue was soooo bad (in addition to some other issues) that I couldn’t stand to watch it: Sorceress (1982). The dialogue was apparently written by someone who played way too much Dungeons & Dragons (and smoked grass probably) in the 1970s. It is probably just like the dialogue I might write. I sat next to a Pathfinder RPG group at the club a couple of years ago and they sounded like the bad movie dialogue, especially when the GM was reading from the module or speaking for NPCs (in addition to several other issues with their adventure). In fact, the entire movie seems like it was someone’s Dungeons & Dragons adventure module, and that perhaps, is revealing about how fantasy role playing is actually conducted – imagine if your role playing adventure were made into a movie?
 - Wooden dialogue is apparently like deception in pitching in baseball, which Pirates broadcaster Bob Walk argues is something that no one really knows what it is... but it happens.

¹⁶ Citation: “Bob Simon: There are not always two sides to every story,” by Christina Ruffini, CBS News, February 12, 2015.

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“Still, bogus content on Facebook is arguably a symptom of a bigger problem – the ‘filter bubbles’ created by blogs, social media, and other distribution platforms that help people consume only information that appeals to their existing biases and opinions. These ideological echo chambers thrive on Facebook, where the news feed algorithm is designed to surface the content most relevant and appealing to you. Such personalized news could also undo the tools to curb fake news that Facebook is now rolling out.”

– Alison Griswold, “Facebook’s fake news tools are no match for the Facebook echo chamber,” Quartz, December 16, 2016¹

The FCC Fairness Doctrine: The elimination of the Fairness Doctrine by the FCC in 1987 created the environment for echo chambers and paved the way for right-wing talk radio programming. To be sure, the Fairness Doctrine only applied to licensed broadcasters in an era of limited channels; it did not apply to printed media and art which already had publications catering to various ideologies. Further, the popular internet had not yet become and it is questionable whether the FCC would have been able to impose the Fairness Doctrine upon the internet. But the beginnings of the filtered news, modern echo chamber can be traced to 1987.²

- ✓ “...and he proposed reinstating the so-called ‘Fairness Doctrine’ over the weekend. (A government-mandated ‘fairness doctrine’ is a profoundly unconservative idea, and its repeal in 1987 – championed by the Reagan administration – helped allow for the proliferation of conservative media outlets in the 1990s.)” – James Hohmann, The Washington Post, October 12, 2017.
- **Winnowing the Hot Air:** Whenever you read or hear a statement, comment or argument that you (or others) consider controversial, you should first ask yourself if you can say with certainty that any factual claims contained therein are demonstratively or undeniably false or misleading. Many facts offered in a controversial statement, argument or commentary, are disputable, can be presented in a misleading way, but cannot be definitively proven or said to be either true or false; a fact that cannot be proven false must be in some sense true. There is also a difference – regarding controversies – between disagreeing because some facts are false or misstated, and disagreeing because you don’t like the conclusion.
 - ✓ “Just as a lot of conservatives ignore evidence of climate change, the study shows that many liberals disregard mounting evidence that vaccines and genetically-modified crops are safe. The report faults leaders on both sides of the immigration debate for misusing data and statistics, blurring the line between opinion and fact.... The team at Rand thinks that ‘truth decay’ poses a grave threat to the country’s future. Not only does it lead to the uncertainty that comes from schizophrenic policymaking, it also alienates people from the political process and drives detachment from democracy.” – John Hohmann, The Washington Post, January 18, 2018.

“The Rashomon effect is a term related to the notorious unreliability of eye witnesses. It describes a situation in which an event is given contradictory interpretations or descriptions by the individuals involved. The effect is named after Akira Kurosawa’s 1950 film Rashomon, in which a murder is described in four contradictory ways by four witnesses. The term addresses the motives, mechanism and occurrences of the reporting on the circumstance and addresses contested interpretations of events, the existence of disagreements regarding the evidence of events and subjectivity versus objectivity in human perception, memory and reporting.

The Rashomon effect has been defined in a modern academic context as ‘the naming of an epistemological framework – or ways of thinking, knowing, and remembering – required for understanding complex and ambiguous situations.’ ...

A useful demonstration of this principle in scientific understanding can be found in Karl G. Heider’s 1988 journal article on ethnography. Heider used the term to refer to the effect of the subjectivity of perception on recollection, by which observers of an event are able to produce substantially different but equally plausible accounts of it.”

– from Wikipedia article, “Rashomon Effect,” captured October 27, 2019
(emphasis added)

The Absolute Truth: News Events are absolutely true (or false, depending on the spin assigned to the News Event) at the moment they are published on the forums (and this bears no relationship at all to what players believe is true or false about the game), and their effects are immediate and permanent. From that point on, however, the truth is negotiable as other positions are allowed to modify (but not contradict) the absolute true or false statements of the News Events.

- ✓ **Marge:** You loved Rashomon! **Homer:** That’s not how I remember it. – The Simpsons, “Thirty Minutes Over Tokyo” (1999).
- ✓ By Heider’s definition, a Byzantine Fault is the computer version of a Rashomon Effect: “A Byzantine fault is any fault presenting different symptoms to different observers. A Byzantine failure is the loss of a system service due to a Byzantine fault in systems that require consensus.” – from Wikipedia article, “Byzantine Fault.”
- **And Nothing but the Fuzzy Truth:** Any News Event may be subsequently modified – but not directly contradicted (sort of a Rashomon effect) – by any position, including the source position, however, the source position may not be the first to modify its own News Event (otherwise, it wouldn’t be absolutely true or false at the moment of publication). Positions may modify News Events until such time as all positions have had a turn since the News Event was originally published (i.e. a Turn Cycle), at which time, it is closed and becomes history.
 - ✓ Like a baseball pitch – spinning, curving, dropping – it is what it is when it passes the plate, regardless of the intent of the catcher and pitcher.

A position may only modify each News Event or a modification of a News Event once.

- ✓ In the fandom terminology of certain large, well-established video science-fiction franchises, News Events and all modifications become *canon/canonical* in the current game universe, and should not be retconned.
 - See retcon discussion, Things That Are True, 2 The Big Bang, p. 6, *supra*.

- The Modified Truth: Modifications to News Events by any position that is eligible to and desires to modify the News Event are posted on the forum by the Concierge in the thread for the News Event. The modification to the News Event must be submitted with the position's next turn actions, is considered a News Event for Power Activation purposes, must bear some reasonable relation to the News Event or the most recent modification, and may not directly contradict the original News Event or most recent modification (the Concierge exercises ultimate discretion). Like the original News Event, the modified News Event is absolutely true or false (for game purposes) at the time of the modification and the effects are immediate and permanent. Modifications can be legally modified, *ad nauseam*, until they become history.

- ✓ Modifications can only be submitted with turn actions, so opportunities are limited.

A modification cannot be used to 'undo' a Power Activation (which would then undo the News Event based on the Power Activation) or manipulate, nullify, return, or reduce Acts and Scenes required for a Power Activation; News Events should (but are not prohibited from), for game sanity, avoid giving free Acts and Scenes. Don't ever wish for more wishes.

- ✓ This is probably the reason why there are no more genies in lamps; some greedy human knave wished for more wishes, tore a hole in the fabric of the universe, and now there are no genies left to fix it.

- Forms of Truth: *A modification News Event is a News Event in its own right.* Like the original News Event, all modifications to the News Event must contain the required elements and must specify which posted News Event is being modified. For the purpose of modification only, the prior News Event on which the modification is based replaces the Power Activation requirement, for all purposes, in the News Event that modifies a prior News Event.

- ✓ Modifications of adverse News Events are automatically adverse News Events even if intended to help the original target position. The game makes no distinction. A non-adverse News Event cannot modify an adverse News Event, but must be its own top thread. Modifications of non-adverse News Events may be adverse News Events.

- Subplots and Twists: Because a News Event is an Interpretation, a modification of a News Event may not modify or destroy the original News Event in the sense that it cannot directly contradict the original News Event or completely nullify the game effects of the News Event. However, since the 'modification' is itself a News Event, it carries its own equal force, it is a 'modification' of the original News Event in the sense that it is a continuation of the News Event upon which it is based.

- ✓ Playing GGDM is like editing on Wikipedia: If you are concerned about others modifying or even using your perfect idea, expressed in perfectly written text, if you need to own your literature, then this probably isn't for you.

- See Dis-claim-UR discussion, 3 The Big Bang, p. 18, *supra*.

“Fake news doesn't get retracted or corrected because it's specifically designed to deceive; detachment from fact is a feature, not a bug, as the saying goes.”

– Robert Schlesinger, “The Maestros of Fake News,” U.S. News & World Report, July 7, 2017

Red Purge: Modification of News Events is not as complicated as it may seem, a historical example may help: In 1936 (the year of the Berlin Olympics), German intelligence learned of a plot by a top-ranking Red Army officer to topple Stalin.

Reinhard Heydrich (of later Wansee Conference fame), then the head of the Security Police, which included the Gestapo that he created, and head of counterintelligence, presented a plan to Himmler and then to Hitler, to expose the plotter to Stalin so that Stalin would purge the Red Army and/or create an air of suspicion in the relationship between Stalin and the Red Army. Hitler approved the plan and Heydrich then had his services create forged documents implicating the officers alleged to be plotting the overthrow of Stalin. These documents were provided to the Soviets. *Heydrich was played by Stalin.* In fact, Stalin had ordered his NKVD agent General Nikolai Skoblin to pass the false information to Heydrich expecting the Germans to do exactly what they did, thus manufacturing evidence for the Red Army Purge of 1936-1938.³

- ✓ Information for this example was taken from Wikipedia articles, “Reinhard Heydrich” and “Great Purge,” September 27, 2018. Whatever reservations you may have about information from Wikipedia, please just accept these as absolutely true facts for the purpose of this example.

These events might play out as follows in terms of GGDM adverse News Events:

- ✓ *Initial News Event* issued by Red Blok states that the UNA have carried out a purge of their top officers after discovering a plot to overthrow their supreme leader. The effect of the News Event is that the UNA lose one half of the faculties from the Combat College.
 - It is possible that this News Event might have no effect; Red Blok may not actually know if the UNA has a Combat College, that is, many News Events might be ‘shooting in the dark.’ Red Blok and UNA may not have had First Contact. However, adverse News Events that have no effect may still cost the target a Maintenance Shield, see 4 Order, pp. 566-567 *et seq.*, *infra*. Whether an adverse News Event has any effect is never revealed.
- ✓ *First modification* of the News Event issued by the Therians, the eternal scheming trouble makers, adds that the evidence used by UNA against the alleged plotters was entirely fabricated and passed to them by ONI Corporation (a position, not a GGDM Corporation or MegaCorporation), who is seeking business from Red Blok. The effect of this is that an Intervention Potential Plus (IP+) is assessed against UNA. This mod is not a contradiction of the initial News Event and is a News Event in its own right.
 - Whether IP or IP+ can be assessed in a News Event is unclear and up to the Concierge, but once the precedent is established, it must be followed consistently. It is in effect saying, there will be trouble later because of this, passing the buck (in the historical example, the Red Army lost many of their best officers to the Purge and suffered later in 1941). The Concierge is in no way required to use the IP+ in relation to the News Event, but can use it freely, emergent narrative can fill the linkage later if necessary.
- ✓ *Second modification* of the News Event issued by the UNA states that the evidence against the plotters was solid and that the falsified evidence was irrelevant. The result

- is that the Intervention Potential Plus (IP+) is reduced to a regular Intervention Potential. Note that this does not directly contradict the Therians' News Event, which is still absolutely true (sort of...). It also does not contradict the initial News Event (which may be irrelevant if UNA doesn't have a Combat College).
- Hair splitting time: The UNA News Event is not a direct contradiction to the initial News Event by Red Blok because it does not say that the purge never happened, or entirely abrogate the results. It also does not contradict the Therians' News Event because it does not say the falsified documents don't exist and it does not abrogate the results. Neither event then is entirely erased by the Second Modification.
- ✓ Finally, the Karmans issue a *third modification* to the News Event stating that the Therians secretly control part of ONI Corporation and their plot has been discovered, causing the Therians to lose one Diplomatic Space with ONI Corporation.
- Since ONI Corporation is a position in the game, it is not literally true that the Therians control ONI Corporation, here is an example of how the News Event is absolutely true, regardless of what the players in the game know or believe to be the truth. Additionally, the Karmans may not know if the Therians and ONI Corporation share Diplomatic Spaces or anything else, so again, there is possibly no effect. Like IP and IP+ assessments, the game participants will need to decide if Diplomatic Space can be created or lost by News Events, and once the precedent is set, must follow it consistently and try not to abuse it.
- ✓ At this point, it's all becoming kind of convoluted and conspiratorial and the situation has played itself out, UNA has possibly lost some faculties from the Combat College, an Intervention Potential has been added to the game, and the Therians may have lost a Diplomatic Space with ONI Corporation. Other News Events have posted, the players get distracted or move on, eventually posting to this News Event is closed by the end of the Turn Cycle, having become part of the Absolutely True history.
- Note that each position modified the News Event once on their Regular Turns as described above in The Modified Truth, *ut supra*.
 - Yes, these faction names were all borrowed from the tabletop miniatures wargame, AT-43, solely for amusement purposes. Both AT-43 and its publisher, Rackham Entertainment, are defunct since 2010.

“In quantum mechanics, wave function collapse is said to occur when a wave function – initially in a superposition of several eigenstates – appears to reduce to a single eigenstate due to interaction with the external world; this is called an ‘observation.’ It is the essence of measurement in quantum mechanics and connects the wave function with classical observables like position and momentum.”

– from Wikipedia article, “Wave Function Collapse,” captured August 25, 2019 ⁴

Eigenstates: News Events are eigenstates in the game. A die roll result or blind card draw is also an eigenstate in whatever game is being played. It creates a value that *is for that moment*, the known, determining value/state in the game. The state of the game changes on the next action taken by the players. Before that, it is a cloud of probabilities. Humans have been playing with eigenstates since the beginning, sometimes it's been part of religious-mystic ritual. GGDM just does something a little different, News Events inject conscious choice into the eigenstate.

- ✓ Eigenstate is achieved in chess and non-random games as well. Each move by a player is an eigenstate of the game in that instance, until the next move. Each move changes the state of the game, and projects a cloud of probabilities of direction, momentum, position, and spin. Your life, your move!

How well this system of News Events and modifications works is critical to the game and dependent on the systems available to and the diligence of the participants in implementing the game story. During the preceding Red Purge fracas, positions may have processed Regular Turns which were both influenced by the data and changed the data in a dynamic flux of the game (and added new News Events, followed by modifications); Regular Turn submissions may be timed on the effects of the News Event modifications depending on how the game data modification process is implemented. There are two possibilities:

- ✓ The original concept of the News Events was a forum, like a normal online forum used by discussion boards and game clubs, but if the forum were internalized to the game program, it might be possible to implement a system where the effects on game data from News Events and modifications can be implemented instantly by the posting if accompanied by either Deep Learning AI or some sort of quasi-programming language. This then creates a need for position data to be updated constantly and to be downloaded to the players, checked by the players, constantly, daily, during the game, even when it is not time for submission of their position's Regular Turn actions. There are pros and cons to this depending on the group; it is very engaging but also possibly very tiring, like the current ongoing 24-hour news cycle (or like a RTS game or never-ending MMORPG world).
 - I can be a bit of a news junkie – maybe the quotes included in GGDM would provide a hint – but even I burned out.
- ✓ If an online forum system, as originally envisioned, is used, then the Concierge will need to manually and regularly input the changes, possibly with a few Interventions tossed in while doing the task (see 2 Entropy, *infra*), and how the dynamic of Regular Turn timing and News Events and modifications plays out will depend on the Concierge's schedule (again, like group DMing, the Concierge position may require two or three duty officers), regularity, and dedication. A position's data may still change in important, if small, ways during the Turn Cycle and this will either need to be tracked by the players on their own until their next Regular Turn is processed and new results received or they will need to have the ability to get updated information at any time.

In short, I admit – and have admitted throughout – that the implementation of this game is problematic and complex and that even reading the rules is a considerable effort.⁵

- ✓ Merriam-Webster online dictionary at *eigenstate*: a state of a quantized dynamic system (such as an atom, molecule, or crystal) in which one of the variables defining the state (such as energy or angular momentum) has a determinate fixed value.

“And this, YouTube does incredibly well. ‘YouTube recommends right-wing videos to people watching similar right-wing videos,’ Zack Exley ... writes in a recent study of a prominent alt-right YouTuber. In the same way, YouTube sends left-wingers into a bubble of left-wing videos, fundamentalist Christians into a fundamentalist Christian bubble, and people who love to knit into a vast universe of fellow knitters. Among other things, that’s made it easy for the platform to host tons of content that some would find deeply offensive, and elude controversy – because YouTube only recommends what it thinks you want.

And if you don’t go looking for neo-Nazism, or videos of decapitations, you won’t be directed to them. You’d never know they’re there. But those videos were there, all the time, ready for any 15-year-old alienated white boy to find with a couple of key-strokes. He gets what he thinks he wants, too – and then some. This was part of the bargain of an open internet, but it wasn’t one that most of us had given much thought to – even if we’d stumbled onto some of the ugly stuff from time to time.”

– Bob Moser, “How YouTube Became the World Wide Leader in White Supremacy,”
New Republic, August 21, 2017

Expose’ and Special Bulletin: A Special Bulletin is a News Event posted by the Concierge with an Intervention (see 2 Entropy, p. 235, *infra*).⁶ A Special Bulletin may be in any form desired, and may have any effect, or no effect; and may not be altered by the players.

- **The Expose’:** An Expose’ is an inviolate News Event posted by a position that is the result of the Reification of a Zeitice (see 4 Writs generally, *infra*). An Expose’ may not be changed or altered in any way by other positions, and the Expose’ may only affect the position posting it in reasonable relationship to the Zeitice that was reified. An Expose’ does not require a Power Activation and does not report on a Power Activation. Expose’ and Special Bulletins are both considered singular Absolute Truths in the game.

“Aristotle cited the laws of contradiction and of excluded middle as examples of axioms. He partly exempted future contingents, or statements about unsure future events, from the law of excluded middle, holding that it is not (now) either true or false that there will be a naval battle tomorrow but that the complex proposition that either there will be a naval battle tomorrow or that there will not is (now) true.”

– Encyclopedia Britannica online article, “Laws of Thought,” captured April 20, 2018
(<https://www.britannica.com/topic/laws-of-thought>)

Aristotle Sidestep: The fundamental problem of interpretations is this: If I *felt or thought* x yesterday about A (wrote it down, have living memory of it, know the reasons) and it seemed/felt true to me yesterday, but today I no longer *feel or think* x about A, was it not true yesterday?

- ✓ Among humans, interpretations are both thought and feeling at the same moment. Treating them as thought only is untenable, and treating them as feelings only is dismissive.

- See related Work of the Mind discussion, 3 The Big Bang, p. 9, *supra*.

Many, if not most, would answer that if I have changed my mind overnight regarding A, or no longer feel that way about A, then what I felt about A yesterday must not have been true or correct (i.e. emotional, irrational, uninformed, ill-conceived, mistaken). Or the old Aristotle side-step that, well it was true that I felt that way yesterday (factually speaking), but it is not true that I feel that way today – without committing to whether what I thought/felt about A yesterday had any objective truth (in this, I am applying Aristotle’s ‘future contingents’ in ‘reverse’).

- ✓ For example, one might be asked in a court deposition what was their initial impression upon meeting a specific person or hearing of a specific event, and then whether they still held the same opinion or view now? Their answers under oath establish as *fact* – in the absence of contrary evidence, such as acts or implausibility – their state of mind for the purpose of determining the case at issue.
- ✓ “At first we all felt he was frightfully exaggerating and even offensive in tone. You see, he hurt all our deepest feelings, but gradually he won us around, although for a long time I had to – I just learned he was usually right in his conclusions, but I was not completely satisfied with his argument.” – Friedrich Hayek speaking about Ludwig von Mises, UCLA Oral History: Interview with Friedrich Hayek (1983), pp. 12-13 (searchable, free online at <https://archive.org/details/nobelprizewinnin00haye>).

Every evolution of GGDM faced this question. Aspects in GGDM (see 2 Culture, *infra*) can be said to hold that many truths can exist that are perhaps, seemingly contradictory, and that while the world may move onto the next day, what seemed (subjectively?) true yesterday remains (i.e. has persistence) and may come to the surface again under the right circumstances. Those who think that there is one objective reality and any failure to perceive it is human fallacy find this explanation wishy-washy and useless; while those who embrace less objective standards of reality, find the objective insistence both overly simplistic and not useful as a standard of human reality. It is the line that essentially divides empirical science, religion and math (who must insist that their truth is the whole of objective reality) from literary fiction, mental and social sciences.

- ✓ The same problem attaches to assessing the reliability of historical sources. Is some source to be considered not impartial because their overall view is negative, e.g., “Evagrius is mostly negative in his account of Justin and Sophia, so should not be taken as an impartial source.” (from Wikipedia article, “Sophia (empress),” April 30, 2019)? All historical sources present their interpretation of events, sometimes long after the events, and frequently of events they didn’t personally witness. Does a negative interpretation hold less truth value than sources who present a more favorable interpretation? Is that sufficient to condemn by itself, guilt by negativity? Depends on your politics. How many times have we gone around this cycle in historiography?

At the base of this discussion, and of the question with which this section began, is the interminable debate about what is knowledge? The problem has neither been solved, nor was it ‘cast aside’ as an unprofitable effort with the late advent of empirical sciences.^{7[quote]}

Rephrased in that way, the question might be ‘is what I felt about A yesterday considered knowledge?’ Was it a justified true belief (‘JTB’ in the language of epistemologists)? It is thus likely that Interpretations and Aspects as presented in GGDM could (and should) be subjected to epistemological analysis, e.g., Gettier Problem, Lightweight Knowledge, Infallibilism/Fallibilism;

that Interpretations here are intertwined between our current worldview (i.e. modernity) and epistemological arguments about knowledge.

- ✓ Shifting to the ‘objective’ universe, Matt O’Dowd states, “Prior to Boltzmann, entropy was understood as...” (See 2 Taxation & Census, EN 3, p. 312, *supra*). Does this automatically mean that physicist were dead wrong before Boltzmann set them straight? No. Prof. O’Dowd goes on to demonstrate how their explanation works for a car piston. And then why Boltzmann’s explanation is better when applied to the universe generally.
- ✓ “As an indication of exactly how good the Ptolemaic model is, modern planetariums are built using gears and motors that essentially reproduce the Ptolemaic model for the appearance of the sky as viewed from a stationary Earth.” – Polaris Project, Evening Star, Unit 2, Iowa State University, “The Ptolemaic Model” (undated, author unattributed).⁸
- ✓ Thus, a ‘paradigm shift’ is like civilization waking up the next morning with a change of mind; what was true yesterday remains true within the framework in which the interpretation was created, but today, we have another frame which suits our understanding better.

I highly recommend the Stanford Encyclopedia of Philosophy article, “The Analysis of Knowledge.” I should probably re-read it myself.⁹ It is thus that the question is presented here for both completeness (one of my virtues as a tendentious pedant) and as an educational hook (as is most of GGDM) to look it up and think about it.

- ✓ I admit that in writing GGDM, I have strained the limits of the purpose of GGDM as described above; this is attested to by the sheer size (and range) of the work.
- ✓ Whether or not GGDM is accepted as any sort of macro-sociological argument is dependent in large part (but not entirely) on the standards of knowledge applied; I would not present GGDM to a physicist even with the caveat that it is a ‘literary game’ and a work of macrosociology.

If I think I made a mistake playing Mahjonn (a puzzle solving exercise) but I solve the puzzle (i.e. remove all of the pieces), then it wasn’t a mistake. But that I believed it was is still a *fact* (see facts discussion generally, 1 Dreamtime, *supra*), so facts and knowledge are not the same apparently? Because it wasn’t true (i.e. knowledge) that I made a mistake, but it was a fact that I believed that I did? Or was it a mistake if I still succeeded in removing all of the pieces but it took more time to do so because of the alleged mistake?¹⁰

“Most modern calendars mar the sweet simplicity of our lives by reminding us that each day that passes is the anniversary of some perfectly uninteresting event.” – Oscar Wilde

“Tomorrow is only found in the calendar of fools.” – Og Mandino

Calendar Civilization: Calendars (and holidays) are in a way, the ultimate human interpretation; this should not be confused with seasons, tides, Lunar eclipses or any of the other objective measures that we think happen whether humans are looking or not.

But once you decide, for whatever reason, that a circle is divided into 360 degrees (or a compass has 6400 mils), and that the full rotation of the Earth should be divided into 15 degree arcs, you get a 24 hour day. Why 15 degree arcs; why not 10 degree arcs which match the number of fingers humans naturally possess and is the base of our numbering system? A 36 hour day? How about the answer I received when I asked in my youth: “Because that’s the way it is.” Great answer, really informative and inspiring, haven’t we all heard it once or many times? And why 60 minutes per hour? Does it matter to the universe, is it a natural law?

No, and the Republic period Roman leadership understood this well, while the farmers necessarily continued to plant and harvest with the seasons. It has seemed then that the further cultures move from an agrarian base, the less the march of the seasons matters in calendar interpretations, would it bother you or matter if January were in the autumn? January is summer in Australia; the European colonization of the Southern Hemisphere demonstrated once again that the calendar is an interpretation, regardless of whether it was the Republican Calendar, the Julian Calendar, the Gregorian Calendar, or the French Revolutionary Calendar. The Romans got around to fixing their calendar and re-synching it with the seasons in 46 B.C. with the introduction of the Julian Calendar and later adjustments under Augustus Caesar, because the wide-ranging empire was still largely or mostly agrarian. What cognitive dissonance happens when humans move into space, colonize other worlds?

- ✓ What is meant when scientists say a planet has a rotation period of 9 or 10 hours (Jupiter/Saturn) or 58 days (Mercury) or 243 days (Venus)? It means that the planet in question makes a full rotation in that much *Earth time*. Earth time is the only standard, objective measure that we have, and that is what we use, but it is only objective in our framework. The planet in question, however, has rotated the same 360 degrees as the Earth or any other rotating body, and its arc could be divided into 24 hours in 15 degree sweeps, just like the Earth. Those hours would not, objectively (e.g., in total vibrations of an atom), be the same length of time as ours, but could be divided into 60 very long minutes, if we wanted to – clearly colonizing such places (notably Mars has a rotation period very close to that of Earth (and is spinning a lot faster than the Moon) *would require some other form of time interpretation to keep us sane* with our Earth-evolved circadian clock.¹¹

- See further Crossing the Rubicon, 1 Temporal Technology, p. 801, *infra*.

“The need for instant analysis, or at least the demand for it, is every week increasing the profile of individuals who feel no sense of embarrassment at having, as we used to say, ‘no unpublished thoughts.’”

– Christopher Hitchens, “How to be a Public Intellectual,” Prospect Magazine, May 24, 2008

Who Are You?: A man may think of a thousand things in a work day or an idle afternoon; 999 of them are not worth printing or even repeating. Yet we repeat the same thought cycles over and over, no matter how reprehensible those thoughts would be in the light of day. Twitter, Facebook, and all of the other forms of social media, provide an opportunistic megaphone and instant print gratification for thoughts that cycle in our heads.

- ✓ “It may be that attacks on expertise are more obvious due to the ubiquity of the Internet, the undisciplined nature of conversation on social media, or the demands of the twenty-four-hour news cycle.” – Tom Nichols (U.S. Naval War College) as quoted in the Washington Times, July 24, 2017.

Social media has indeed been a useful invention, but probably not in the way its creators intended; social media (and camera phones) has shown us who we really are, humanity as it really is, the thoughts that course among the anonymous masses of humanity, blared with a megaphone across social media for all to see.

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And we recoil at the fury of it.

- ✓ “Trump defines the word ‘presidential’ negatively. For him, acting in a way consistent with the men who have held the nation’s highest office before him is just a media construct. There’s not really any such thing as ‘acting presidential’ in Trump’s world. If you’re the president, you can act however you want because, well, you’re the president. Might makes right. The president is presidential by default.

That view is consistent with this moment in our culture. The Kardashians have made being famous a goal in and of itself. It doesn’t matter what you do with the fame. What matters is that you are famous. YouTube has convinced every person that theirs is a voice – and a set of opinions – that need to be heard. Twitter – and social media more broadly – rewards takedowns of people; the bigger the person (in terms of number of followers) you dunk on, the brighter your star theoretically shines.” – Chris Cillizza, “Donald Trump’s Unpresidential Presidency keeps hitting new lows,” CNN, September 18, 2017.

- ✓ “It’s that same mentality that led sports radio personality Clay Travis – in a live CNN interview about ESPN’s Jemele Hill on Friday – to say: ‘I believe in the First Amendment and boobs.’ Travis, as his smirk made clear, believed he was being edgy and giving the middle finger to the political correctness police with his ‘take.’ He was sticking it to the liberal media! He was a hero of free speech! But here’s the thing: He wasn’t any of those things. Travis was just being a bro. He was expressing a misogynistic sentiment in a totally inappropriate setting. Like, why does the subject of boobs come up in an interview about whether or not Hill should be allowed to refer to Trump as a white supremacist? That’s like me shouting ‘boobs’ in mid-air of a cross-country flight and congratulating myself for my bravery. Opposing societal norms that are inherently unfair or misguided is one thing. Flouting conventions of good behavior ... is something totally different.” *Id.*

Wonderful thing about the Freedom of Speech: every fool and knave has a right to speak, even if on social media. So that the world has an opportunity to see them as fools and knaves as soon as they open their mouths and they can be banished to the kid’s table. We have a lot of din currently coming from the kid’s table, like all newness, it will take time to whac the moles of social media into some decent arrangement.

- ✓ “Wise men speak because they have something to say; Fools because they have to say something.” – Plato.

Eventually, most fools and knaves recognize what they are, but some never do. And a bunch of the latter have social media accounts or public media access. It sells advertising.

- ✓ “It is better to keep your mouth closed and let people think you are a fool than to open it and remove all doubt.” – Mark Twain.

“What Spicer’s Emmy appearance proved is that in our culture, fame and infamy are indistinguishable. All that matters is that you are famous. How you got there doesn’t matter. It doesn’t even matter whether people are saying bad things or good things about you. It just matters that they are talking about you.”

– Chris Cillizza, “Hollywood just enabled Sean Spicer, and that’s not funny,”
September 18, 2017, CNN Politics

Internet Advertising: This seems to be true in internet advertising as well (and has been true of billboard advertising for a long time): It matters only that you see the advertisement apparently, even if you are annoyed by the fact that it popped up when you are trying to read a web page, or that it’s in the middle of an article, or that the flashing and movement are distracting, or that adverts are constantly reloading making the text on the page jump around while you are trying to read the stupid article, or that it popped up behind the page and hangs there until you notice it, or that it covers the entire screen when you first visit the web page – in other words, it’s apparently not considered important that the viewer remember the ad favorably, or even at all, only page impressions, hits, and rotations matter in internet advertising.

“We live in a different world now (or at least those of us in the ‘West’ do); a world of social media, where anyone can have a view and disseminate it for anyone else to see relatively cheaply and with relatively little technical proficiency. Potentially everyone could be an expert on anything, or at least have a view on everything for anybody else to see. There is no longer a strict division between the controllers of communication and the consumers of communication, nor necessarily such a formalised relationship between the producers of knowledge and disseminators of knowledge. Does this have the potential to mean that everyone in the West can be a public intellectual? And further could one’s success on Facebook and Twitter indicate your status as a public intellectual?”

– John Issitt and Duncan Jackson, “What does it mean to be a public intellectual?” March 2013

Endnotes.

¹ **Citation:** “‘Facebook does not know what its own algorithm is doing,’ said Susan Benesch, a faculty associate at the Berkman Klein Center for Internet and Society and the director of the Dangerous Speech Project. ‘It is not the case that somebody at Facebook is sitting in a dark room cackling, and said, ‘Let’s encourage people to sell Nazi ads to Nazi sympathizers.’ She continued: ‘In some ways, that would be much easier to correct, because there would be some intention, some bad person doing this on purpose somewhere. The algorithm doesn’t have a bad intention.’” – Robinson Meyer, “Could Facebook have caught its Jew Hater ad targeting,” The Atlantic, September 15, 2017.

² **Citation & Commentary:** “Most Trumpists are not going to buy a book of several hundred pages and read it. Most Trumpists are going to see what Fox News, and Breitbart, and OAN and you know, Mark Lavin, say about the book, and that will be what they believe.” – David Pakman, David Pakman Show, June 18, 2020.

- ✓ That’s pretty astute, but don’t throw stones in glass houses. The same can and will be said by the other side about viewers of MSNBC and CNN. The fact is that most people, on both sides, don’t read books that are

several hundred pages; instead they tune into their favorite network echo chamber on cable or YouTube to see what they say about it.

³ Commentary: Arguments have been advanced that the German fake documents made no difference, they were not used as evidence during the Moscow Trials. That is beside the point for the purposes of this example.

⁴ Citation: See Peek-a-Boo discussion in 2 Expansion, p. 893, *infra*.

⁵ Commentary: This is a continuing thread; my first big game design as a young teen (called “Machines & Mercenaries”), more than a decade before the internet and years before PCs became ubiquitous, had the same problem based on the technology available at the time, it wasn’t clear how it would have been actually playable then – though most big online games – I am thinking of the RTS/MMOG Achron for example (discussed in 1 Temporal Technology, EN 7, p. 815, *infra*) – have reached or exceeded what I envisioned in my pre-internet teenage efforts. I call it my ‘forward simulation problem.’ Or tripping over my own feet.

⁶ Commentary: When I was young, I watched Special Bulletin (1983), about a group of terrorists who had a nuclear bomb on a tugboat docked at Charleston, SC, who were demanding all 900 nuclear detonators in the Charleston area (an ideological paradox not lost on the participants). The bomb detonates. It was shot as a newscast; I had grown up hearing the urban legend of the panic reaction to the newscast like the radio broadcast of War of the Worlds.

- ✓ One of the most haunting bomb detonation scenes (I have been unable to identify the show) showed a normal-looking man sitting calmly in the early morning on a bench in Central Park, NYC with a suitcase on his lap. The suitcase contains a nuclear bomb. Which detonates at ground level in New York City.
 - “Suitcase Nukes” have been available since the late 1950s. Most have yield of less than 1 Kt.; the bomb that destroyed Hiroshima was 15 Kt. By the 1970s, their potential use in terrorism was realized and slowly filtered into the public consciousness. But that genie won’t go back in the bottle.

⁷ Citation: “We know that every age has its own problems, which the following age either solves or casts aside as profitless and replaces by new ones.” – David Hilbert, “Mathematical Problems,” an address to the International Congress of Mathematicians at Paris (1900), translated by Maby Winton Newson for the Bulletin of the American Mathematical Society 8 (1902).

- ✓ In the Hilbert analysis, humanity is in the same age, epistemologically, that we were 3,000 years ago. The question of what is knowledge has neither been solved nor cast aside.

⁸ Citation: “It is beyond the scope of this course to discuss all the complex social and historical implications of an Earth-centered versus a Sun-centered model of the solar system. ... Ptolemy’s fame comes partly from what he figured out, but his influence was largely because he wrote a great summary of everything known about astronomy.” *Id.*

⁹ Commentary: No human, other than those who are illiterate, can claim that they immediately fully understood everything they have ever read on the first reading, or that they never had a different understanding after re-reading.

¹⁰ Commentary & Citation: One favorite literary gimmick is the situation where the fraudster inadvertently turns out to be right. For example, in the gloomy Twilight Zone episode “Dust” (1961) a travelling fraudster sells ‘magic dust’ to the father of a young man who is about to be hanged for murder, taking advantage of his distressed state. The fraudster is shocked when the ‘magic dust’ seems to work as advertised; and then it starts to work on him too.

- ✓ This scheme was repeated – albeit in a lighter tone – in Bednobs and Broomsticks (1971) where Miss Price is taking a correspondence course in how to become a witch (considering the dreadful history of that particular subject, one wonders at the sanity of it?). The fraudster is shocked that the spells actually work. So were the Nazis.

¹¹ Commentary & Citation: I watched a report long ago about a man in a deep underground cave for a year without clocks or daylight. Researchers were trying to discover the natural circadian rhythm of humans. The conclusion was that the natural internal clock of humans is close to 25 hours. This presented a puzzle. Had the Earth’s rotation sped up (implying it moved closer to the sun) during human evolution? This would not be entirely unprecedented as we know the Moon is apparently moving farther away from the Earth (Mattias Green, “Why the Moon is Moving Away from the Earth,” Newsweek, April 29, 2019) – at 3.8 cm per year. According to Wikipedia article, “Circadian Rhythms,” the study I recall watching as news report or documentary was faulty, and a later Harvard study established that the human circadian rhythm is 24 hours and 11 minutes, close to the solar day.

- ✓ “This distance, and the use of moon rocks to date the moon’s formation to 4.51 billion years ago, are the basis for the giant impact hypothesis (the theory that the moon formed from debris after a collision early in Earth’s history). But if we assume that lunar recession has always been 3.8cm/year, we have to go back 13 billion years to find a time when the Earth and moon were close together (for the moon to form). This is much too long ago – but the mismatch is not surprising, and it might be explained by the world’s ancient continents and tides.” *Id.*

3 Dreamtime – The Absolute Truth

SHARD: II. Persistence of Existence

The Walnut-Tree

A WALNUT TREE standing by the roadside bore an abundant crop of fruit. For the sake of the nuts, the passers-by broke its branches with stones and sticks. The Walnut-Tree piteously exclaimed, "O wretched me! that those whom I cheer with my fruit should repay me with these painful requitals!"

Translated by George Fyler Townsend. Aesop's Fables (p. 56). Amazon Digital Services, Inc.

Excerpt from “Reality Is Subjective”

Chaki Kobayashi (blog), May 8, 2013

Most people have the idea that the world, the universe, is an objective reality. It exists independently of us, independently of perceivers. For example, a tree is a tree. Regardless of whether I perceive the tree or an ant perceives the tree, the tree is the same thing. It has its own objective reality which is perceived in different ways by different beings. My experience of the tree is subjective, as is the ant's, but the tree has a true essence that exists objectively.

I don't believe there is such a thing as an objective reality. Reality is subjective. Of course, among humans, our perceptual experiences are similar enough in most cases that we can agree on most things and label trees as trees, for example. They have roots, trunks, branches, leaves. They're trees. But to an ant, a tree is a vastly different thing. It can be an ant's entire world, something enormous, something that provides endless work and sustenance and shelter. But of course we know what the tree is *in reality* because ants are stupid, right?

What if a much more advanced race of beings understands more about trees than we do, so we are similarly “stupid” compared to them as ants are to us? This race knows that trees are actually a particular kind of energy source with a particular vibration that they can perceive and we can't, and they are able to communicate on a vibratory level, telepathically, with the trees? They would think that we're stupid and don't know what a tree *really* is.

So what is a tree, *really*? Is it an entire world, an unconscious living thing, an intelligent, vibrating being, or something completely beyond our comprehension? It's all of those things, depending on the perceiver. No one of those realities is any more valid than the other. To us, of course, our perception of the tree is the most valid. But not to the ants, and not to the advanced race.

The point is that the tree is all of those things, and all of those things are equally valid. If there is no perceiver, the tree literally doesn't exist. I know that sounds crazy...

Indifference of Apathy

Social Apathy: “Apathy has been socially viewed as worse than things such as hate or anger. Not caring whatsoever, in the eyes of some, is even worse than having distaste for something. Author Leo Buscaglia is quoted as saying ‘I have a very strong feeling that the opposite of love is not hate – it’s apathy. It’s not giving a damn.’ Helen Keller claimed that apathy is the ‘worst of them all’ when it comes to the various evils of the world. French social commentator and political thinker Charles de Montesquieu stated that ‘the tyranny of a prince in an oligarchy is not so dangerous to the public welfare as the apathy of a citizen in the democracy.’ As can be seen by these quotes and various others, the social implications of apathy are great. Many people believe that not caring at all can be worse for society than individuals who are overpowering or hateful.” – from Wikipedia article, “Apathy,” May 13, 2019.

Indifference: “The opposite of love is not hate, it’s indifference. The opposite of art is not ugliness, it’s indifference. The opposite of faith is not heresy, it’s indifference. And the opposite of life is not death, it’s indifference.” – Elie Wiesel, French-American writer and 1986 Nobel Peace Prize winner.

Acedic Adults: “Thus, *acedia* and stagnation are virtually synonymous. Stagnant adults are apathetic. They are self-absorbed, imprisoned in their own narrow self-indulgence, and suffering from boredom and interpersonal impoverishment. They are also potential psychological and even physical invalids. This is consistent with traditional descriptions of *acedia* as a kind of motionlessness, an inability to move about or to be moved within by the indwelling spirit of God. So the deadly sin of *acedia* grows out of a failure of generativity. The truly generative adult has a sustained emotional investment in what is being generated. The acedic adult has no such investment, is unable to care. The initial losers are those who rely on the goodwill of adults responsible for their care and support. The eventual losers are the acedic adults themselves as they become interpersonally impoverished and spiritually empty.” – Donald Capps, Deadly Sins and Saving Virtues (1987), p. 63 (found on Google books).

Transmission Pathology: “Generativity requires a spiritual self possible only after identity and intimacy are reasonably navigated. No one can give another this self. Generative adults are invested because they want to be. Acedic adults do not care, and no one can make them care. Even if younger members of the community try to inspire an indifferent older member, it is unlikely they will be effective.

The indifference of apathy is offset from within. No one can do another’s inner work. In the multi-aged relationships of a community, the young cannot rescue middle-aged and older adults from apathy. There is great risk that the younger person will be drawn into the older member’s pathology and take on a cynical and despairing attitude. The young must attend to their own developmental tasks. Destructive and addictive relationships in a community can result from a cycle of enmeshment based on such a ‘rescue’ of others” – Judith A. Merkle, A Different Touch: A Study of Vows in Religious Life (1998) (Niagara University, Dept. of Religious Studies) (Citing to Donald Capps, Deadly Sins and Saving Virtues, 108).

Dying Alive: “Apathy and cynicism usually take root early in life. If unchecked by middle age, they lead to bitterness, lack of energy, health problems, depression, and related difficulties. A public opinion poll taken by the National Opinion Research Center found that over half of all adults in their twenties rate their lives as ‘exciting.’ Once people reach their forties this slips to 46 percent. At 60 it falls to 34 percent. The Noble Prize winning French philosopher, physician,

and musician, Albert Schweitzer, fervently believed ‘The tragedy of life is what dies inside a person while they live.’

As the years slide by, a growing number of people don’t really live, they merely exist – trapped in their lives of quiet desperation. Just getting by is as dangerous as resting in the snow on a frigid winter night; our passion and spirit dozes off and dies in our sleep.” – Jim Clemmer, “Apathy and Cynicism Zap Our Spirit.”

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*“I’ve been tryin’ to get down to the Heart of the Matter
Because the flesh will get weak
And the ashes will scatter
So I’m thinkin’ about forgiveness
Forgiveness
Even if, even if you don’t love me anymore”
– Don Henley, “Heart of the Matter” (1990)*

Drill Down: A person (human or otherwise) has an intellectual interest in a subject when they have found that thing for which they want to drill down to the ‘heart of the matter,’ for which they seek a profound understanding. An intellectual mind might then refer to the habit of thinking deeply about nearly everything. Constructural Elements are the...

Degrees of Connectedness: Any two subjects or things, no matter by how many ‘degrees’ they seem to be separated, are improbably related. Start talking, and over the course of an hour, in an unstructured conversational setting, the 🍄 drifts here and there, until what we are talking about at the end of the hour (to our astonishment) has little or no seeming relation to how or where the conversation began an hour ago. Yet, as the conversation slipped from subject to subject, antecedent to anecdote, everything seemed to flow, seemed to be related...¹

*“Ah, yes – sometimes the Bible is the word of God. Sometimes it’s the word of man. And sometimes, it’s the word of two or more men. Sometimes the Bible’s literal, and sometimes it’s simply symbolic.”
– Penn Jillette (emphasis in original)²*

The Collective Consciousness: Everything, every object, currently placed within a position’s Public Space or Diplomatic Spaces is part of that civilization’s collective consciousness. Things and objects that have been removed will be remembered by the players (and the in-game population) in a historical sense (and possibly in places such as the Star Log, News Events), but are not part of the current consciousness.

- **Public:** Put another way, the Public Space can be characterized as ‘everything we can talk about in any real sense.’ For example, statements such as: “Theories on optimal design of cities, city traffic flows, neighborhoods and demographics were in vogue after World War I.” (copied from Wikipedia), describe in a shorthand way what was in the Public Space at the time, at least among intellectuals and politicians, if not the population.
 - ✓ The Public Space as used in GGDM is thus the phenomenological experience of a civilization (see Avi Sion feature quote, Epistemological Constructural Elements, p. 175, *ut infra*). Notably, well over half of what is in the Public Space has appeared to us *from our own minds*; most of what we call culture has little or no objective reality *beyond us* but is one of the ultimate realities *to us*. In this sense, this discussion has circled back to the definition of reality offered in Spaces, 4 Beginnings, p. 46, *supra*.
 - ✓ In some senses, Public Space may overlap the concept of “noosphere,” but they are probably not congruent.

- **Spaces:** ‘Spaces’ is a term used to denote a significant area of importance to which a civilization devotes real estate and economic and cultural activity, spaces feature prominently in urbanist studies, e.g., Edward Soja. It is not a shallow term of goods and services; once recognized, spaces tend to develop meaning reaching to the core of civilization. For example, each civilization has a ‘dead space’ in terms of real estate dedicated to cemeteries and public monuments to the dead (the subject of Ray Bradbury’s 1948 short story “Pillar of Fire”³), plus all of the material and services related to burial or disposal of the dead, but beyond that, there is also a massive cultural significance and meaning attached to the whole process from individual persons to religion to insurance, civil and criminal legal resolution, to medical and philosophical issues.
 - ✓ Spaces may overlap depending on how they are defined, but the Public Space must necessarily be all inclusive and overlap over all of the other spaces in a civilization, it must be the entire sphere of a civilization. The overlap of ‘spaces’ sometimes results in odd combinations, for example, one could certainly argue that there is a ‘pet space’ in our civilization based on the number of dog and cat pictures on the internet, the number of books, products, movies, videos, medical care, and the overall meaning of pets to humanity (a meaning we do not attach to the animals that are part of our daily meals). Authors frequently find material and inspiration in the combinations; when combined with our care for departed loved ones or significant creatures in our lives, we have, oddly, pet cemeteries and Stephen King’s 1983 book.
 - Public Space and Constructural Elements collectively, in GGDM seem to be somewhat like Gilles Fauconnier’s ‘mental space’ (Mental Spaces: Aspects of meaning construction in natural language (1984), which I have not read) and as a bonus, GGDM also uses Aspects as a form of Cultural Trait piece on the Public Space (see 2 Culture, p. 364, *infra*). Designing GGDM has been a *journey through the Public Space (and language) of our current civilization*; I did not discover Mr. Fauconnier’s ‘mental space’ (nor had I heard of him) until I was rewriting the Reformation sections early in 2019, but Public Space, Aspects, and Constructural Elements have been in GGDM for at least 15 or more years prior to 2019 (though Constructural Elements was completely rewritten around 2015-2016).

“To develop a complete mind: Study the science of art; Study the art of science. Learn how to see. Realize that everything connects to everything else.”

– attributed to Leonardo da Vinci ⁴

Constructural Elements: All *appearances* to an individual consciousness or the collective consciousness of a group, civilization, have four innate/necessary qualities that connect them to everything else within the sphere or realm of consciousness. These are called Constructural Elements. In game terms, this means that *all ships and friendly/naturalized/converted colonies* have four potential innate qualities that ‘fit’ or ‘place’ them within the structure of civilization.

- **Concepts:** “Constructural Element” is a term I invented for the game in 2002; you will not likely find it anywhere else prior to this work (i.e. *Google it*). “Public Spaces” is a term I

adapted from graduate Rhetorical Theory. However, the Public Space meaning that has evolved in this game greatly exceeds the meaning of the term in Rhetorical Theory.

- ✓ “Constructural Elements” is a term of patent law (www.uspto.gov/web/patents/classification/cpc/html/defF16S.html), however, even though I had a college course in Intellectual Property Law, I never heard the term and it is not the origin of Constructural Elements in GGDM. Constructural Elements in GGDM, while building a worldview, also refer more to connectedness by degrees than to unclassified parts.

The original concept of Constructural Elements was similar to a molecular building set, like the one seen in the movie, *Lawmower Man* (1992). It is thus that Constructural Elements were ‘sticks,’ representing bonds, joining the parts of society. This is the reason I first called them Constructural Elements and an entire clunky, vague game system was built on that idea. In a rewrite of the system more than five, probably ten years later, the Constructural Elements became innate and intrinsic qualities from which our worldview is constructed and that connects everyone to each other and our civilization to the universe. Thus the name Constructural Elements remains even as the underlying concept changed perceptively.

- Innate Qualities: The four ‘types’ of Constructural Elements – Temporal, Epistemological, Symbolic and Ideological, each described in a section below – are the intrinsic qualities of all objects within our consciousness (or at least for game purposes), whether active or not.
 - ✓ It would be an interesting study or discussion point as to what extent computers, our pets, and other living creatures possess Constructural Elements. I maintain that they must and that it is only a matter of how.

“Nothing ever becomes real till it is experienced – even a proverb is no proverb until your life has illustrated it.” – John Keats

Temporal Constructural Element: Causality is the basic condition shared by all of the universe that we know; the first question we ask of anything in our world, is where did it come from, how did it get there, we want to know its history, its temporal lineage. So the first connection of any ‘other’ thing in our consciousness is to place it in our timeline,⁵ from the date of ‘discovery’ or appearance (p. 175, *ut infra*) to what happened to make it be there (if and when we know) and what has happened since.

It is assumed that time flows in the same direction and at the same rate for everything in the game (as time seems to be related to the expansion of the universe); that is, the ‘arrow of time’ points in the same direction for all, and we are all immersed (drowning) in the same ‘stream.’ An experienced Concierge and players may carefully vary from this, see Temporal Technologies generally, *infra*.

- ✓ Because we are born and we die, and time runs in only one direction, we tend to assume that this is true of the universe and everything in it; that the universe has a finite point at which it began, before which was either nothing or something else, and that it will have a finite point at which it ends, and that is true of everything within the universe as well. At this point in our evolution, we are unable really to grasp the implications of something that has always existed and will always exist (the snake eating

its own tail), without beginning or end; we are limited by the dimensions in which we live.

We are all victims of our childhood memories. The question is, whether that is a good thing or a bad thing. How many times do we act on situations as an adult because of some triggered childhood memory?

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None of us have personal memories of our own complete temporal lineage. Like the eternal being in Isaac Asimov's "The Last Answer" (pub. 1980, see First Question & Last Answer excerpt, Information, *infra*) we do not remember coming into existence, we do not know for certain how or when or if our existence will ever end. We assume that we will die at some point because that is the common fate on Earth, and that it will be within the normal human lifespan (what the hell did Adam do for 930 years?); we have only the fact that we exist to suggest that we came into existence at some point. And we (most of us, anyway) have parents who suggest to us that we have not always existed and that accords with the common experience.

➤ Creator: In terms of what is 'real' the things we create or have a part in are more real to us than anything else; it is that we were involved in the establishment of our own Temporal Constructural Element rather than witnessing it or discovering it retroactively for that 'thing.' There is nothing more real to me – in this order – than my life (despite having no memory of being born or of anything before about the age of 3-4 years), my lifetime project (i.e. GGDM), and the cat companions I brought in as feral kittens, or in one case, a rescued adult female, and those that I caretake outside. A sense of this may be why some people like to grow or prepare their own food, or become craft hobbyist or professionals – they value making something with their hands, the special personal engagement with the TCE of that thing. And since Western religion teaches that man was made in the image of God and that God is the benevolent creator...

- ✓ "The late heiress [Gloria Vanderbilt] made it clear throughout her life that she valued making her own money. In a 1985 interview with The New York Times, she said, 'I'm not knocking inherited money, but the money I've made has a reality to me that inherited money doesn't have.'" – Antoinette Bueno, "Why Gloria Vanderbilt Did Not Leave an Inheritance for Son Anderson Cooper," Entertainment Tonight, June 18, 2019.

Now, if God created the universe, as the Christian literalist and fundamentalist argue, then God predates the Temporal Constructural Element that is the universe. It is in this idea that one might find a way to saying that God is eternal, has always been (in terms of this universe), and so on, because God predates the creation of the Temporal Constructural Element. This does not solve the First Cause or Prime Mover problem, however, because we do not know the conditions of the place from whence God originated (Robert Heinlein explores this a bit in Job: A Comedy of Justice (1984)) before creating this universe because we cannot see past the original Temporal Constructural Element event (which is ... The Big Bang); it does not suggest in any way that God created himself, as some have argued.

- ✓ About the only things we know Adam did was talk to God, get tossed out of the Garden – probably for urinating on the trunk of the holographic tree disguising the console that controlled the garden (like Octavia the Octopus who died because it accidentally opened the control to drain the aquarium⁶) but other reasons for the eviction

were made up later – and have a bunch of kids by one or more wives/women. And those kids grew up, intermarried, inbred, and acted just like us. How convenient.

“Phenomenology is the study of appearance as such. It is a branch of both Ontology and Epistemology, since appearing is being known. By an ‘appearance’ is meant any existent which impinges on consciousness, anything cognized, irrespective of any judgment as to whether it be ‘real’ or ‘illusory.’ The evaluation of a particular appearance as a reality or an illusion is a complex process, involving inductive and deductive logical principles and activities. Opinion has to earn the status of strict knowledge. Knowledge develops from appearances, which may be: (a) objects of perception, i.e. concrete phenomena in the physical or mental domains; (b) objects of intuition, i.e. one’s subjective self, cognitions, volitions and valuations (non-phenomenal concretes); and/or (c) objects of conception, i.e. simple or complex abstracts of preceding appearances.

Abstraction relies on apprehensions of sameness and difference between appearances (including received or projected appearances, and projected negations of appearances). Coherence in knowledge (perceptual, intuitive and conceptual) is maintained by apprehensions of compatibility or incompatibility. Words facilitate our construction of conceptual knowledge, thanks to their intentionality. The abstract concepts most words intend are common characters or behaviors of particulars (concrete material, mental or subjective experiences). Granting everything in the world is reducible to waves, ‘universals’ would be equalities or proportionalities in the measures of the features, motions and interrelations of particular waves. Such a theory of universals would elucidate sensation and memory.”

– Avi Sion, from abstract for his book [Phenomenology](#) (2005) ⁷

Epistemological Constructural Element: The next question for any object in our consciousness is how we obtained knowledge of the object, what we can know about it, and how the object fits within the constructed knowledge of our world. Every consciousness must necessarily organize and place knowledge of the world into some sort of structure that is functional, internally consistent, and forms a worldview. In our civilization, this is done by historical narrative, branches of study, college majors, classification, segregation and division.

- ✓ Ontology – the study of existence – is the geeky big brother of epistemology – the study of knowledge. Note that no gender has been assigned to epistemology by the preceding statement.

Throughout GGDM, epistemology is treated as a worldview, with the central question being, how are we going to slice the pie? And the related and broader questions of who, what and when was it determined how the pie was to be sliced? A cursory examination of intellectual history, and the current division of disciplines, study areas, degree programs, and professions and specialization, and of other cultures, shows that the pie might have been sliced much differently.

- ✓ The division of knowledge into professions, disciplines is a *boundary creation and control function*, the same as division by economic class, government power by branches, humanity by national borders, and religious movements by doctrinal fragmentation; nearly all of civilization is a struggle for boundaries and feedback loops.

- Appearance: To appear is to be known, is the axiomatic statement of phenomenology. Looking is the meeting of conscious will with appearance. What are the consequences of denial? That something can be known without appearing to us in some form? Or that which appears to us does not become known to us by appearance?
- ✓ Phenomenology is a relatively modern term, according to Merriam-Webster online dictionary its first use was about 1797. The idea has evolved through several phases to the modern meaning. The process of forming new frameworks to understand that which is not explainable within the preceding framework is the process of reforming worldviews of civilization.
 - ✓ Phenomenology provides a means to explain how non-real things, such as fictional characters or stories (in movies, novels, fairy tales, etc.) can have an impact on our consciousness. How would we discuss these things as ‘real’ if not for the framework of phenomenology? It is the basis of a branch of psychology which holds that our mental reality is formed by perception of phenomenon instead of objective reality.

“Due to the First Jewish-Roman War, the destruction of the Second Temple ushered in a major time of dramatic reformation in religious leadership, causing the face of Judaism to change. The Second Temple served as the centralized location from which the ruling groups Sadducees and the Pharisees maintained Judaism, with rivaling Essenes and Zealots being largely in opposition. With the destruction of the temple, the major ruling group lost their power – the Sadducees, who were the priests, directly lost their localized power source and were rendered obsolete. Due to this, only one group was left with all the power – the Pharisees, who were the rabbinic group. The rabbinic groups’ power did not derive from the temple or from military prowess, which enabled their power to spread among synagogues to different communities.

This changed the way Judaism was practiced on a daily basis, which included changing from sacrificing animals to praying in order to worship God. Rabbinic Judaism became a religion centered around synagogues, and the Jews themselves dispersed throughout the Roman world and beyond. With the destruction of Jerusalem, important centers of Jewish culture developed in the area of Galilee and in Babylonia and work on the Talmud continued in these locations.

Before Vespasian’s departure, the Pharisaic sage and Rabbi Yohanan ben Zakkai obtained his permission to establish a Judaic school at Yavne. Zakkai was smuggled away from Jerusalem in a coffin by his students. This school later became a major center of Talmudic study.”

– from Wikipedia article, “Jewish-Roman Wars,” captured September 7, 2019 ⁸

Symbolic Constructural Element: “...but face it, most of the things we call ‘sexy’ are symbolic, you know, except perhaps an exhibitionist’s open fly.” – Frederik Pohl, “Day Million” (1966). Abstraction is a key element of sapience. Experiences and events are reduced (edited) to memories, rules, summaries, points, regulations, codes, idols, icons, and symbols.⁹ Symbols are objects, often idols or icons that represent or stand for something else, an idea, image, belief, action or another person or object.

- ✓ [Interview] “To the French public, this was a great victory. [Fort] Douaumont was a great symbol. It was of no military significance whatsoever, but it was a symbol. It

had to be recaptured. And it was seen in France as being a great victory. In Germany, it was seen as a terrible defeat. The reality is, it didn't matter tactically. It was all about perception." – Major Gordon Corrigan (British Army, Gurkha Rifles), Under Siege television series (2008), Episode 4.

- ✓ [Dialogue in Russian with English Subtitles] “[Lyudmila] Pavlichenko is not just a soldier anymore. With this, she's become a symbol. And no one invalids a symbol. ... The Germans announced her death. [Officer produces a German propaganda hand-out] The third assault wave is coming and my guys are going to battle with her name on their lips.” – Soviet Officer, from Battle for Sevastopol (2015).

She is then forced to get out of the hospital bed, badly wounded along her back and still bleeding, and put on a uniform jacket and hat, hold a rifle and smile for the camera so they can take a photograph to disprove the German propaganda. After the camera flash, she almost faints.

Anything, any place, or anyone is capable of being made a symbol of something else or of a class or category of things, by highlighting certain attributes and dismissing or diminishing others. Cult of personality, hero worship, deification, historical distortion, the victor writes history; all of these highlight or exaggerate some things and diminish or hide others to create the symbol. A symbol therefore, is *an exercise in inequality* (for example, athletes, heroes, political leaders are symbols); true egalitarianism would have no symbols.

- ✓ My neighbor was arguing with his wife because she wanted a red front door. His wife talked about the Chinese and American meanings of a red door. I talked about the meaning of a red door on a Christian church. He then asked why does everything have to have a meaning assigned to it? The answer is because that is what humans do; true egalitarianism would not be human. Because what, other than the void, exists beyond meanings we assign, however silly they are?

The act of choosing one thing over another, making a choice or decision, or elevating anything over another, is an act of discrimination, *an act of inequality*. Even comparing things requires making a judgment about qualities, such that modern cultural anthropology discourages comparisons of cultures. *Discrimination* is, by itself, a *neutral* term of cognizance.

- ✓ “First among equals” – as the Norse god Odin described himself in Robert Heinlein's *Job: A Comedy of Justice* (1984) – is an old ironic phrase in English, its actual meaning is the opposite of its intended meaning: Being first is not being equal. It is often expressed in the title First Citizen; the Latin term for it, Princeps, was a title of the Roman Emperor. As TV Tropes points out, it is often used in fiction to avoid the complications of being called Emperor.

Most *discrimination* is good and necessary (e.g., comparing price, quality of product, choosing a car mechanic, deciding whether to supersize your meal, which movie to watch tonight); however, the term has taken mostly a negative connotation in our current culture because certain acts of discrimination against people (e.g., racism, homophobia), being without rational basis, are considered culturally damaging and illegal or legally actionable.

- ✓ [Narrator] “The uncomfortable truth for [Kim] Philby was that his value to Russia was more symbolic than personal.... but what mattered much more to them was that this old man was a living example of a signal victory over the West at a time when

the skids were under the socialist dream.” – The Spy Who Went into the Cold: Kim Philby, Soviet Super Spy (documentary, 2013).

- Smuggled in a Coffin: What would be more symbolic of the death of Second Temple Judaism than the remaining Rabbi being smuggled out of the city in a coffin by his students? Did it literally happen that way, is it literally true? Who cares? The important underlying elements are the students (the next generation), caring for their master (the old generation authority figure), and exercising ingenuity to insure the survival of the tradition. The idea of leaving the ancient sacred city and going forth may also be important.

Although Rome was the co-seat of Christianity alongside Constantinople, Rome is not the “Second Temple” of Christianity, even if the Vatican acts like Sadducees. Christianity as practiced, followed the format of Rabbinical Judaism, centered on community churches.

Interpretations are built on symbols and symbolic events. For example, Rome was sacked by the Vandals in 455 A.D., and within 35 years, the last traces of the Western Roman Empire had vanished under the wave of migrating ‘barbarian’ tribes. Those tribes slowly became Christianized, mainly between 700 and 1000 A.D. The fall of Constantinople was almost 1000 years after the sack of Rome by the Vandals. One might see in these places and important historical events a grand epic cycle. Macro-history is a bit of interpretation.

- White Rose: *Symbolic acts* are acts lacking in practical utility but that convey to the audience what the actor believes or wants to happen.¹⁰ February 1993 was the 50th Anniversary of the execution of Sophie Scholl, her brother Hans Scholl, and Christoph Probst for passing out anti-Nazi pamphlets. Copies of the sixth White Rose leaflet were dropped over Germany by allied planes in July 1943. *Symbolic act*.
 - ✓ “Playwright Lillian Garrett-Groag stated in Newsday on 22 February 1993, that ‘It is possibly the most spectacular moment of resistance that I can think of in the twentieth century ... The fact that five little kids, in the mouth of the wolf, where it really counted, had the tremendous courage to do what they did, is spectacular to me. *I know that the world is better for them having been there, but I do not know why.*’ In the same issue of Newsday, Holocaust historian Jud Newborn noted that ‘*You cannot really measure the effect of this kind of resistance in whether or not X number of bridges were blown up or a regime fell ... The White Rose really has a more symbolic value, but that’s a very important value.*’” – from Wikipedia article, “Sophie Scholl,” May 20, 2019 (emphasis added).

One of the members of the White Rose group who was executed in July 1943, Alexander Schmorell, has been canonized by the Orthodox Church in 2012 as St. Alexander of Munich (https://orthodoxwiki.org/Alexander_Schmorell). Canonization makes you a symbol.

One of the most literal examples of the power of a symbol is the episode of the Holy Lance of Antioch and the strange Battle of Antioch (June 1098 A.D.) in the First Crusade.¹¹ The success at Antioch set the pattern for the use of alleged religious artifacts for morale and motivational purposes during the Crusades.¹² The power of religious symbols¹³ served to make up for the failings of incompetent leadership, poor planning, bad logistics and morale, and strategy based on religious faith instead of realities (e.g., the army of the First Crusade arrived at the walls of Jerusalem in July 1099 without either siege equipment, proper supply or a plan;¹⁴ they just got lucky that ships arrived at Jaffa).¹⁵ Later, in August 1099, a fragment

thought to be of the True Cross, discovered in Jerusalem, was used to lead the Crusader army, outnumbered 2 to 1, to victory at the Battle of Ascalon.

“Hate speech like that proudly employed by those organizing, participating in and discussing the horrifying events ... is unwelcome on many platforms. In fact, discouraging hate speech is an ideological stance common to nearly all internet services, with the marked exception of services created specifically to circumvent that stance.”

– Devin Coldewey, “Discord shuts down alt-right server and accounts for ToS violations,” TechCrunch, August 14, 2017

Ideological Constructural Element: In the final analysis, all things within our consciousness are fitted into a set of ideas, idealized conditions (or the extent to which the object in question departs from ideals and ideal conditions¹⁶) and worldviews, and wishful thinking about our relationships to each other and the real universe around us.

- ✓ “Kant’s argument turns on the view that, while all empirical phenomena must result from determining causes, human thought introduces something seemingly not found elsewhere in nature – the ability to conceive of the world in terms of how it *ought* to be, or how it might otherwise be. For Kant, subjective reasoning is necessarily distinct from how the world is empirically. Because of its capacity to distinguish *is* from *ought*, reasoning can ‘spontaneously’ originate new events without being itself determined by what already exists.” – from Wikipedia article, “Compatibilism,” captured October 27, 2019 (emphasis in original), citing to Immanuel Kant, The Critique of Pure Reason (1781), trans. by Max Mueller (1949), p. 448.

The ideology involved may or may not be overtly political, but nearly all ideology relates to politics, economics or religion (and the entanglements thereof); it would be difficult to imagine otherwise without significantly changing the meaning of the word “ideology.”¹⁷ While ideology can have negative connotations in the normal discourse, it is used in a neutral sense in GGDM.

- ✓ For example, I started trying to understand the American political term, “neocon,” a group upon whom much blame has been heaped for world history since the end of the Cold War. I eventually realized that the neocon movement and individual politicians of the group, were attempting to resist, albeit with limited success, the famous observation, ‘If you are a conservative when you are young, you have no heart, if you are a liberal when you are older, you have no brain’; neocons were trying to be both. Neocon is the current name for what is probably a normal historical process or movement in any civil society culture that has conservative and liberal political elements; there are, for example, “neolib,” though the term hasn’t gained widespread use here in a society moving toward conservatism.

The process of understanding neocons is a good example of the normal application of Constructural Elements (even if you think my understanding is wrong), as each question was answered in order – temporal, epistemological, ideological and symbolic – and they were fitted snugly into the political spectrum present in the current worldview.

The Ideological Constructural Element is perhaps the hardest to grasp in any concrete way; this is in part because we are all members of the modernity; modernity, starting with Machiavelli's discussion of politics of power in 1532, elevates realism over the idealism that came down through Western civilization from Plato through Hellenized Judaism, and finally, Christianity. Modernity is a worldview *because membership is not the least voluntary*; you were raised in it and it informs your expectations.¹⁸ Even Martin Luther, an ordained clergy in a very religious time, found a streak of realism when writing about what Christians actually do, and the subject of secular authority (see Luther & Charles excerpt, Government Titles, *infra*).¹⁹

Had GGDM been written in another idealist time, the Constructural Elements (a realistic construct of worldviews) – if the concept could even exist – would have been sliced differently, it might have followed, for example, Plato's essences or Luther's two kingdoms doctrine – there might, for example, have been two representing the left hand and two parts for the right hand of God (which would be considered dogmatic and quaint, as my construct will undoubtedly be in 500 years), and they would have been the construct of worldview.²⁰ Or in ancient China:

- ✓ “The first to unite the yin-yang and Five Elements into a single system was apparently Tsou Yen (ca. 305–ca. 240), traditionally regarded as the ‘father’ of Chinese naturalistic thinking. Living as he did during the Warring States period, he gave the elements political significance by correlating each of them with a particular dynasty or reign in an endlessly recurring cycle. In this way he and his followers induced several of the Warring States rulers to institute state cults of the Five Elements in the hope of gaining the support of that particular element destined by its position in the cycle to replace the ebbing element of the Chou dynasty. Before Tsou Yen and perhaps for some time after him as well, the Five Elements seem to have been almost exclusively the concern of court astronomers, physicians, music masters, diviners, and the like, and it was to this class of men that Tsou Yen himself possibly belonged. By contrast, the elements are barely mentioned in sociophilosophical writings before the second half of the third century B.C.” [Derk] Bodde (1991), pp. 101-102. (from University of Washington, text notes for translation of Weilue 魏略 by Yu Huan 魚豢).
- ✓ See continued discussions in Conflagration, 3 Constructural Elements, p. 211 and The Bargain, 5 Culture, p. 426, *infra*.
- Language & Philosophy: Language serves as an ideological archeology; a sedimentary deposit of ideas, silt accumulation in the intellectual stream:
 - ✓ “Resistance to Aristarchus, a kind of geo-centrism in everyday life, is with us still. We still talk about a sun rising and the sun setting. It's 2200 years since Aristarchus and the language still pretends that the Earth does not turn, that the sun is not at the center of the solar system.” – Carl Sagan, Cosmos, Episode 7.

Political philosophy is often, but should not be, confused with ideology:

- ✓ “Let us start by noting that the Austrian School of Economics is not an *ideology*, but a way of scientific thinking. The Austrian theorists never thought in terms of an ideological assumption that ‘the free market is the best, so we have to build a theory around it to integrate this ideology with the general body of science.’ Quite the contrary. Carl Menger, considered to be the founder of the Austrian School, experienced

the real market first hand by talking with entrepreneurs and stock investors, and this inspired him to develop his theory in a way that best suited reality. ...

The reason the Austrian School may be accused of being ideological is probably that it is often associated with libertarianism. These two, however, are separate things. The fact is evident by the existence of libertarian economists who are not Austrians, and Austrian economists who are not libertarians. Libertarianism is a political philosophy. *Philosophy answers a different kind of questions than economics.* Economics, as Ludwig von Mises wrote, does not ask which ends should people desire, but what means they should employ to achieve their desired ends.” – Econclips.com, “The Methodology of the Austrian School,” (undated, no author attributed), captured July 9, 2019 (emphasis added).²¹

The preceding commentary links ideology to epistemology in its description of how ‘knowledge’ is sometimes built in an unscientific way (i.e. backwards, where the conclusion comes first) via ideology and distinguishes between *a priori* science and philosophy.

- ✓ Rhetorical Question: Is the GGDM simulation presenting an ideology or an *a priori* science? Is it more like the U.S. Declaration of Independence (see discussion 1 Beginnings, p. 24, *supra*) or Ludwig von Mises’ Human Action (1949)?

“Alienated from the present. There are great advantages in for once removing ourselves distinctly from our time and letting ourselves be driven from its shore back into the ocean of former worldviews. Looking at the coast from that perspective, we survey for the first time its entire shape, and when we near it again, we have the advantage of understanding it better on the whole than do those who have never left it.” – Friedrich Nietzsche

Medieval State of Mind: It is very difficult to step outside your time’s worldview; medieval people are alien to us, we are more like the Romans (and also not very much like the Romans) than people of what were later called the Middle Ages. Most characters in modern-written medieval fantasy, docudrama, or historical fiction and costume epics, are modern or nearly modern people in medieval costume, and most of them are lords and ladies (i.e. ‘important people’), and not peasants (like in the SCA²²). This was a point that stood out most noticeably in the failed – it lasted one month – 1992 television series, Covington Cross, the characters were modern people in medieval costumes: The pilot opening scene was ridiculous and the rest didn’t get better.

- ✓ Conversely, sometimes a true effort is rewarded: “After researching about old pagan beliefs and folklore about witches, that were supposed to roam the mountain woods in those times, my interest was to develop a character that these folk tales would have branded as a witch, but to dig deeper into her psyche and see her as the traumatized, mistreated and finally delusional person that society constructed. As well as to understand what utterly evil things people were lead to do while suffering from psychosis in the middle ages and being surrounded by superstition and religious prosecution. The film tries to depict a very personal and empathetic mental image of a nightmarish and sick mind.” – Lukas Feigelfeld discussing his movie, Hagazussa – A Heathen’s Curse (2018), from Brad Miska, “‘Hagazussa’ Poster Evokes a Heathen’s Curse,” September 13, 2017.

➤ **Questions of Intelligence:** Let's become a dog for a moment, and since I am a male, and obviously male biased... In the case of a male dog meeting another dog, the first question asked is whether the other dog is a male or female? The second question is, if it is a male, am I the alpha in this case, and if it is a female, is she ready to mate? This is not to make fun of dogs (humans quietly do the same, just watch them), but to point out that the questions asked (i.e. the Constructural Elements) in any situation depend on intelligence. Dogs ask questions that fit a dog's world and pre-interstellar races ask questions that fit a pre-interstellar planet-bound world. Time is only a very vague concept to dogs, the now is paramount (notably less so for intelligences that have foresight and legacy consciousness), epistemology/ontology is non-existent for dogs as far as we can determine, and their only ideology is 'loyalty to a fault,' an anthropomorphic trait we identify and treasure in dogs (and supporters of President Trump, see Charlie Sykes comment, Red Guards, 1 Order, p. 517, *infra*).

- ✓ The Constructural Elements presented here are thus the questions asked by a planet-bound, pre-interstellar race, as are all of the other questions asked in GGDM. This is so because we cannot yet imagine the questions that a real interstellar or trans-dimensional culture will ask when they understand FTL technology, have passed the Technological Singularity, for example or can penetrate black holes. Yet, fragments of worldviews linger from the past, we still have mythopoeic elements in our thoughts and flat earth phrases in our language, so likely these questions will remain in some form as artifacts in future civilizations.

“For Egypt, the greatest horror was the destruction or abduction of the cult images. In the eyes of the Israelites, the erection of images meant the destruction of divine presence; in the eyes of the Egyptians, this same effect was attained by the destruction of images. In Egypt, iconoclasm was the most terrible religious crime; in Israel, the most terrible religious crime was idolatry. In this respect Osarseph alias Akhenaten, the iconoclast, and the Golden Calf, the paragon of idolatry, correspond to each other inversely, and it is strange that Aaron could so easily avoid the role of the religious criminal. It is more than probable that these traditions evolved under mutual influence. In this respect, Moses and Akhenaten became, after all, closely related.”

– Jan Assmann, [From Akhenaten to Moses: Ancient Egypt and Religious Change](#), (2014), p. 76

Rebels, Romans and Ruins of Religions: Or as Dr. Stephen Griffith (Lycoming College, Dept. of Philosophy) pointed out, rebels are not really 'free,' as being a rebel requires them to be the opposite of what they oppose, therefore, they cannot ever be what they want to be or could be. A very existentialist thought!; sometimes we make our own boxes and live in them. In the context of the ancient Egyptians and Israelites, the Jewish culture developed religion to symbolize their opposition to the other. This opposition religion then was redirected toward the Romans who conquered Egypt and, eventually, Palestine.

- ✓ In a sense, everyone is a rebel against something, just as Erasmus maintained that there wasn't a sane human, it was just a matter of degrees. Many people are confused about this, consider for example, the 1971 hit song by Lobo, "Me and You and a dog named Boo." The hitchhiking character in the song is clearly rebelling against attachment and being settled (against urbanization and suburbia), and declares, "How I love being a free man." The song appealed to the wishful thinking of the public and thus

was a hit. But the song confuses freedom to travel (freedom from employment, education, family, home ownership) and “livin’ off the land” with being free. The character in fact is caught stealing eggs and forced to work on the farm. Freedom in this sense is just the opportunity to rebel against something and we are all equally free and insane inside our minds.

- If after reading GGDM, you want to be the opposite of whatever you perceive I am, go right ahead, but I feel bad for the people around you. But that is the way we often react to our parents, elders, society.

The collapse of the Roman Empire eternally fascinates us for three reasons: 1) it was considered in its early form, the pinnacle of Classical Euro-Mediterranean civilization, 2) the collapse was tragically long and slow (and at the receiving end of the Great Migration, an epic in its own right) and 3) the collapse took an entire stage of civilization into the history books along with the Empire. And the Eastern Roman/Byzantine Empire was an almost, but not quite, equally impressive second season that protected post-Roman, post-Great Migration, Christianized Europe from additional impacts and also absorbed some of the remaining warlike entropic energy of the tribes as they settled down at the end point of the Migration.

- ✓ The collapse of the First Intermediate Period of Egypt (or any period of ancient Egypt) is probably nearly as epic, in different ways, but we do not identify with it. Possibly because Egypt recovered and had later greatness, but more likely, because Christianity emphasized the collapse of Rome and because the Roman and Byzantine Empire occupied and influenced over 1,400 years of history in Europe (from which Western culture sprang forth to 500 years of colonial hegemony) on the other side of the New Testament.

“This argument is strongly reminiscent of that of Shephard Clough, who suggested that weakness and collapse can be caused by diverting resources from investment in capital to expenditures on art and knowledge. As more resources are devoted to artistic achievement, the share available for creating economic well-being diminishes, as does the society’s strength. Thus the elements that define ‘civilization’ lead to its demise. The collapses of Egypt in the First Intermediate Period, and of Rome, are explained accordingly (Clough, 1951: 3-7, 52-53, 143-59, 261).”

– Joseph Tainter, [The Collapse of Complex Societies](#) (1988), pp. 55-56

Framing Collapse: Martin Luther in 1517 complained in the 95 Thesis about the Church’s lavish expenditures on cathedrals rather than using the money to help the poor. Through his own filter, he perceived this in the current state of German culture, beset by corruption, plague, and desperately poor, restless peasantry. The widespread peasant revolts, which Luther vehemently condemned (he needed the support and protection of the hereditary Electors and magnates), started in 1524 and evolved into the devastating German Peasant’s War (1524-1525).

This argument suggests that modern technological, global civilization may suffer from excessive investment in technology research and specialized education. The suspicion that this might be the case, or cause of problems, has long been harbored in the West and expresses itself in arguments about universal college access, narrow specialization, student loan debt, credentialism, and

government investments in (or lack of investment in) infrastructure, deterioration of infrastructure (usually by raising the debt ceiling) and loss of jobs through regulation.

In short, this argument encapsulates generally elements of the conservative position in America, including the usual sorts of anti-immigration arguments. Because of the development of radicalism and hostility between conservatives and liberals in the U.S., and the vagaries of unpredicted events in the 24-hour news cycle, the conservatives have not been able to sell this argument in any long-lasting manner. And as Joseph Tainter stated, the technological optimist argument has been hard to counter because so far they have been right:

- ✓ “The second problem ... is that technological optimists argue that we don’t really [need] to worry about resources, that all we need are free markets and the price mechanism. That as long as there are free markets that whenever resources start to become scarce, the market signals that it’s time to innovate, that there will be rewards to innovation. And so the assumption is that as a resource becomes scarce, people develop – put effort into developing a new resource or finding more efficient ways of using the existing resource or developing new technologies and so forth. This is a hard argument to counter because up until this point, the technological – excuse me – the technological optimists have been correct. We have maintained the most complex society humanity has ever known, and we have maintained it up to this point.... I have argued that technological innovation and other kinds of innovation evolve like any other aspect of complexity. The investments in research and development grow increasingly complex and reach diminishing returns.” – Joseph Tainter, podcast interview on PeakProsperity.com, by Adam Taggart, June 25, 2017.

“Among Europe’s Catholic peasantry, religion was all consuming and laden with folk custom. Believers sacrificed animals to the Virgin, prayed to the new moon, and worshiped the sources of streams. They made curative pilgrimages to the sites of miracles... The faithful believed in the necessity of witch hunts and resisted the Church’s attempt to stamp them out. Satan was everywhere and his creatures had to be eradicated....

After 1650 the Church made a supreme effort to spiritualize peasant Catholicism by attacking its magical content. A better educated clergy was sent to rural parishes, emphasizing scriptural teaching, the sacraments, and the catechism. The Church attacked semi-pagan folk festivals and declared war on the veneration of accumulated bric-a-brac that had transformed Churches into sacred warehouses.”

– Raymond Birn, Crisis, Absolutism, Revolution: Europe 1648 to 1789 (2nd Ed., 1992), pp. 171-172 ²³

Endnotes.

¹ Citation: See, for example, The Life of a Flea discussion in I Information, p. 1334, *infra*, of pets in space-opera fiction, which leads to commentary about Muffit in the original Battlestar Galactica series, which in turn, becomes a backdoor to a discussion of standard tropes in 1970s television.

² Citation: cf. “As David said, ‘Against thee, thee only, have I sinned, so that thou art justified in thy sentence’ [Ps. 51:4]. As a matter of fact, true Christians willingly accept the rebuke and judgment that is in the preaching of God’s word. But those who won’t receive this judgment show plainly that they are really damnable knaves. They are sinning against the Holy Spirit when they refuse to accept the rebuke of the preachers through whom he speaks. Or

they are so far gone that they regard our preaching as nothing more than man's word and so won't tolerate it." – Martin Luther, "Appeal for Prayer Against the Turks" (1541) *Luther's Works*, Volume 43 (1968).

³ **Citation:** Originally published in Planet Stories, summer 1948 issue (information from the ISFDB), also reprinted in S is for Space (1966) of which I have had a hard copy since I was a teenager (along with R is for Rocket), I think I got them from my mother who probably bought the books in the 1970s.

⁴ **Commentary & Citation:** This quote attributed to Leonardo da Vinci has been bouncing around the internet for decades, in various versions, e.g., "Principles for the Development of a Complete Mind: Study the science of art. Study the art of science. Develop your senses – especially learn how to see. Realize that everything connects to everything else" and "Leonardo Da Vinci's principles of learning are: Study the art of science, study the science of art, use all your senses, and know that everything connects to everything else." According to the Talk Page discussion on Wikiquote, it does not appear anywhere in his writings, but may have been derived from something he actually wrote, "*Studia prima la scienza, e poi la practice bata da essa sceinza. (Libro di Pittura, 32r)*" (Wikiquote Talk Page). This is a common situation with quotes of questionable attribution or accuracy on the internet. However, the *more important* fact is that people like the bits of wisdom contained in the alleged Leonardo da Vinci quote and have enough respect for da Vinci as a polymath to attribute it to him without question, a form of internet nexialism.

⁵ **Commentary:** Imagine how profoundly the invention of names for objects and concepts affected our ancestors? Conversely, imagine a conversation in a world where nothing has any formal name? Is it possible? Who are you without a name? Helen Keller relates that the 'breakthrough' came on the day at the water fountain, when she finally grasped that sounds represented objects. Afterward, she wanted to know the names of everything.

⁶ **Citation:** J. Michael Kennedy, "Octavia the Octopus Dies as Tank Empties: Animals: The sea creature at San Pedro aquarium apparently tore off a drain pipe with her tentacles overnight. The death intensifies controversy over her captivity." Los Angeles Times, April 12, 1994.

- ✓ Octopi seem to particularly detest captivity. There are many stories of them escaping tanks, trying to crawl away, go down drains, etc. The one at the Santa Monica Pier Aquarium disassembled a valve and flooded the exhibit and offices with 200 gallons of water. See, Bob Pool, "Did this mollusk open a bivalve?" Los Angeles Times, February 27, 2009. According to PETA, another octopus in Germany shorted out lights by squirting water, and also redecorates his tank, throws rocks, etc.
- ✓ Unlike other sea creatures who may be unhappy in captivity, Octopi have manipulative appendages and some sort of intelligence to manipulate their surroundings, including some human technology. See related Hox Genes discussion, 1 Technology, p. 685, *infra*.

⁷ **Citation:** "Before the French philosopher Descartes (1596–1650) pointed out the existence of the conscious self as a turning point in epistemology, using the phrase 'Cogito ergo sum,' the 11th century Iranian philosopher Avicenna had referred to the existence of consciousness in the flying man argument. Thus, long before Descartes, Avicenna had established an argument for the existence of knowledge by presence without any need for the existence of the body. There are two stances on the relationship between the arguments of Avicenna and Descartes. Some scholars believe that there are apparent similarities between the floating man and Descartes' cogito. Others consider these similarities trivial and superficial. Both Avicenna and Descartes believed that the soul and self are something other than sense data. Also, Avicenna believed that there is no relation logically between the self and the body. In other words, there is no logical dependency between them." – from Wikipedia article, "Floating Man," May 21, 2020.

⁸ **Citation:** "It is around this time that the gravest of omens took place. This spiritual crisis involved the daily sacrifice of lambs to Yahweh. Like clockwork, the priests [Sadducees] had upheld the Holy Rite of Talmud amidst the bloodshed and starvation of the siege. But on the 5th of August, the last of the sacrificial lambs ran out. Now, at the height of the siege with the Romans advancing, the Jews lost their connection to God." – from "The Siege of Jerusalem (70 AD) – The Great Jewish Revolt [FULL DOCUMENTARY]" Invicta YouTube Channel, August 11, 2019.

- ✓ The triumph of the Pharisees and rabbinic Judaism is proved thus: It is inconceivable to us – silly and shallow seeming even – to hold that the inability to sacrifice a lamb daily severs a people's connection to God. It also seems an unnecessary cruelty to animals and a terrible waste of food. Sadducee Judaism seems to hinge faith on the *neurotic paradox* of a daily *symbolic act*: The ritual sacrifice of animals to God.

⁹ **Commentary:** One busy summer workday, we were walking along Grant Street in the mid-afternoon carrying boxes from one office to another. We noticed that people would look at us briefly and smile, some a little, some more obviously. After a few moments of wondering, we realized that people were smiling at the large image of Kermit the Frog that was on the box I was carrying. Kermit the Frog is a symbol of something to those who showed a reaction; perhaps a symbol of their childhood, a memory of fun and innocence on a sunny summer workday.

¹⁰ **Commentary & Citation:** I have wondered if the original concept of being 'turned to stone' was a reference to being immortalized, rendered in statuary form? Thus, being turned to stone was a symbolic act, demonstrating what

the subject or the people desired of that particular person – and it kind of worked, people see the statue and assuming it must have been a great one, ask, who is that? They rarely ask who was the artist-sculptor. Being ‘turned to stone’ comes down to us, however, as an ‘evil,’ horrific, literal event thanks to Greek mythology; do you suppose that Medusa might have been originally an especially skilled and prolific, and rival, Minoan sculptor, perhaps making statues of women? Might the monster Medusa have represented the extreme of symbolic acts, or of clear memory, or a time-travelling tourist with a Polaroid camera? We do not view statues in the same way now, or not even in the same way as a couple of centuries ago, the symbolic of most things has been lost out to the literal, the commercialized, and the cheap, but our language is still loaded with symbolic act references.

- ✓ This trend continued from classical sculpture into Renaissance painting; it is not a coincidence that some of the most famous Renaissance painters were also sculptors in stone, and this is the reason for the Mona Lisa.
- ✓ In the TV miniseries Masada (1981), the Roman commander had a miniature bust sculpture of his wife in a sort of temple in his tent. It is not certain – as is the case with husbands and wives – whether this is symbolic of his wife being there with him or symbolic of his joy that she was not there with him – like Londo’s three wives in Babylon 5, whom he symbolically called war, pestilence and famine.

¹¹ Commentary: Peter Bartholomew, the purported discoverer of the Holy Lance of Antioch in 1098 A.D., went through an ordeal by fire in April 1099 A.D. to prove himself as an authentic prophet or holy man. He survived, but was probably severely burned (beyond what medieval medicine could help), he died less than two weeks later (organ shutdown? infection?). There were vocal skeptics at the time of how the relic was allegedly discovered and his claims of visions.

¹² Commentary & Citation: In this, the Crusaders had classical Christian inspiration – however, alleged religious artifacts can be more reliably produced than celestial phenomenon, to wit:

- ✓ “Always sympathetic to Christians, he claimed to have had a divine vision that helped lead his troops, flying Christian symbols on their standards, to victory in civil war in 312. The most reductionist reading of the evidence would say that, in 310, Constantine saw a solar halo, a rare but well-documented celestial phenomenon, in the south of France and in the company of his army, but Constantine’s account of events changed over the years and we can’t be sure. We can say with greater certainty that for several years he wavered between Christian and non-Christian *interpretations of the sign*. He eventually decided, to the delight of the Christian leaders in his entourage, that he had been sent a sign by the Christian God. He became a Christian, as a matter of belief and perhaps policy too.” – Prof. Michael Kulikowski (Pennsylvania State University), “Christians were Strangers: How an obscure oriental cult in a corner of Roman Palestine grew to become the dominant religion of the Western world,” Aeon, January 30, 2017 (emphasis added).

¹³ Commentary: Most of Western vaguely Christian humanity tends to think of “angels” as deceased souls who have gone to heavenly afterlife. At least that’s how it seemed when I was growing up, probably the priesthood has encouraged the idea. If so, that makes angels simply eternally dead people with wings and halos and chordophones...one can imagine Jimi Hendrix’ impenitent utterance when they tried to issue him a lyre or harp. Yet the same is not said of those condemned to Hell in the afterlife, most generally do not equate that with souls of the damned becoming demons or devils, being issued pitchforks; instead, most imagery features souls as being tortured and consumed by the hellish host. And the clergy certainly had something to do with constructing that image from the pulpit! So we are not willing to have it both ways equally, otherwise the hosts of Hell would grow exponentially and overwhelm Heaven.

- ✓ The holy lore seems to support the Hellish vision of the afterlife more than the common posthumous angels, because what little is said on the subject suggests that the two hosts existed before humanity and thus would not be recruited from the souls of the deceased, but came from another origin (they must have had an origin because in the way it is told, they could not have existed before God, who some contend always existed). And in my youth, I would occasionally hear, “He/She [the deceased person] is with the angels now,” certainly suggesting that deceased souls are different than angels (though I never made that distinction because of Saturday-morning cartoons and other television shows) – a point that Robert Heinlein exploits comically and satirically in Job: A Comedy of Justice (1984).

¹⁴ Commentary: Some crusaders were informed via a vision that they would capture the city in nine days if they paraded around the walls of Jerusalem. On July 10, 1099, twenty thousand crusaders marched barefoot in a religious procession over sharp stones and rubble, singing hymns, following priests carrying holy relics. This may have been repeated for a few days. The defenders could only watch in amazement from the walls. What a great plan!

¹⁵ Commentary: An argument has been advanced that media reporting of the Siege of Kobanî in 2014 forced the hand of the U.S. commanders who were indifferent to the capture of Kobanî by the Islamic State. The U.S. com-

manders were focused on their campaign of depriving the Islamic State of revenues and infrastructure, but with intense media reporting, the fate of Kobanî became too symbolic to risk loss and they were drawn into the battle. It seems also that the Islamic State sensed the symbolic value of a victory there, and committed their last reserves.

¹⁶ Commentary: I read a scathingly negative review of the Banner of the Stars series on MyAnimeList written by user Mister Gibbon (https://myanimelist.net/anime/396/Seikai_no_Senki). I have seen both Crest of the Stars and Banner of the Stars I & II. Mister Gibbon is a very sensitive and observant intellectual, and I found it refreshing that he saw and deconstructed all of those things in the show's characters, story arc and background. But in the end, it seemed mainly that his complaints were the fact that the show's political and cultural milieu offended his ideological sensibilities and that the writers presented the story consistently from the Abh Empire's view, without cutting out to show the other side's story. Who knows, maybe the show writers were Abh nobles? I took the show more neutrally; I know that the Humankind Empire of Abh is an empire – it's in the title – and a monarchy, expansionist and authoritarian – it is implicit in the term “empire” with hereditary nobility, restricted upward social mobility and of course, restricted access to starships. And it's not surprising that the characters don't see that they have other options or don't see that they are trapped in the system. But for what Mister Gibbon criticizes about the show, I applaud the writers for being able to construct and maintain consistently, even down to the personal quiet time conversations of the characters, a worldview that is really from another time, but in a space-opera setting. The point of this asymmetric response to a review I read online is not to pick a fight with anime fandom, but rather, as with all of my commentary, to illustrate a point within GGDM, in this case worldviews and storytelling.

- ✓ I do not dislike anime and have watched some entire series, but I pick my spots. I could have become an anime fan, maybe even *otaku* (but am instead, GGDM *otaku*), but I find that so much of it is juvenile, eye-rolling (not to mention the anime fanboys I knew in college or at my friend's comic book shop); the art is usually good or gorgeous, the story may have been a good, potentially fascinating idea, but poorly executed and the characters are frequently unlikeable, inconsistent, silly, pointless or flat. Examples of this include Geneshaft and Kabaneri of the Iron Fortress. My favorite anime series to date are Boogiepop Phantom and Serial Experiments: Lain, while Banner of the Stars/Crest of the Stars and The Last Exile were also good.

¹⁷ Citation & Commentary: Excerpt from a 2009 Marxist review of the 1955 movie, *Strategic Air Command*:

- ✓ “How many miles of celluloid have been exposed in the business of glorifying the men and planes that dropped the bombs that burned the cities? ‘Too many’ is not a flippant answer. *Strategic Air Command* (1955) is the supreme ideological example of the (for want of a better word) ‘USAF genre’ movie. Washington's defeat in the Korean War thwarted plans to overturn socialism in the USSR and curb anti-colonial struggles via atomic intimidation, and created the stalemate between imperialism and the dictatorship of the proletariat we have come to call the Cold War. And in the Cold War, so far as Washington and its Madison Avenue and Hollywood drum-beaters were concerned, the newly inaugurated USAF had center stage.... It was beside the point that the organization they ran, and still run, is an international murder machine pushing the violent rule of the world's final empire. *Strategic Air Command* is no sensitive treatment of such ‘organization’ men, the men in the ‘gray flannel suit.’ It is, instead, about the satisfaction to be found when men (and their wives) embrace the shipwreck of their lives and careers on the rocks of a necessity called National Security.... [The movie] espouses ‘professional military conformity’ writ very large. If anyone other than the Pentagon can be identified as the film's ‘auteur.’... The dramatic spine of both movies is the education of a husband and wife in their responsibilities as cogs in the great engine of national war-making.... It all has to do with what we came to call deterrent and mutual assured destruction. Eventually the stifling moral cynicism of imperialists like General Hawks would be rejected, but until the Wall Street barons and the state that defends their rule is finally removed from power, the real SAC will thrive.” – Jay Rothermel, “How James Stewart Learned to Stop Worrying and Love the Bomb: Anthony Mann's *Strategic Air Command*,” *Bright Lights Film Journal*, October 31, 2009.

This review, which actually makes several very good points, is so loaded with extreme ideological language that it is choking on its own vomit. It is intended to placate and reinforce those who are already convinced, and offend anyone who is not already convinced: It is not seriously attempting to convince anyone who is not already convinced.

- ✓ The elephant in the room for any 21st Century Marxist, communist or socialist argument is the failure of the Soviet Union. For the aspiring 21st Century Maoist, it's in the name – the Great Leap Forward, the Great Chinese Famine, the Red Guards, and the Khamoung Rouge travesty. For future Islamic extremist or idealist, it is the Islamic State. How do you get around that elephant without being trampled or sat on?

¹⁸ Commentary & Citation: This is the problem with neo-paganism and ‘goddess’ New Age religions: Can we really go back there? Our view of and scientific knowledge of the universe, and of the natural world on Earth, is so

much different than our ancestors, we simply cannot ‘forget’ it and adopt the worldview of our pre-Christian ancestors. It’s the same problem as the one with anarcho-primitivism, we can’t go back even if they have great and convincing arguments, it’s too late. These movements generally reflect the human wish to be children again, to revisit the golden halo of our childhood memories, but you can’t be a child again, it’s wishful thinking (and it wasn’t really as good as we remember it anyway). See further mythopoeic thinking discussion, *More Than a Feeling*, 1 Temporal Technology, p. 808 *et seq.*, *infra*.

- ✓ Undoubtedly, one of the oddest musical performances I have ever seen is the group Heilung. Live performance videos from their 2017 album *Lifa* are available on YouTube. I spent an hour or two being mesmerized by their performances of “Krigsgaldr,” “Fylgija Ear,” “Hamrer Hippyer,” and “Othan,” etc. Frankly, I have no idea what they were singing, some part of it was in English, and still I couldn’t follow it all, but their performance is quite impressive, elaborate, and novel and on some level, is language independent. A lady I know called them creepy. Later in the evening, I listened to the entire *Lifa* concert (the opening pagan prayer is in English) to get the continuity which is lost by watching the parts. A very creative group, I wonder how long they can do this gig before the novelty wears off or they get tired? Can they be healed?

¹⁹ Citation: See Luther and Calvin on Secular Authority excerpt in Luther & Charles, *Government Titles*, *infra*.

²⁰ Commentary: I often don’t understand why a movie is branded as terrible; I guess I am a sucker for suspension of disbelief in sci-fi and fantasy movies, until the moment when I see something that I think is just stupid.

- ✓ Consider the following reception of the film *Open Windows* (2014): “John DeFore of *The Hollywood Reporter* wrote that only genre diehards are likely to accept the level of suspension of disbelief necessary to enjoy the film.” – from Wikipedia article, “*Open Windows* (film).” I have watched some low budget, borderline bad-awful movies, e.g., *Somnus* (2016) to the end, but like *Sorceress* (1982), *Open Windows* was the rare movie that I could not finish, about halfway through I felt it was so ridiculous that I turned it off.

I like when movies show us a surprising glimpse of another worldview, something that tells me the writers have thought it through. One example is *Waterworld* (1995) where dialogue reveals that the people believe that the world was made that way and that they envision the mythical “Dryland” as sort of an island of dirt floating on the sea. The captain of the *Valdez* has a suburban development picture and speaks in awe about “acreage.” The various adaptations of religion and the reverence for a few remaining artifacts are amusing, especially the burial ritual at the atoll. Or when the *Smokers* celebrated the *Mariner* killing *Smitty*, an opposite of the expected reaction. Yes, I know it’s a *Mad Max* formula movie, but the ending leaves an interesting question; it is clear that the waters are not going to recede anytime soon, so the island (Dryland) will only support so many humans before overpopulation becomes an issue (disease killed the original inhabitants), there is also the issue of whether or not there are any other *Mariners* out there, who will probably inherit the world. If so, the land-dwelling humans on Dryland are just another artifact.

²¹ Commentary: Given that praxeology flies apparently in the face of empiricism and positivism, I was curious if any colleges offered degree programs or courses in praxeology. I did first a Google search for courses in praxeology; of course the first hits are related to the *Misus Institute*’s virtual academy online courses. I also found a Ph.D. seminar research course at the University of Bergen titled with praxeology, but appears to be really a course in academic publishing in health science and social science journals, thus it is difficult to discern what it has to do with praxeology other than the human conduct in peer reviews and manipulating editors! There were, of course, many articles on praxeology from free intro articles, libertarian encyclopedia articles, a *Research Gate* article on praxeology and epistemology, to an article related to economics education of engineering students. I found no schools offering a degree in praxeology. Yet it appears from Google search that one can take courses and obtain degrees in homeopathy, a medical practice that is at best viewed with great skepticism, doesn’t line up empirically with the rest of medical science, and in worse cases, is far more dangerous than praxeology in terms of possible life, death, health, and lawsuits; homeopathy is regulated in all countries, one does not need a license to ‘practice’ praxeology.

- ✓ Am I comparing apples and oranges? But this does point to a ‘second layer’ of epistemology in our civilization; homeopathy and praxeology are subject to disputations, disdain, dismissal, and are not considered of such use that one can get a degree (or a respectable degree) in those fields, but they hang around in the substrata because they cannot be absolutely proven or disproven, and they provide useful ideas to include in discussions in more respectably-established disciplines. Positivism, empiricism and inductive reasoning have also not yet managed to banish either religion or philosophy for the same reasons.

²² Commentary: SCA is the Society for Creative Anachronism. I was a member of the *Shire of the Isle of the Blue Mists*, *Barony of the Far West*, in 1986 and 1988, before falling away into the abyss.

²³ Citation: On the subject of religion and European witch hunts, see also the *Little Ice Age* feature quote, bottom p. 230 and *Sands & Seas* discussion, p. 231, 1 *Entropy*, *infra*.

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*See Appendix DE&A – Disruption Events, Inactive Constructural Elements & Apostasy
See Appendix PAT4 – Power Activations Tables 4 – Power Activation Failures*

Marriner: *You are life itself. Without you, I'm nothing. Don't you understand?*

Tegan Jovanka: *What?*

Marriner: *I am empty. You give me being. I look into your mind and see life, energy, excitement. I want them. I want you. Your thoughts shall be MY thoughts, your feelings MY feelings.*

Tegan Jovanka: *Wait a minute. You tryin' to tell me you're in love?*

Marriner: *Love! What is love? I want existence.*

– Dr. Who, “Enlightenment,” Part 4 (1983)

Presence: All objects in the game have four Constructural Elements which connect them to their position in the game. Each Constructural Element of each object is considered to be either active or inactive at any time in relation to each position. The state of a Constructural Element for any object relates to one position in the game (the owner), is independent of all other positions, and cannot be shared. Constructural Elements of a position cannot be seen by another position – can you look into my mind and see what I believe? – thus they are secret, but hints may be received – as in the real world – from diligent observation of actions.

Constructural Elements are activated by an activation of the Culture Power and are typically deactivated by a Disruption event; once activated, a Constructural Element cannot be ‘turned off’ voluntarily (and there would be no reason to do so) while the object remains within the position’s Public Space. However, the Temporal Constructural Element is automatically activated by placing the object in the Public Space and is always the last Constructural Element to be deactivated, which would cause the object to be removed from the Public Space. The Temporal Constructural Element cannot be deactivated by Disruption Event; the only ‘deactivation’ is by removal from the Public Space, i.e. loss or destruction. The Temporal Constructural Element is the English “to be” verb in its existential form, “to exist.”¹

➤ **Intuitive Things:** Constructural Elements are intuitive and nearly as axiomatic (in the ancient sense) as Euclid’s postulates and common notions; waiting only for someone to point out the obvious and give it a name and place in our Public Space. The only quibble will be with how I have chosen to slice the cognitive pie; I chose four types for the game. And that is absolutely true.

- ✓ “Mises used the term praxeology to name the deductive science that begins with the premise *that human beings act intentionally*. This premise is often called the ‘axiom’ of praxeology. It is an axiom because, in order to disprove it, you have to engage in what the proposition affirms, i.e., you have to act intentionally to argue against the proposition. An intentional action identifies an *end*, or purpose, to the action, as well as certain means selected to achieve that end.” – Michael Accad, M.D., “An introduction to praxeology and Austrian school economics,” alertandoriented.com (blog), April 13, 2016 (emphasis in original).

In order to argue against Constructural Elements, you must have a different worldview than I do... meaning you have Constructural Elements, but may simply call them something different.

- Imaginary Things: Even imaginary things have Constructural Elements, that is, they have a time and place where the author first imagined them or that they first passed into the public consciousness; imaginary things can symbolize real things, they can be part of an ideology (e.g., Avalon), and they have a place within our cognitive structure of the world – that is, they are imaginary, pretend, not ‘real’ (are you sure you know what’s real?). Anything in our consciousness has Constructural Elements. Perhaps, this gives a sort of reality to imaginary things; explaining why they have such force when we know they are not real?
 - ✓ Many years ago – and for me, that’s usually about twenty or more – I was surfing channels and came across an odd animation called Rarg (1988) on a PBS station. In the story, the people of a great town realized that they were part of some boy’s dream who was sleeping in his bed at night. They were afraid he would wake up and they would cease to exist, so they contrived a way to come into our world and kidnap him into their world. In a vast operation suitable for an existential threat, they opened a portal in his wall, came to his room, and carefully carried his bed through the portal with him in it still sleeping (of course). They placed his bed in a sealed vault where no sound could disturb his sleep, and felt then that they were safe, he would never wake. But then he began dreaming of flamingos.²

“Character – a reserved force which acts directly by presence, and without means.” – Ralph Waldo Emerson

When The Lights Are On...: Active Constructural Elements affect the game, inactive Constructural Elements have no effect.

- Power On: All Homeworlds and starting colonies and ships begin with all Constructural Elements activated. *Each successful Power Activation at a location has a **10% chance** of making each active Constructural Element on sovereign ships and colonies at that location become inactive.*³ The less actives you have, and the less local activities, the less chance ... the universe punishes you if you stay in bed, the universe punishes you if you get out of bed.
- Skool Tyme: The Host World of a College must have an active Epistemological Constructural Element; if it becomes inactive, the operation of the College is suspended.
 - ✓ Any object – ship or colony planet – that does not have an active Epistemological Constructural Element may not (50% chance) be able receive the effects of College Faculties (i.e. Enlightenment, whether for use in die rolls, including Combat, or Institutes on that colony). This applies to rerolls of Power Activation failures as well.
 - ✓ A Research Group (see 2 Technology, p. 700, *infra*) that is not adjacent to a colony with an active Epistemological Constructural Element becomes *disrupted* and cannot be Developed to the Era Matrix, but is not removed from the Public Space.

The Concierge may introduce other requirements as the game progresses, for example, some Writs may also require an active Epistemological Constructural Element.

- Waving the Flag: The Capital Colony of a position must have the Symbolic Constructural Element activated; if it becomes inactive, the *Capital status* of the colony is suspended.
 - ✓ A Capital Colony must have a Symbolic Constructural Element to serve as a connection to a Diplomatic Space; without it, the Diplomatic Space is inaccessible.

- ✓ And since symbols drive sapience – think of political slogans and advertising, active Symbolic Constructural Elements are also a required part of Fuzzy Groups (for Writs) and Zeitrice (for Exposé) formations. See Fuzzy Formations, 4 Culture, p. 405, *infra*.
- ✓ Most activations of the Diplomatic Power are unavailable while the Capital colony's status is disrupted, as well as the inability to access Diplomatic Spaces. See Stepping Out, 1 Diplomacy, p. 1096, *infra*.

Finally, Symbolic Constructural Elements may be used in other parts of the game as appropriate, for example, a 'flagship' may require an active Symbolic Constructural Element to function in whatever way a flagship might in the game (probably requires a Writ or Doctrinal Template).

- ✓ [Interview in Russian translated by English subtitles] “As well as strategic, it also held great political significance. For Hitler, Leningrad was above all a symbol of Bolshevism and he considered that it was impossible to achieve victory over the Soviet Union without defeating Leningrad. It held political significance for the whole Soviet population, and as a totalitarian state that depended on ideology and symbols, Leningrad was one of the symbols of power. Therefore, its fall would definitely have had a negative effect on the mood of the whole country.” – Dr. Nikita Lomagin, St. Petersburg State University, Under Siege (documentary, 2008), Episode 5.
- Body Politic: A Writ is an act of sociopolitical will.
- ✓ An active Ideological Constructural Element is required for any object to be effected by the activation of a Writ. Because of the number of possible different situations that might occur, the Concierge will judge and rule on specific situational requirements. In the alternative, the Concierge may determine that Writs may affect objects with inactive Ideological Constructural Elements to a lesser extent than they would if an active Ideological Constructural Element were present.
 - ✓ An active Ideological Constructural Element is also required on any Friendly or Naturalized colony planet adjacent to a Fuzzy Group in the Public Space to form the Fuzzy Group.

*“This is the kind of power-preserving cynicism that was embedded in the Third Imperium from its beginnings, and which ultimately brought its downfall. It can be argued that the reason it lasted as long as it did was because for centuries its base cynicism was understood by only a relative few. But once word got out, it was open season on **social cohesion**, and there was nothing anyone could do to stop it.”*

– Dave Nilsen, “When Empires Fall II,” Challenge Magazine, Issue 69, February 1993 (emphasis added)

Artifice: Inactive states of Constructural Elements is a game artifice: Zero or one is not generally reflective of human affairs. Rather, ‘inactive’ refers to a state in which the worldview (or sociopolitical views) *and actions* (this *does not* mean violent revolt, but divergent interests) of a group diverge from those desired by or agreeable to the government or governing powers.

While GGDM frames the concept in the form of governments, it is true of any organization that has any philosophical pretensions or pretensions of legitimacy, e.g.:

- ✓ “This is not the first time American Methodists have split over the issue of human dignity. The predecessor to today’s United Methodist Church split over the issue of slavery in 1844 and did not reunite until 1939. The issue of ordaining and marrying LGBTQ people has been contentious within the denomination for decades. Now the United Methodist Church, the nation’s second largest Protestant denomination, has reached another breaking point. Like many, I’ve believed for the past several years that schism is necessary. ... But if 2020 does indeed result in a schism of the Methodist movement like 1844, it’s because a break is needed, if unity cannot be achieved, to ensure human dignity is respected.” – Guthrie Graves-Fitzsimmons, “Opinion: Methodist Church has reached its breaking point,” CNN, January 6, 2020.

When enough Constructural Elements are ‘inactive’ in the current culture or cognitive scheme,⁴ they form an increasingly potent alternate worldview (schism).⁵ This ground shift explains, for example, the fading of monarchies in modern times, some ended abruptly and/or violently (e.g., Tsar Nicholas II, Keiser Wilhelm II), some lived out their lives in exile (e.g., Umberto II of Italy), some are extinct as a title (e.g., King of Italy, King of Bavaria, Emperor of France, Holy Roman Emperor) and the remainder are now just figureheads (e.g., Albert II of Belgium, Elizabeth II of England, Felipe IV of Spain) with limited political influence. Simply, the world moved on from monarchies, as republicanism and modernity converted the worldview of their subjects. To fight this, the remaining actual monarchies have stagnated their culture and limited influences.

- ✓ “Ibn Khaldun also argued that ‘asabiyya [social cohesion] is cyclical and directly related to the rise and fall of civilizations: it is most strong at the start of a civilization, declines as the civilization advances, and then another more compelling ‘asabiyyah [social cohesion] eventually takes its place to help establish a different civilization.” – from Wikipedia article, “Asabiyyah,” captured May 9, 2020. [see Nilson, *ut supra*] ⁶

Thus it is a dynamic process of gradual change. To the extent that the current government is able to reactivate Constructural Elements (by process of Cohering, see 5 Culture, p. 421, *infra*) it is the ability to reinforce the authority of the prevailing worldview in the short term.⁷ Over time, the passage of generations and the turnover in Government Titles, the view of government does and must shift with the worldview of the governed and those who govern. Thus, Cohering, like the mutual embrace of gravity between the Earth and the Sun, works both ways, Cohering can be seen equally as bringing the government in line with the worldview of its sovereign populations (see discussion of pseudo-physics, 2 Kairotic Moments, p. 1434, *infra*).

- ✓ For an interesting exercise in change of worldview over time, study a line of portraits of Holy Roman Emperors from the Middle Ages to the last Holy Roman Emperor Francis II, who abdicated in 1806. In between are vast, sometimes startling changes not only in dress and personal appearance, but also in artistic style and the way in which they chose to be depicted. See Wikipedia article, “Holy Roman Emperor.” This process can be repeated with any line of monarchs, e.g., a line of portraits of Kings of England, Russia, Germany, Popes, etc.
- Deprecation: I have noticed in the last few years that only about 40% of houses put up decorations for the Holidays and of those who do, they are much more subdued and much less than they were in my youth in the 1970s (and Halloween is almost non-existent now). This tracks generally with polling data that says the United States is becoming more secular.

Christmas and Easter have been for dozens of centuries the strongest symbols in the Christianized West. Christmas has become tired, trite, hypocritical, the inspiration for misguided attempts at good will, and has been the subject of satire and lampooning, and flat or mean-spirited comedy (e.g., *Deck the Halls* (2006), a box office bomb).

In GGDM terms, the current state of Christmas, taken as a Symbolic Constructural Element in our civilization, is not ‘inactive’ in a strict sense because it does not cause groups to do what civilization or the government doesn’t want them to do or fail to ‘obey’ a Power Activation (the retailers, however, are somewhat less happy about it); the current state of holiday celebration does not cause wildly different behavior than what is expected or approved, and is not generally regarded as harmful. In fact, as the government of each generation comes from the previous generation and is peopled by the people, it tends to eventually follow the trend of its civilization. Rather, in IT terms, Christmas is a ‘deprecated’ Symbolic Constructural Element; in any event, the current state represents a shifting worldview of our civilization in which *all* holidays are generally lower-keyed than previously, and with them, whatever symbols they previously represented.

- ✓ “In the world of software development, ‘deprecated’ refers to functions or elements that are in the process of being replaced by newer ones. The term comes from the word ‘deprecate,’ which means to disapprove of something. While deprecated items may work in the current version of a programming language, they may not function in future updates. Therefore, software developers are advised to replace deprecated items with other options.” – Tech Terms (techterms.com) at *deprecated*.

*“Culture jamming is sometimes confused with artistic appropriation or with acts of vandalism which have destruction or defacement as their primary goal. Although the **end result is not always easily distinguishable** from these activities, the intent of those participating in culture jamming differs from that of people whose intent is either artistic or merely destructive. The lines are not always clear-cut; some activities, notably street art, will fall into two or even all three categories.*

*Recently there have been arguments against the validity and effectiveness of culture jamming. Some argue that culture jamming is easily co-opted and commodified by the market, which tends to ‘defuse’ its potential for consumer resistance. Others posit that the culture jamming strategy of **rhetorical sabotage**, used by Adbusters, is easily incorporated and appropriated by clever advertising agencies, and thus is not a very powerful means of social change. Yet other critics argue that **without moving beyond mere critique** to offering an alternative economic, social, cultural and/or political vision, jams quickly lose their power and resonance.”*

– from Wikipedia article, “Culture Jamming,” captured August 21, 2019 (emphasis added) ⁸

Power Off: Colonies and ships have a base 5% **plus** 15% chance per inactive Constructural Element of *not obeying each Power Activation* (including Cultural Activations for the purposes of Cohering, see 5 Culture, p. 421, *infra*) that applies to them.

- ✓ For example, a colony might not respond to Taxation or a ship may not respond to a Combat Power activation.
- ✓ However, colonies will *always follow a Census Power Activation*⁹ and units will always defend themselves (defense in Combat is never a Power Activation anyway).

The 5% chance to fail to obey a Power Activation provides a very small chance that in the best of circumstances, it can still fail. This is very important to remember as it relates to Government

Title legitimacy, etc.; sometimes failure occurs without any immediate explanation. But incohesion is the main culprit in GGDM.

- ✓ Merriam Webster online dictionary at *incohesion*: incoherence, *especially*: lack of orderly effective interaction between human groups.

Some Power Activations require only one activation failure check of ships or a colony, some require checks of both the ship and colony involved. Power Activations that *fail* any check **will not execute**.

- ✓ “Oh! Mutiny makes me so angry!” – Marvin the Martian, “The Hasty Hare” (1952).
- ...But Nobody is Home: Primarily, this is a discussion of Epistemological, Symbolic and Ideological Constructural Elements. If all three are inactive, the chance of failure is 50%, so there is always a 50% chance that the ship or colony will obey the Power Activation regardless. As mentioned previously, loss of the Temporal Constructural Element means that the object is no longer in the Public Space (and potentially the Galactic Space as well) and cannot be affected by Power Activations; Temporal Constructural Elements cannot become inactive due to Disruption Events, so there is always a 50% chance....
 - ✓ Acts, Scenes and RPs *are not used* for location-specific Power Activations that fail. This blanket rule may or may not be realistic, but for game purposes, it avoids having to distinguish global Power Activations that can fail at each planet, such as Taxation or Cohering... It simply means rainchecks have been issued.

The potential for Cohering attempts to fail due to inactive Constructural Elements at a target is akin to starving or dying of dehydration because injuries have left you unable to eat, drink, or move to procure food and water. Thus, it can become a spiral situation when inactive status of Constructural Elements is widespread through the position.

- ✓ The active/inactive state of Constructural Elements is not especially realistic; it is an example of how reality must be bent to the simulation, simply that the idea must be expressible as a game mechanic. Emergent, creative storytelling fills the gaps.
- ✓ These are, again, just game numbers without realistic basis. They can be adjusted to suit the taste of the players; inactive Constructural Elements can be made more or less punishing. However, great caution should be exercised in doing so because the relationship of Power Activations and Constructural Elements *is a critical core of the game*; I would suggest adjustment no more than +/- 5%. Inability to Cohere is black ice on a highway at night; drivers must be very careful.
- Decentralized Resistance: Not every Power Activation is capable of failing due to inactive Constructural Elements. Constructural Elements apply to *location-specific activities*, i.e. those that occur at colonies or on ships; they apply to units in GGDM (see game units discussion, View from a Height, 1 Construction, p. 660, *infra*). Power Activations that target specific ships and colonies can fail, but global or positional Power Activations often fly over the checks. A normal position turn will likely include some Power Activations that can fail due to inactive Constructural Elements and some that do not require a check, and of those that can fail, only one or two will occasionally fail. Just enough to keep it interesting, and infuriating. Position’s Regular Turns will not be regularly wiped out, rendered pointless, by Power Activation failures, a position will not be rendered a prostrate position solely because of inactive Constructural Elements.

- ✓ Enlightenment, discussed in 2 Colleges generally, *infra*, can serve as a sort of ‘band-aid’ for Power Activation failures due to inactive Constructural Elements by forcing rerolls of failed Power Activations. It is a matter of priorities and demands, but generally, constant use of Enlightenment for this purpose is not best practice.
- Traitors Will Be Shot: Power Activation checks only occur on Regular Turns, thus units in combat will not fail to obey their Combat Orders each Combat Round due to inactive Constructural Elements (see Relativity, 2 The Streams of Time, p. 85, *supra*; Regular Turns and Combat Round run independently of each other). However, they may be unable to benefit from Enlightenment in Combat due to inactive Epistemological Constructural Elements. This may make some units heroic or elite as compared to others who cannot benefit from Enlightenment in Combat.
 - ✓ Constructural Elements are a ‘bridge’ between the collectivity of individual worldviews of volitionals and the ability of their governments to act.
- Meanwhile...Back at the Ranch: The list and variability of situations requiring or not requiring Power Activation failure checks is too long for here, and will be addressed in each section as necessary. For the record, the status of colony Constructural Elements is slightly more important than ship Constructural Elements – more Power Activations depend on colony Constructural Elements than ship Constructural Elements, however, many check both for failure, and all of the interstellar movement and combat activations depend solely on ships. Colonies are the base of the position, ships are the lifeblood and reach ... like ranch dressing on a salad or sandwich.¹⁰
 - ✓ In GGDM, Constructural Elements form the underside, the metal girding and concrete, of the rest of civilization. Enlightenment rerolls from Colleges (see Vampire Suicide, 2 Colleges, p. 478, *infra*) may patch over the problem in the short term by rerolling failures.
 - ✓ The most devastating consequence of the failure to obey a Power Activation (excepting Taxation) is the loss of a Power Activation or a Government Title disruption.

“The fundamental cause of the trouble is that in the modern world the stupid are cocksure while the intelligent are full of doubt.” – Bertrand Russell

“We men are the monsters now. The time of heroes is dead, Wiglaf – the Christ God has killed it, leaving humankind with nothing but weeping martyrs, fear, and shame.” – Beowulf (2007)

In the Mirror, I Meta Me: There is a twilight zone, uncomfortable to some, where epistemology – the study of knowledge, meets meta-consciousness, our meta-awareness – that we are aware of our own awareness, conscious of our own consciousness, thinking about our own thoughts. The Constructural Elements discussion is of meta-consciousness of our worldviews. Meta-consciousness is nearly congruent with sapience and personhood (and personhood is congruent currently with humanity); is it possible to render judgments, anticipate the future, and all

other things assigned to the definitions of sapience and personhood, without at the same time, being aware of our awareness, conscious of our own thoughts and shared reality? They are so connected, that it is nearly impossible for us to disconnect them. People that we consider stupid are people who cannot seem to see that what they are doing is stupid, foolish, unwise, dangerous, or who don't seem to be aware of why they are doing what they are doing. *See?*

Thus, the underlying assumption in GGDM is that all Major Races have meta-awareness or meta-consciousness (sometimes the two terms are the same, sometimes they are treated differently). It might be fun at some point, if the participants are familiar with bicameralism in psychology or Jaynesian psychology, to experiment with concepts such as intelligent life forms that have not achieved “bicameralism” (noting and conceding that this concept is specific to the human brain evolutionary development).

- ✓ GGDM, by frequent reference to the judgment and Interventions of the Concierge, has a built-in awareness of its own limitations as a simulation. GGDM is self-aware of what concessions must be made to game play and this awareness is shared through notes in the text. The in-game judgment of the Concierge and emergent game play are the salve to the meta-consciousness of GGDM's limitations...
- ✓ ...It is a designer's *white-flag signal* whenever GGDM rules appeal to the Concierge judgment or Intervention, or the story arc – that the issue is beyond game mechanical solution or that the possible factors are too numerous and varied to be reducible.

What happens when artificial intelligence becomes aware of its own awareness? Can the Deep Learning software being used now become aware of its own awareness? Is it possible that the Existential Void is merely a function of our meta-awareness, and perhaps, why other creatures, even our cherished house pets, do not seem to see it? If a creature lacks meta-awareness, can they be aware that they will eventually die? Notwithstanding that they may witness other creatures dying, their own kind, or if they are predatory, their prey, can they know or impart upon themselves, that they will die eventually?

- ✓ The paucity of meaningful results for the phrase ‘existential void’ in the Google searches I conducted is perhaps indicative. We don't want to talk about it and most people have no idea what it means, think it is some abstract concept of philosophy. It's like knowing how to add, but nobody wants to talk about multiplication or subtraction. It's easier to find results for ‘nuclear winter.’ Perhaps this will change when GGDM becomes a part of the internet, but probably not.
- Becoming Human: An interesting question is at what age or stage of development does a human become meta-conscious? Can you remember becoming meta-conscious? Or alternatively, are we sapient when born? When does extended self-awareness or autobiographical memory begin? It's an interesting subject for thought. But certainly no one thinks that humans are born meta-conscious, or with extended self-awareness or autobiographical memory. We are only born with the potential, and all of the various descriptions of stages of cognitive growth (e.g., Piaget) and childhood are mainly descriptions of stages of gaining meta-consciousness, self-awareness, autobiographical memory – sapience.

- ✓ See also object permanence, Ontological Schisms, 2 Expansion, p. 892, *infra*.

The ‘other’ role of public education – other than to create a population with a uniform set of basic skills, extend adolescence/delay entry into the workforce, and provide access to the

print revolution – seems to be to extend consciousness-awareness beyond what would be natural to the majority of humanity. The ‘other role’ of education was snatched partially in recent centuries from religion (just as family and probate law were secularly incorporated) and because it is still bound up with it, the ‘other role’ seems to receive secondary treatment in primary schooling.

In andragogy, part of the theory is that adults respond more to internal motivation and less to external motivation. That this is specifically stated in andragogy theory suggests that it is not considered equally true in pedagogy. The theory of andragogy specifically implies (assumes) that meta-consciousness and extended self-awareness are adult human traits – adults who do not have them must be instructed by more pedagogical methods (including incarceration):

- ✓ “[Malcom] Knowles himself changed his position on whether andragogy really applied only to adults and came to believe that ‘pedagogy-andragogy represents a continuum ranging from teacher-directed to student-directed learning and that both approaches are appropriate with children and adults, depending on the situation.’ Hanson (1996) argues that the difference in learning is not related to the age and stage of one’s life, but instead related to individual characteristics and the differences in ‘context, culture and power’ within different educational settings.” – from Wikipedia article, “Andragogy,” May 3, 2019.

A large part of daily judgment of maturity in people we meet – potential mates, potential employees, clients – and those to whom we are unfortunately related as family, rests upon assessment of their meta-consciousness, self-awareness in relation to ours, and the traits derived from them, such as responsibility, moral compass, intelligence and foresight, character, etc. When someone does something incorrectly, immoral or criminal, we want to know if they understand why they did it and we sometimes erroneously apply this to our pets.

- ✓ Alia Atreides in *Dune* (1965) was meta-conscious, self-aware, awake in the womb. Even Frank Herbert didn’t think this was a good idea (the Bene Gesserit called her an abomination), as Alia’s life led to a tragic end in *Children of Dune* (1976).¹¹
 - ✓ An intellectual might be defined as one who takes their own meta-consciousness seriously; most others think it an amusing aside (e.g., ‘Oh ha ha, that’s pretty good!’).
- History of History: The meta-consciousness of our civilization is an evolving thing, perhaps accelerated by the wars of the 20th Century and the information age, to wit:
- ✓ “In the early modern period, the term historiography meant ‘the writing of history,’ and historiographer meant ‘historian.’ In that sense certain official historians were given the title ‘Historiographer Royal’ in Sweden (from 1618), England (from 1660), and Scotland (from 1681). The Scottish post is still in existence. Historiography was more recently defined as ‘the study of the way history has been and is written – the history of historical writing,’ which means that, ‘When you study ‘historiography’ you do not study the events of the past directly, but the changing interpretations of those events in the works of individual historians.’” – from Wikipedia article, “Historiography,” captured February 14, 2019, citing to “The Methods and Skills of History: A Practical Guide, 1988, p. 223, ISBN 0-88295-982-4” no author identified.
 - A Google search for the ISBN located the book on Direct Textbook, in the 2nd Edition, listing Michael J. Salevouris; Conal Furay as the authors.

Merriam-Webster online dictionary at *historiography* includes all three of the previous meanings, but seems to have appended the modern developed meaning as an afterthought. The term is listed as first appearing in 1569.

The meaning of historiography that I learned in college is the modern meaning; the changed meaning of historiography in the last century or so is part of a developing cultural meta-consciousness about history, historiography is ‘meta-history’ because we finally *grokked* – probably around World War II, that it is important how history is taught and that the teaching of history can be manipulated for current ideological and political benefit.¹²

- ✓ See continued discussion in Play Dates, 3 Information, p. 1368, *infra*.

“I am the same person I was before you found out I have a mental disorder.”

(unsourced, anonymous meme)

Insanity: My peculiar insanity, if you consider it such while reading GGDM, is one of meta-consciousness; it’s (almost) the same insanity as that of literary types. In fact, isn’t the entire science of the third order of natural phenomenon, “the mental organic”¹³ (i.e. psychology, psychiatry) and all of the attendant theories, about the affliction of meta-consciousness? This is one of the main reasons why psychiatric drugs have been ineffective in solving human mental problems.

What David Rosenhan started, Richard Castillo (*Culture and Mental Illness* (1997)) finished.

- ✓ “Psychiatry gets no respect, least of all, it would seem, from psychiatrists. Ever since its inception, psychiatry has been the subject of takedowns from within, critiques that have attacked its foundational beliefs. Freud’s disciple Ferenczi in the 1920s and ’30s, Erich Fromm in the 1950s, Thomas Szasz and R.D. Laing in the ’60s and Jeffrey Masson in the ’80s all characterized established psychiatry as everything from ineffectual and corrupt to destructive and sadistic.” – John Broening, “Book Review: ‘Admirable Evasions: How Psychology Undermines Morality,’ by Theodore Dalrymple,” *The Denver Post*, June 4, 2015.

There will be people who will argue with my statements about psychiatric drugs, and perhaps I am not qualified to make such statements. ***But what drug cures meta-consciousness? What drug cures sapience?***¹⁴

- ✓ Implicit in this question is the suggestion that recreational drug use is in fact and reality, a seeking of a drug to cure meta-consciousness and sapience. The purpose of recreational drug use is to not be here, to not be in yourself; the elsewhere, out of body, out of mind experience, the drug-induced apparent nothingness, was mistaken in the Eastern-influenced 1960s counterculture *for enlightenment*. Drug addicts often get exactly what they are seeking without knowing that is what they seek.

The best claim that psychiatric drugs can make is suppression of symptoms; doctors will talk about balance of chemicals in the brain, etc. Suppression is not, by definition, a cure in medicine any more than it is a solution in countries where dissent is suppressed by the government; the outward symptoms are suppressed but the underlying problems remain. I observed this in person at Point Park College; a youth came to the college who had a history of behavioral issues (he also walked around in leather, with spikes and jack boots, and looked hulking and intimidating) that were being controlled by medications. Predictably, he trailed off taking his medications after he

was away from home (and was not befriended by most of the students, adding to alienation) and shortly he began spontaneously doing juvenile and dangerous things (which I witnessed one day) just because he wanted to or was bored or maybe was trying to impress? He was sent away shortly, returned the next semester when he was back under control medications, but again, didn't fit in and didn't stay long.

- ✓ The problem that most people have is that wherever they go, they take themselves with them. Do you ever get tired of yourself? Of being in your own head?

There is in a sense, a locked three-way cage match – because we are all locked in the same humanity together on planet Earth – going on between Western religion, psychology and psychiatry (the latter representing ultimately strict objective medical empiricism) views for control of the interpretation of the “mental organic” (the third order of natural phenomenon, Clarence Marsh Case, 1924) reality of humanity. Like sociology which I maintain is closer to philosophy than it wants to admit, psychology is the natural progeny of formerly religious views of mental humanity combined with empirical approaches. See for example, the following quote from Dr. William Backus on the subject of sloth, which contains elements of both clinical psychology and religion:

- ✓ “Depression involves aversion to effort, and the moral danger of sloth lies in this characteristic. The work involved in exercising one’s will to make moral and spiritual decisions seems particularly undesirable and demanding. Thus the slothful person drifts along in habits of sin, convinced that he has no willpower and aided in this claim by those who persist in seeking only biological and environmental causes and medical remedies for sloth.” – Dr. William Backus, What Your Counselor Never Told You (2000), pp. 147-148, as cited in Wikipedia article, “Sloth.”

Adding not the least confusion to this is the influence of Eastern Religions in the mid-20th Century who regard detachment (which the West considers ill apathy and sloth) as an enlightened and ideal state of mind.

- ✓ “Detachment, also expressed as non-attachment, is a state in which a person overcomes his or her attachment to desire for things, people or concepts of the world and thus attains a heightened perspective. It is considered a wise virtue and is promoted in various Eastern religions, such as Jainism, Taoism and Buddhism.” – from Wikipedia article, “Detachment (philosophy).”
 - There may be people who argue that Eastern ‘detachment’ should not be equated with ‘aversion to effort’ or lack of willpower; if so, if there is a difference, that fine distinction *has not come through in the West*.
 - Though possibly not appropriate, I cannot help but to think of the grunge generation of the 90s, in the immediate post-Cold War. Whatever dude!

Doubtless, this view played into Max Weber’s attempts to apply his analysis of the Protestant historical coincidence to non-Western cultures, discussed in 5 Diplomacy, p. 1154, *infra*.

- Animal Farm: Do other animals suffer insanity – other than that brought on by age and disease – e.g., dementia and rabies – we kill animals with rabies for the same reason that we commit people to mental hospitals – because they are a danger to themselves and others (mostly others). Whether other animals suffer ‘insanity,’ isn’t that an interesting question indeed? We cannot know, at least in our current state, and our definitions and models wouldn’t fit anyway, how many of the theories of human cognition do you think apply to animals?

Freud wasn't talking about animals, he was talking about the animal in us; 'animal psychology' at this point is merely behaviorism. How many theories of human cognition begin with human meta-consciousness, rather than assuming it without comment?¹⁵ Insanity and mental illness as we know it apply only to sapience and complex society with others; and psychology and psychiatry, rather late modern developments in our civilization, are the science of meta-consciousness, space that was formerly occupied by rhetoric, religion and storytelling.

“He who controls the past controls the future. He who controls the present controls the past.” – George Orwell, 1984 (1949)¹⁶

Foresight, Multiplicity & Complexity: The chance of anything like the world of 1984 happening – directly speaking – is greatly diminished in Western culture due to the skill and force with which a young writer presented this hypothetical future, extracted from the milieu of the mid-20th Century. Further, technological advances in media and – yes – the internet, have greatly complicated the control of information by governments – the antidote to control of information is multiplicity, complexity with decentralization. The internet has quickly grown beyond the control of anyone and beyond the comprehension of most, some believe that it may be emergent (e.g., Guy Tal, “Emergent Properties of the Net” (2006)¹⁷).

“There are many different terms that Derrida employs to describe what he considers to be the fundamental way(s) of thinking of the Western philosophical tradition. These include: logocentrism, phallogocentrism, and perhaps most famously, the metaphysics of presence, but also often simply ‘metaphysics.’ These terms all have slightly different meanings. Logocentrism emphasises the privileged role that logos, or speech, has been accorded in the Western tradition. Phallogocentrism points towards the patriarchal significance of this privileging.

Derrida’s enduring references to the metaphysics of presence borrows heavily from the work of Heidegger. Heidegger insists that Western philosophy has consistently privileged that which is, or that which appears, and has forgotten to pay any attention to the condition for that appearance. In other words, presence itself is privileged, rather than that which allows presence to be possible at all – and also impossible, for Derrida. All of these terms of denigration, however, are united under the broad rubric of the term ‘metaphysics.’ ...

According to Derrida then, metaphysics involves installing hierarchies and orders of subordination in the various dualisms that it encounters (M 195). Moreover, metaphysical thought prioritises presence and purity at the expense of the contingent and the complicated, which are considered to be merely aberrations that are not important for philosophical analysis. Basically then, metaphysical thought always privileges one side of an opposition, and ignores or marginalises the alternative term of that opposition.”

– Jack Reynolds (La Trobe U.), “Jacques Derrida (1930 – 2004),” The Internet Encyclopedia

Endnotes.

¹ **Commentary:** Or perhaps Constructural Elements are analogous to quarks, except that three active Constructural Elements make a **Bryon** (as in Lord Bryon, father of Ada Lovelace, since he lost his own Temporal Constructural Element long ago) instead of a *baryon* (the combination of three quarks).

² **Commentary:** I don't know the origin of the title for this animation, I don't think it references the RARG gene.

³ **Commentary:** This can be reduced to 5% or 8% if 10% is found excessive over a **very large sample size**.

- ✓ Power activations that are not location-specific, such as Technology, do not cause this effect. This seems plausible from the simulation view; few object to technology – any problems caused by technology manifest themselves locally in unforeseen ways. This creates an operational principle for the simulation at least.

⁴ Commentary & Citation: Sometimes when I read summaries of what people in earlier centuries, and especially the 19th Century, considered pressing and of the utmost importance to their civilization, they seem petty in hindsight, *considering what has happened since*, to wit:

- ✓ “[Eduard von] Hartmann considers a reopening of the huge field of phenomena, that were rejected in the Age of Enlightenment, as a great merit of the modern spiritistic movement. However, in his opinion, Spiritism threatens to become a public disaster in Germany, therefore the state should use its authority in order to interest scientists in a study of the spiritistic phenomena. He writes that the public has the complete right to know about these things, and since it is not able to formulate its own opinion, it only remains to wait for the conclusions drawn by the official representatives of science.” – from Wikipedia article, “Spiritism,” captured June 21, 2019.
 - It’s truly difficult to imagine that Spiritism in and of itself ever threatened to become a public disaster (however, ‘occult thinking’ played some part in Germany’s later national disaster) and it’s even more difficult to imagine the state using its power to compel or force scientists to study it! And worse, that the public will sit around on their hands waiting for the state scientist to provide them with an opinion on Spiritism matters. These three practically point out to several shifts in worldview since von Hartmann’s book was published in 1885.

⁵ Commentary & Citation: Not all alternate worldviews are potent, it takes more than daily briefings (or in one famous case, tweets) from a national politician to create potent alternate view:

- ✓ “Slotted in between Chairman Adam Schiff’s daily paeans to conscience and Constitution and the witness’ earnest introductions – Nunes fundamentally sought to change the channel on impeachment. The millions of viewers getting a steady drip of Trump’s questionable activities on Ukraine were abruptly brought in, for five to ten minutes each day, into an entirely different political universe.

In that universe, Trump is totally innocent of all of the Ukraine allegations, and what’s more, those allegations are just one more step in a coordinated and years-long conspiracy by an evil coterie of actors – Democratic Party operatives, the ‘fake news’ media, faceless and nefarious deep state bureaucrats, and even Ukrainians themselves – who will stop at nothing to destroy the president.

It was the same story, and the same handful of chapters, that Nunes told across every day of the public impeachment inquiry. Ultimately, they blended together, *becoming something like a prolonged shout into the void*.

Indeed, Nunes’ remarks hardly ever left a lasting impact on the hearings themselves or the coverage of them. The viral moments went to the Republicans who focused laser-like on the Democrats’ case. Nunes himself left the room each day with little beyond some attaboys from Trumpworld, a healthy dose of Fox News coverage, and plenty of snarky tweets from his dedicated online detractors.” – Sam Brodey, “The Chronicles of Nunes: How His Impeachment Speeches Created an Alternate Reality for GOP,” *The Daily Beast*, November 26, 2019 (emphasis added).

⁶ Commentary: Ibn Khaldun’s 14th Century cyclic theory of social cohesion might be a justification for the rise of Islam, but it can be equally seen as a warning to Islam. Tunisia where he lived had been part of the Roman Empire.

⁷ Citation & Commentary: “Since 1875 the eventual triumph of the metric system in science and international commerce has been assured, despite continuing popular opposition in Britain and the United States. In fact, the metric system has met popular opposition in every country at the time of its adoption. **People don’t want to change their customary units, which are part of how they see and control the world.** It is naturally disturbing to do so. This opposition has been largely overcome everywhere, except in the U.S., by economic necessity: the need to participate fully in the global economic system. Even in the U.S., economic needs assure the continued creeping adoption of the system in one area and then another. Those Americans opposing adoption of metric units often argue that the metric system is abstract and intellectual or that its use would embroil us in calculations. This is not true.

The metric system has been the customary measurement system in France for almost two centuries, in the rest of continental Europe for at least one century, and in the rest of the world for at least a generation or two. Most people in the world know exactly how long a kilometer is, how large a liter is, how much a kilogram weighs, and how

warm 25 °C is, because they use these units every day of their lives in the same way Americans use miles, gallons, and pounds. Outside Britain and the United States there is almost no need to convert metric units into something else. In fact, the way to avoid conversion formulas is to use the metric system. As long as Britons and Americans continue to use traditional units, they will have to remember how these units relate to the metric units.” – Russ Rowlett, “The Metric System,” <http://www.ibiblio.org/units/metric.html>, April 27, 2018 (emphasis in original).

- ✓ Mr. Rowlett hits the point perfectly, worldview is about imposition and control of reality, order out of chaos, and thus something as simple as a system of weights and measures is a part of worldview. I know how many miles I can walk in an hour from the experience of having walked uncountable miles (my Fitbit which I have worn continuously since April 2012, says I have walked 16,123 miles and 136,539 floors as of January 17, 2019, and I haven’t walked very much in the last year), but I don’t know, without calculations, how many kilometers I can walk in an hour. It’s not part of my day, not part of my measurements – notice that metric is not used universally throughout GGDM, conversions are not provided – even though I remember the big government push in the 1970s to teach metrics in primary school. Politicians hardly dare to mention the issue now, as the U.S. has become increasingly nationalist and international resistant.
- ✓ The English system of weights and measures has become a *symbol* of the Anglosphere and popular resistance to the metric system (born of the French Revolution), a resistance to both internationalization and in particular, an internationalized weights and measures system invented by the French and adopted first and quickly by Continental Europe, which, for much of history, have been the natural enemies of Britain.

⁸ Citation & Commentary: “The Gibson guitar people claim the origin of the word ‘jamming’ is in reference to music played at the Black Musicians Union Hall in Kansas City in the early 1900s. The late night playing between the musicians got so popular that they crowded up or jammed up the stage – hence the name.” – Nancy Buchran, “We Be Jammin’!” Quepolandia (Costa Rica), December 12, 2013.

- ✓ The picture at the top right of the article is the classic one of Bob Marley ... because, of course! Because wasn’t jamming an early form of ‘culture jamming’ within the spectrum of minority social divergence?

⁹ Commentary & Citation: The ‘gift of life’ is a set of shackles. People abuse drugs, alcohol, food, substances, animals, children, themselves and each other because the universe doesn’t give us the option of having never existed. You can live, die, commit suicide, hide in the night, but you cannot have never existed, when you are dead, that means you existed. There is no eraser, once you are conceived, you are a prisoner of this universe and cannot help but to get older. This is the essence of the human existential problem, we have always been able to see it in different ways: Literature, poetry, religion. In fact, it might be the defining mark of sapience, the ‘existential consciousness’ – the ability to see and experience the existential void through the limits of our sapience.

- ✓ “Though chains be of gold, they are chains all the same.” – Bruce Cockburn.
- ✓ This is disturbing to read? Maybe you heard it before at the Bates Hotel:
 - **Norman Bates**: I think that we’re all in our private traps, clamped in them, and none of us can ever get out. We scratch and we claw, but only at the air, only at each other, and for all of it, we never budge an inch. – Psycho (1960).
- ✓ You say that you are enjoying your life? Enjoying a life prison sentence? Live long and prosper.

¹⁰ Citation: “‘Meanwhile, back at the ranch...’ is a catch phrase that appears in a variety of contexts. For example, it may be employed by narrators of American cowboy movies and TV shows to indicate a segue from one scene to another but there is often more to this than meets the eye. The expression originated as a stock subtitle in the silent movies and at first the reference to the ranch was literal. Later, as the phrase became a cliché, it was used more and more loosely and with a growing sense of mockery or levity, often with a vague focus. In this manifestation the phrase came into common use in unrelated contexts.” – from Wikipedia article, “Meanwhile, back at the ranch,” January 22, 2019.

¹¹ Commentary: Alia Atreides became regent of the empire at age 12 due to her accelerated growth, Children of Dune was published about 11 years after Dune, perhaps Herbert oddly signaling Alia’s pending death the moment she became regent?

¹² Commentary: If you were to go back to the 1920s or 30s, you’d have to be careful not to refer to The Great War as “World War I” or use “WWI” in writing – you wouldn’t conversationally call someone of The Lost Generation a WWI vet. The importance of the historiographic shift in 1945 to the looming Cold War Era cannot be overstated.

¹³ **Citation:** Clarence Marsh Case, *Outlines of Introductory Sociology* (1924); see discussions 2 Culture and 1 Order generally, *infra*.

¹⁴ **Citation & Commentary:** “People look for retreats for themselves, in the country, by the coast, or in the hills . . . There is nowhere that a person can find a more peaceful and trouble-free retreat than in his own mind So constantly give yourself this retreat, and renew yourself.” – Marcus Aurelius.

✓ Emperor Aurelius was a Stoic Philosopher, so it is not intended as irony, though it strikes us so.

¹⁵ **Commentary:** For example, I read a brief pop article about the Five Factor Model of Personality. I know it is an outward personality modeling theory and not a cognitive model – so that perhaps puts it into a different category, but they are certainly conjoined. The first part that my eyes focused on was the ‘conscientiousness’ trait, but it turns out that what is meant by the term here has nothing to do with meta-consciousness and little with self-awareness:

✓ “People who are conscientious are more aware of their actions and the consequences of their behavior than people who are unconscientious. They feel a sense of responsibility towards other and are generally careful to carry out the duties assigned to them. Conscientious individuals like to keep a tidy environment and are well-organized. They are keen to maintain good timekeeping.” – “Five Factor Model of Personality,” *Psychologist World* (article uncredited and undated). There is also an article on Wikipedia.

Reading the brief history from Gordon Allport and Henry Odbert in 1936 to Raymond Cattell to Robert McCrae and Paul Costa and Lewis Goldberg, I can’t help but to think the Titanic theory sinks on gross oversimplification. I have heard of employers who require applicants to submit to personality assessments and I think it is highly suspect, of questionable value, and very probably prejudicial or discriminatory in a legal sense. Any personality assessment of a human probably requires a thousand questions at least, hundreds of ‘traits’ – there is a reason why Allport and Oddman were able to extract 4,500 words describing behavior and personality traits from the dictionary in 1936 – and in that even, it would be suspect in lack of what is called ‘objectivity.’ There is always a question in any psychological test or profile of the honesty and awareness of the individual being profiled. This, along with tedious, repetitive questionnaires, is the complaint about dating sites that use the Five Factor Model to profile users.

✓ All of this is quite aside from the fact that I think I would do ‘terrible’ on a Five Factor test and jobs that require applicants to submit to such are now rare as most people will not even apply. Psychologist will object, of course, that it’s not like a pass/fail school test and thus there is no ‘good’ or ‘terrible’ result – but they cannot get past the fact – rather inherent in the lexical approach – that the model is clearly geared toward outward, social personality traits or appearances, and that the spectrums and scales are based on and slanted toward what is considered socially desirable, successful, positive-negative, or at least, acceptable combinations of social personality traits.

¹⁶ **Citation:** “**How did it feel inside?** I arrived there, and I immediately felt like a character in the book ‘1984’ by George Orwell – a place where you have to write that white is black and black is white. Your first feeling, when you ended up there, was that you were in some kind of factory that turned lying, telling untruths, into an industrial assembly line. The volumes were colossal – there were huge numbers of people, 300 to 400, and they were all writing absolute untruths. It was like being in Orwell’s world. **What sorts of untruths did you write?** My untruths amounted to posting comments. I worked in the commenting department – I had to comment on the news. No one asked me my opinion. My opinions were already written for me, and I had to write in my own words that which I was ordered to write. **For example?** When I was there, there were sanctions [by the European Union and the United States in response to Russia’s intervention in Ukraine] and the ruble started falling. I was writing everything that was the opposite: how wonderful our life was, how wonderful it is that the ruble was strengthening, and that kind of absurdity. That sanctions were going to make us stronger and so on and so forth.” – Anton Troianovski, “A former Russian troll speaks: ‘It was like being in Orwell’s world,’” February 17, 2018.

¹⁷ **Citation:** I found this paper in February 2006 and shared it with a blockchain guy, who appreciated the idea. I do not know where I found it, but in February 2019, I Google searched it again and learned that it was a Spring 2006 term paper at the University of Illinois at Urbana-Champaign for the Physics 569 Emergent States of Matter course. However, it also appears on <https://pdfs.semanticscholar.org/8dbe/4425265f376745f67095a446a644483aafa5.pdf>. Semantics Scholar is a peer-reviewed research site where Guy Tal is credited as part of group authorship in over a dozen other papers on the site.

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See Appendix PAT4 – Power Activations Tables 4 – Power Activation Failures

“The bulk of the world’s knowledge is an imaginary construction. History is but a mode of imagining, of making us see civilizations that no longer appear upon the earth. Some of the most significant discoveries in modern science owe their origin to the imagination of men who had neither accurate knowledge nor exact instruments to demonstrate their beliefs. If astronomy had not kept always in advance of the telescope, no one would ever have thought a telescope worth making. What great invention has not existed in the inventor’s mind long before he gave it tangible shape?”

– Helen Keller, *The World I Live In* (1910)

Quizzical Looks: In a game of Twenty Questions¹ (with “yes” and “no” answers) is it possible to identify an object of which you have no knowledge, that is outside of the Questioner’s cognitive structure? Carl Sagan in *Cosmos*, Episode 10 maintained that any object in the universe could be identified by 20 skillful questions with yes and no answers (the segment is available on YouTube). Suppose I played Twenty Questions with a 13th Century European Monk, I am the Answerer, the object is a Trinitrotoluene (TNT) molecule. What are the chances that the Questioner would guess correctly in 20 questions or 2,000 questions? Thus, we are limited by the items and objects in our cognitive structure; however, what is more interesting is that our cognitive structures are filled with things that never existed, except in movies, literature, myths, to which we give nearly equal standing to real objects. Such that, in a modern game of Twenty Questions, “Is the object a Looney Tunes character” would be a legitimate yes/no question to the Answerer.²

New Ships and Lost Worlds: Newly constructed ships have the same Constructural Elements as the world where they are constructed, on the turn they were completed.

- **Wet Paint:** Population loaded onto Colony Ships (and Orbital Cities) will retain the Constructural Elements present on the source world at the time of their departure. Any new colony established by the Colony Ships will continue the Constructural Elements of the population on the Colony Ships and thereafter, become subject to the normal processes for activation or deactivation of Constructural Elements. When colonist are added to existing colonies that do not have matching active Constructural Elements, it is completely within the discretion of the Concierge as to the effect on the colony, whether some Constructural Elements on the combined Colony population might be activated or deactivated.
- **Lost Worlds:** The only way a colony world can lose its Temporal Constructural Element is by being removed from the Public Space. This should not be equated with removal from the Galactic Space, though that may occur as well. Colonies that are destroyed, completely evacuated, or are lost to another position or power and/or for whatever reason, are no longer subject to the sovereignty of their former position, are ‘lost’ from the Public Space. Generally, captured colonies should pass to the new owner with the same active Constructural Elements they had at the time of capture, though there is much room for interpretation and discretion by the Concierge and participants as to what that means; for example, the active Ideological Constructural Element of a captured colony likely will not be the “same” as the Ideological Constructural Element of the new owner’s position. *Emergent narrative* is story.
 - ✓ A besieged colony is not a ‘lost world’; see discussion of Besieged Colonies, 3 The Sidereal Stage, p. 124, *supra*.

“Good triumphs over Evil, justice prevails, the hero marries the Princess and becomes Emperor of Everything, and everyone lives happily ever after, or anyway till it’s time to grind out the sequel. Sound familiar, doesn’t it? ... If there could be such a thing as a foolproof formula for crud, this would be it. This is the time-honored equation for the commercial SF plot skeleton with all of the variables cranked up to their theoretical limits.

The identification figure isn’t just a sympathetic hero, he’s the ultimate wank fantasy, the reader as rightful Emperor of the Universe, indeed as the Godhead. The stakes are nothing less than human destiny for all time, and the Princess to win is always the number one piece of ass in the galaxy. The villain is as close to Satan as you can get without awarding bull horns and the tail, twirling his black moustache as he feasts on the torment of downtrodden masses, performs unspeakably vile sex acts, and squashes cute little animals in wine glasses so he can drink their blood.

*Ah, but there is no such thing as a **foolproof** formula for crud, not even the outline of the **Emperor of Everything**. For while it is certainly true that the diligent application of this formula has allowed armies of hacks to pile up mile-high mountains of adolescent power-fantasies for the masturbatory delection of wimpish nerds, wonder of wonders, it is also true that many of the genre’s genuine masterpieces fit comfortably within its formal parameters ... and many ... novels of real literary worth are brothers between the covers, at least in plot summary terms, to the Ur-action adventure formula.”*

– Norman Spinrad, Science Fiction in the Real World (1990), pp. 150-151 (emphasis in original)

Emergent Narrative: An emergent narrative is an in-game story that comes from a player’s interaction with the game systems (usually a computer program, but can also be a board/card game); it is a colorful story constructed around the player’s interpretation of in-game events.

- ✓ Many critical reviews of Conan the Barbarian (1982) use the same language as Spinrad above, e.g., “these themes appeal to ‘98-pound weaklings who want to kick sand into bullies’ faces and win the panting adoration of a well-oiled beach bunny” by James Wolcott, Texas Monthly, July 1982 or “a perfect fantasy for the alienated preadolescent” by Roger Ebert in 1982, both quoted in the film’s Wikipedia article.

It is natural for humans to imagine more than is apparent from a strict linear log of in-game events. Many games, including GGDM, are built to encourage emergent narrative. Constructural Elements – representing part of the worldview of the position – provide very good opportunities for the emergent narrative of the game, especially in situations where there is a mismatch of active Constructural Elements or two races are brought into contact by game events.

- ✓ “Emergent narratives are stories that are not authored by a single person or by any person really. They are stories that emerge from the interaction between players and the systems that govern gameplay. They are random, transient, ephemeral things that only ever exist for one person at one moment in time. I like emergent stories as much as the next person. There’s something empowering about being witness to a singularly unique series of events, watching systems interact with systems in a certain way at a certain location that might never happen again for any other player. Even if such an experience is not really that unique, it still feels that way.

Yet when I look back at my emergent experiences or when I try to tell the stories to others, I realize just how shallow an experience they really are. Emergent stories feel more engrossing than authored stories because they’re personal for the player, and that personal interactivity gives it the illusion of importance. I assume that because

this event was exciting for me, it must be exciting for others as well. But it's not. My adventures in *Skryim*, my tense game of *XCOM*, my rooftop chase in *Assassin's Creed*, my war against komodo dragons and cassowaries in *Far Cry 3*, all of these stories seem much more exciting in the moment than they do in the retelling, and that's because they're missing the key component of any good story. They're not about anything." – Nick Dinicola, "The Problem With Emergent Stories in Video Games," Pop Matters, July 30, 2013.³

- ✓ A *dream*, whether waking or sleeping, is an *emergent narrative* formed of images and sounds that bubble into consciousness in our brains; the difference being the level of consciousness between waking or sleeping. This is why dreams don't carry the same quality when telling someone else about them (like your video game adventures, *ut supra*); they must be consciously modified in later telling to give them literary weight (e.g., "Kubla Khan: or, A Vision in a Dream: A Fragment," by Samuel Taylor Coleridge in 1797): Dreams stories are always later recounted through a conscious filter.

Video games are in a sense, an interactive *Emperor of Everything* placed on a computer screen. The Emperor of Everything is about the reader in SF crud, and about the player in video games. Both in the shallowest possible sense. Telling the story of a plot of a hack SF Emperor of Everything formula story is no different than telling the emergent narrative of a video game. Thus Mr. Dinicola comes to the conclusion they aren't about anything – that is, they lack literary value.

- ✓ King Arthur: The 'magic' of King Arthur in the movie *Excalibur* (1981) and possibly more loosely in the background stories, is the emergent. At least twice, if not more, in the 1981 movie, Merlin (the eternal schemer) says, "I didn't anticipate that," or "I never saw that coming" indicating (choose one): 1) unknown external forces at work in the story (i.e. probably the Christian god or later in the movie, Morgana, and whatever you might choose to imply from that) or 2) an emergence from the forces in play which by their nature, cannot be predicted along straight lines of reasoning and inference. Merlin later, denying his own loneliness and infatuation with Morgana, is trapped by his inability to anticipate her scheme, but in turn, she dies later due to her inability to anticipate the power of dreams (the metaphysical crux of the story) and the vain revulsion of her own son to her changed age-ravaged appearance.
- ✓ For the record, I am not here preaching common Peter Pan philosophy about the 'power of dreams' (or as Billy Joel sang in "Pressure" (1982), "Now here you are with your faith, And your Peter Pan advice") – there is nothing warm, cuddly and reassuring about GGDM. It is my interpretation of the movie and one that probably follows the common consensus (I am sure someone wrote a doctoral thesis on this).

But King Arthur has been the archetype story behind many more modern stories, he is one variety of the Hero with a Thousand Faces (Joseph Campbell), a tragic 'Emperor of Everything' (Norman Spinrad) before anyone thought of science-fiction literature; the belief in the power of dreams (in whatever form) stretches back through millennia of humanity, as if our ancestors (with pre-theoretical cognition) sensed Archibald Wheeler's "It from bit" (see feature quote, top of 1 Information, p. 1327, *infra*). Whether you believe it or not, it is up to you, and irrelevant to GGDM.

- ✓ GGDM is a civ sim cranked to its **theoretical limits**. **Redlining...**

“Despite signs of spiritual revival in the late seventeenth century, secular values gradually were replacing religious ones as major influences on European life. By 1715 it had become unfashionable to go to war in the name of rival Christian creeds, and within states themselves, a few princes noted the political and social impracticality of inconveniencing religious minorities. In their quest for new settlers the German rulers of Brandenburg and Saxony deemed religious affiliation a private ... matter, a position which the Dutch had long accepted....”

Nevertheless, because credal affiliation could easily be confused with political loyalty, bigoted rulers like Louis XIV or Leopold I failed to see how non-Catholics could ever be loyal subjects.... Despite this, however, the notion was in the air that religious association might be irrelevant to citizenship. Nurturing such a position was an accompanying movement that subjected religious practice to rigorous critical analysis, ridiculing unproven credulity, and weakening traditional belief.”

– Raymond Birn, [Crisis, Absolutism, Revolution: Europe 1648 to 1789](#), 2nd Ed., pp. 173-174

Modernity: Prof. Birn describes the core issues of the early modern Western turn to secularism; think about this the next time some tent preacher or televangelist fellow wants to turn back the clock to the ‘good old days’ of religious devotion (i.e. ‘old tyme religion’).

The sum total of the Western worldview over the last five centuries is in the term, *modernity*, which Merriam-Webster online dictionary defines as **2**: the modern era or world and especially the ideas and attitudes associated with the modern world. That’s the simple part. The discussion of what modernity means and how it is defined across various fields of social study is the core of modern studies. Modernity must always be contrasted with past civilizations to have any meaning, but is typically looking at the now and future of humanity. It is also associated with a range of tag terms, such as secularization, post-traditional culture, modern history, institutional complexity, market economy, experimental observation, inductive logic, moral relativism, feminism.

- ✓ “The casting of Jodie Whittaker as the lead in Doctor Who is the difference between tolerating modernity and embodying it – but why has it taken so long to get here? ... The paradox of entertainment is that modern values take so long to catch on. The ultimate showbiz character is liberal, creative, mould-breaking, forward-thinking, highly unlikely to be bound by conservative and/or religious values. Showbiz is a world for misfits, not rule-followers. Yet nowhere do we see a plainer iteration of ‘traditional’ thinking than on our screens. It is more surprising to find a woman in a blockbuster movie with a mind of her own than it is to find a woman in an ‘arthouse’ film not naked or crying. It is more likely for a 10-part thriller to start with a dead woman’s body than a living woman expressing agency and determination. It is routine for a current affairs team to be led by a grey-haired man doing the serious stories while a fit, younger woman handles the family stuff. Important political events, be they regular ... or irregular, are seen as male territory by default, women seemingly included under sufferance. Panel shows shoehorn in a woman to salve their consciences; women can exist, but never get old, on nature shows. Black actors have a more arduous trajectory still, sometimes having to go to the US and make it big before they are considered famous enough to overcome the tacit colour bar in the UK. The extraordinarily slow pace of change is a sharp contrast to the good game everyone talks. TV executives constantly underline their commitment to equality, while happily accepting that men must keep the main jobs until they are literally dead. ... It is the stasis that baffles. How is it possible for such a visible industry to stay for so

long in a male-dominated, monochrome world that it often decries explicitly?” – Zoe Williams, “A female Doctor? She’s the revolutionary feminist we need right now,” *The Guardian*, July 17, 2017.

Modernity is discussed throughout GGDM as it is implicit in the setting and in 90% of science-fiction literature. It has already been mentioned in 1 *The Big Bang* (cognitive divide of science and philosophy), 1 *Constructural Elements* (realism vs. idealism), 2 *Constructural Elements* (demise of monarchies), *supra*, and its various aspects are discussed in 3 *Culture* (proficiencies), 1 *Technology* (atheism, scientific creation vs. religious creationism), 1 *Temporal Technology* (realism), 6 *Combat* (Japanese cultural reaction to Western modernity), and 3 *Reformation* (precision timekeeping), *infra*.

➤ Anti-Semitism: Anti-Semites have refused to cross the credal barrier described by Prof. Birn above. Rather, the opposite, to them credal affiliation is the sole defining attribute of the ‘other,’ more than just a question of citizenship, but a question of their human status and worth. It transcends even the male-female question. Thus, to an anti-Semite, a Jew regardless of gender, age, or nationality, is a non-person, and quite aside from the strategic considerations, one can see why the Nazis invaded Holland on the basis of anti-Semitism alone. Anti-Semitism merges easily with racism because the Jewish people consider themselves a race rather than a religious affiliation, and racism applies the same value system based on skin color, appearance and apparent ancestry – regardless of gender, age, or nationality. Thus, in an important sense, based on the elements of historical development of modernity, racists and/or anti-Semites have refused to take an important step over the threshold, and thus remain outliers in modern society.

Now, this is not to suggest that anti-Semitism is a phenomenon solely of modernity. No one would argue that the Romans were great humanitarians and the result of the Bar Kokhba War leaves little doubt what the Romans thought of Jewish people.

- ✓ “Hadrian (emperor 117-138 CE) attempted to completely root out Judaism, which he saw as the cause of continuous rebellions. He prohibited the Torah and the Hebrew calendar and executed Judaic scholars. The sacred scroll was ceremonially burned on the Temple Mount. At the former Temple sanctuary he installed two statues, one of Jupiter, another of himself. In an attempt to erase any memory of Judea or Ancient Israel, he wiped the name off the map and replaced it with Syria Palaestina, supplanting earlier terms, such as Judaea. Similarly, he reestablished Jerusalem, this time as the Roman polis of Aelia Capitolina, and Jews were barred from entering the city, except on the fast day of Tisha B’Av.” – from Wikipedia article, “Jewish-Roman Wars,” captured September 7, 2019.

Still, in other places throughout the Empire, the Jewish people lived and flourished and were given a pass from required attendance at Roman state-religious functions, thus it is most likely that the Romans disliked the Jews as radical disturbers of the peace, which is a different quality than later anti-Semitism. The last thing an empire wants is disorder and the Romans created enough of their own through their endless succession wars.

The wonderful Christians picked up from the Romans and added new religious layers to existing anti-Semitism. They either thought Christ was approve or they didn’t care whether he did or didn’t. The Romans would have never thought of such, their state religion was different; *modern anti-Semitism is a Christian phenomenon*, not a Roman one. Over 1,500 years

later, in the time that Prof. Birn described above, some sense started to creep into the secularization of Europe. Note that this was not a religious revelation, but a result of secularization. But it wasn't finished yet. The time-honored formulas of anti-Semitism found new adherents and uses in radical ultra-nationalism in modernized Europe. I cannot imagine that any Roman emperor or counsel would have approved of the Holocaust.

- ✓ Within GGDM play, using all of the things that are considered as 'modernity' (and since you are a modern, you intuitively know what those things are, but definitions are useful) as a springboard, participants (or even fiction writers) can create extremist, phobic or curious minorities or movements (e.g., the 'plain people,' FLDS, Branch Davidians, primo- or green-anarchists) against the zeitgeist of modernity.
- ✓ In fact, the deviances from theoretical modernity are both extreme and slight in all of us. The fact that such deviances exist in such a wide array informs participants that worldview is neither monolithic, nor ruler-straight in any civilization. Thus there is a wide range for expression and deprecation of Constructural Elements in GGDM, as well as Government Titles, and opportunity for entropic events in each position. Otherwise, the positions might be considered androids, bees or ants.

“Clearly, unsolved philosophical problems exist in the lay sense (e.g. ‘What is the meaning of life?’, ‘Where did we come from?’, ‘What is reality?’ etc.). However, professional philosophers generally accord serious philosophical problems specific names or questions, which indicate a particular method of attack or line of reasoning. As a result, broad and untenable topics become manageable. It would therefore be beyond the scope of this article to categorize ‘life’ (and similar vague categories) as an unsolved philosophical problem.”

– Wikipedia, “List of Unsolved Philosophical Problems,” June 15, 2018

Unsolved Problems: Wikipedia has an article nine-pages long, well-written and updated by people who care, of unsolved problems in *physics*. There are numerous other unsolved problems lists on Wikipedia, for example, biology, chemistry, math, economics, information theory, linguistics, medicine, philosophy, all of which must be written by people who have a broad and deep understanding of the fields. Has anyone ever tried to make a list of “unsolved problems” of sociology, psychology, anthropology or history? Why not?

I expect that the knowledgeable would look at it as a ludicrous undertaking because knowledge in *those subjects* just *doesn't work that way*.⁴

- ✓ “The more or less exclusive claims of the other sciences rest upon their use of mathematical, quantitative reasoning, and are inadequate in two ways. In the first place, their mathematical accuracy is only a question of degree, as compared with one another; and secondly, mathematical reasoning is not the only method of exact thinking. No one who has notice at all the procedure of careful students, even in the fields of historical, ethical, or aesthetic values farthest removed from quantitative considerations, will longer cherish the obsolete notion that painstaking observation, systematic classification, and rigid analysis are the prerogatives of workers in any field of human thinking. The same attitudes of mind and method of procedure are now to be met in every branch of investigation, and it is the assumption in this book that it is a mere

confusion of terms to give to the word science, which, historically and logically speaking, designates just this systematic investigation of reality, any narrow or private interpretation.” – Clarence Marsh Case, Outlines of Introductory Sociology (1924), p. xvi.

- See further discussion, *Aspects of Sociology, 2 Culture*, p. 371, *infra*.

It is an essential quality of those subjects that it is hard to define what is a problem in the fields, other than missing facts or historical mysteries, because history is the most empirical of the three – and thus it is difficult to determine when and how, what or which problem has been solved.

- ✓ “Historical sciences share four features that set them apart from non-historical sciences such as physics and chemistry: methodology, causation, prediction, and complexity. Laboratory experimentation, so important in physics, cannot apply to historical sciences. Instead, one must gain knowledge through observation, comparison, and so-called natural experiments. *Historical sciences are concerned with chains of proximate and ultimate causes*. We do not only want to identify certain developments, but also the events leading up to those historic moments in time. Still another difference arises in prediction. In history, one can provide *a posteriori* explanation for why something happened the way it did, but cannot necessarily provide *a priori* predictions. Predictions about what might happen in a given situation are ultimately too complex to develop.” – Jared Diamond, Summary of Guns, Germs, and Steel (2017), p. 46, Kindle Edition (emphasis added).
 - “Biology is more like history than it is like physics. You have to know the past to understand the present. There is no predictive theory of biology, nor is there for history. The reason is the same: Both subjects are still too complicated for us.” – Carl Sagan, *Cosmos*, Episode 2.

That is, they are inherently fuzzy, they are philosophical, yet they have been represented in the past as being empirical and objective, and as Prof. Frank Elwell notes, the educational trend in sociology has been toward writing survey questions, conducting surveys, and statistical analysis – numbers crunching – because numbers are ultimately objective. Sociology is more tied to philosophy than it generally admits:

- ✓ “In more recent decades, students of *biological* phenomenon, apparently well disremembered of their own former exclusion from the circle of the elect, have so far made themselves at home in it that one often hears the word ‘science’ used, even in faculty discussions and literature, to designate exclusively the physical and biological departments. Recently, however, investigation of mental phenomenon has become so exact and systematic that *psychology* is sometimes recognized by the academic legitimized as falling within the scientific pale, thus leaving the *social* studies, notwithstanding one of them is known as political ‘science,’ to grope in the outer darkness, along with *philosophy* in all its branches.” – Case, *Id.*, p. xv (emphasis in original).

This account from the early 20th Century shows that social studies was excluded from science and possibly considered some odd branch of philosophy. Professor Elwell seems to know this, without saying it, when he argues that sociology is straying from its roots:

- ✓ “Mainstream sociology is straying from its roots. This can be clearly seen in introductory sociology and social problems texts in which a focus on microsociology and

social psychology has become ever more prominent. It can also be seen in the more recent graduates of sociology programs, specialists in one or two of the more than thirty subfields of sociology. While all tend to be well versed in questionnaire design and data manipulation as well as being excellent specialists in such diverse fields as gerontology or deviance, most have little background in the broader traditions of the discipline, little appreciation or experience with holistic analyses. Today, too many sociologists practice the discipline as one of social data collection and manipulation, a reification of method over substance. Others are specializing in a small part of the sociocultural system – say family, or deviance, or criminality – and losing the inclination or ability to communicate with their colleagues and their students either in other subfields or about the larger social whole. Some still do continue the practice of macrosociology, but it too is often the preserve of specialists with their own jargon, interests, and readership.” – Frank W. Elwell, Macrosociology: Four Modern Theorists (2006), p. xi.

I argue throughout GGDM that to be recognized as ‘science,’ sociology had to become a survey data-numbers crunching exercise because philosophers don’t get grant money or win scientific respect. Though I am loathe to equate physics with macrosociology (or the other way around), what Prof. Hossenfelder said of the lack of progress in physics (see 1 Eras, EN 4, pp. 765-766, *infra*) could easily apply also to macrosociology; questionnaire design is comparable to refining applications without advancing understanding of the fundamental nature of our civilization.

“If Charles Martel had not checked the Saracen conquest at the Battle of Tours, the interpretation of the Koran would be taught at the schools of Oxford, and her pupils might demonstrate to a circumcised people the sanctity and truth of the revelation of Mahomed. Had Pilsudski failed to arrest the triumphant advance of the Soviet Bolshevik Army at the Battle of Warsaw, not only would Christianity have experienced a dangerous reverse, but the very existence of Western civilisation would have been imperiled. The Battle of Warsaw saved Central and most parts of Europe from a more subversive danger – the fanatical tyranny of the Communist Soviet.... On the essential point, there can be little room for doubt; had the Soviet forces overcome Polish resistance... Bolshevism would have spread throughout Central Europe and might well have penetrated the whole continent.”

– Edgar Vincent, 1st Viscount D’Abernon, The Eighteenth Decisive Battle of the World: Warsaw, 1920 (1931) ⁵

Conflagration: In 1917, the Russian Empire famously collapsed before the Bolshevik Revolution. Thereafter followed approximately four years of the Great Russian Civil War, which the Bolsheviks had essentially won by mid-1920. The USSR was created in 1922.

The Treaty of Versailles in 1919 restored the sovereign nation of Poland, which had not existed for over 120 years since the Third Partition in 1795. The leadership of the new Polish republic sought to create a federation of states as a bloc between Germany and Russia. The proposed members of this bloc were primarily to the east between Russia and Poland. Reception of the idea was lukewarm, some potential members believed they were simply trading the Russian yoke for a Polish yoke. The Soviets saw it as a threat, and also regarded Poland and the territories of the proposed Polish Federation as lost Russian territory. As subsequent history showed, the Russian peasantry had simply traded one yoke for another as well and perhaps in Lithuania and Ukraine some leaders sensed in 1919-1920 that would happen.

The Soviets were not present at the Paris Peace Conference – as Germany had previously made peace with Russia – and they generally resented the Treaty of Versailles. Lenin wrote:

- ✓ “The Soviet revolution in Germany will strengthen the international Soviet movement, which is the strongest bulwark (and the only reliable, invincible and world-wide bulwark) against the Treaty of Versailles and against international imperialism in general.”

The Marxists interpreted the Treaty as an oppressive, predatory, anti-Communist alliance document. This is the version of history that the current senior Russian leadership learned in elementary school; this is the worldview of Putin and his allies who grew up in the Soviet system. Like the Soviets, the West will simply contain and outwait them and they will pass into history.

Probably more importantly, the Bolshevik leaders’ ideology envisioned a worldwide communist revolution with the next anticipated angry proletariat uprisings occurring in defeated Germany and war-weary France. Poland was in the way, a symbol of the bourgeois and capitalism on their border. Thus, in 1920, the revolutionary Red Army crossed into Poland intending to subjugate Poland and install a Bolshevik-friendly government, and to join the Soviet revolution with the anticipated Communist conflagration in Central and Western Europe.

- ✓ “The fate of world revolution is being decided in the west: the way leads over the corpse of Poland to a universal conflagration....” – Mikhail Tukhachevsky, Red Army commander for the 1920 invasion of Poland.

In August 1920, the beleaguered Poles won a stunning victory in the Battle of Warsaw (the “Miracle on the Vistula”) sending the Soviet armies reeling back toward the Ukraine. The Polish Army won the cypher war, breaking the Soviet radio code and disrupting the Soviet communication by flooding their frequencies with transmissions of the Bible in Morse Code; foreknowledge of Soviet military plans, combined with desperate defense on the ground and audacity of command, turned the Soviet flanks and the attack on Warsaw disintegrated quickly into a Red Army rout. Notable defeats of the Soviet armies by the Poles in following weeks and months forced the Treaty of Riga that ended the war. Historians for both sides have claimed victory in the matter; the Poles succeeded in defending their homeland which remained free and sovereign for another generation until 1939, while Russian historians have maintained that the Poles were prevented from forming the federation bloc on the Soviet-Russian borders. In any event, the Soviet leadership turned away from the worldwide Communist Revolution via Europe.

- ✓ “There can be no doubt that if we had been victorious on the Vistula, the revolutionary fires would have reached the entire continent.” – Mikhail Tukhachevsky, Red Army commander, 1920 invasion of Poland.

Imagine, however, the subsequent history of the world had the Soviets prevailed over Poland in 1920 and been in position to invade Germany and Austria to link up with local communist movements, with armies driven by revolutionary fervor, in 1923 or 1925?

I have not heard of any alternate histories based on a Red Army victory in Poland in 1920. Probably because it is a lesser-known historical event and it would require too much explanation for the audience, whereas, WWII is sexy, everyone knows about it (or thinks they do), it was perceived as a universal existential threat to Western civilization, the setting requires little explanation, there are hundreds of movies about WWII or set in the WWII era, and it is easy to paint gloomy alternate histories. Not one historical narrative cares about 20th Century Poland until the German invasion in 1939.

In the power vacuum created by the German surrender in 1945, a generation later, the Communist revolution was pushed halfway across Europe by the Soviet Leader Josef Stalin, who as a member of the Soviet Russia Politburo in 1920 pushed for the invasion of Poland. However, by 1945, did Stalin still believe in the worldwide communist revolution, or was the revolutionary cause cynically used as a ploy to enhance Stalin's personal power? Thus, the Cold War.

“I am leaving Paris, after eight fateful months, with conflicting emotions. Looking at the conference in retrospect, there is much to approve and yet much to regret. It is easy to say what should have been done, but more difficult to have found a way of doing it. To those who are saying that the treaty is bad and should never have been made and that it will involve Europe in infinite difficulties in its enforcement, I feel like admitting it. But I would also say in reply that empires cannot be shattered, and new states raised upon their ruins without disturbance. To create new boundaries is to create new troubles. The one follows the other. While I should have preferred a different peace, I doubt very much whether it could have been made, for the ingredients required for such a peace as I would have were lacking at Paris.”

– Edward Mandell House, Diary Entry, June 29, 1919, regarding the Treaty of Versailles

Endnotes.

¹ Commentary & Citation: The parlor game of Twenty Questions became a radio program in 1946 and a television game show in 1949-1955 and attempts were made to revive it in 1975 and 1989 (after Carl Sagan's Cosmos episodes). Information was taken from Wikipedia article “Twenty Questions,” August 18, 2018.

² Citation: “A study from the University of California at San Diego, playing off the social-animal theory, further suggests that the head tilt is an ‘indication to play,’ making the head-tilt a sign not just that the dog is listening, but also engaged – and perhaps that it's engaged because it wants something. A final, less-studied explanation: Owners love the head tilt, and shower attention on their pup when it performs it (whether it's through treats or head rubs or just laughter and attention). The dog, in turn, therefore will be much more likely to make that movement again. Which is fine with us, because it is adorable.” – Dan Nosowitz, “Q: Do Dogs Tilt Their Heads When Confused?” The Dodo (thedodo.com), January 13, 2014.

³ Commentary: Some years ago, a kind fellow rescued me from his gamer geek wife who had cornered me in a game store and was regaling me in enthusiastic and excruciating detail about her high-level thief character's fight with a dragon using only a dagger in a recent Dungeons & Dragons game session ... though I am sure it was a great story for her, and maybe for the other players in her group, he could see I wasn't really getting it, nor getting into it, and was just politely listening. GGDM game stories will probably be like that.

⁴ Commentary: Perhaps an analogy. In baseball, when a team bats around in one inning they will score a minimum of three runs guaranteed. Because there are only three bases in addition to home plate where the runs score, not six bases. But baseball people will tell you *that's not how it works in baseball*, the reality is that when a team bats around in an inning, they will likely score at least five or six runs. Because a team isn't going to hit nine consecutive single-run scoring singles! Or take nine consecutive walks to first base. That's outlandish. And it is likely also that the defense behind the pitcher has not been stellar in that situation. The probabilities and the way baseball actually works in all the parts conspire to make batting around situations much worse than the theoretical minimum.

⁵ Citation: Dupuy & Dupuy express the same opinion generally in the Encyclopedia of Military History (2nd Rev. Ed., 1986), p. 991. Surprisingly, Lynn Montross *omits to mention this world-history changing victory in War Through the Ages* (3rd Ed., 1960), there is not even a mention of the Soviet-Polish war. This is a mystery for someone else to solve (but one suspects prejudice); I do not believe it was in the 1946 2nd Edition of the book either.

Hierarchic Social Entropy: An Information Theoretic Measure of Robot Group Diversity

Tucker Balch, *Autonomous Robots*, Volume 8, Issue 3, pp 209–238, June 2000

How should diversity be quantified? Shannon faced a similar problem when he sought to quantify the uncertainty, or randomness, of an information source (Shannon, 1949). The uncertainty of an information source has important implications for communications systems, particularly with regard to the minimum band width required to transmit error-free messages. Interestingly, the properties Shannon sought in a measure of information uncertainty are also useful in the measurement of societal diversity (Shannon, 1949). In fact, researchers in a number of disciplines have adopted information theoretic concepts of diversity. As an example, consider this passage from Wilson's book *The Diversity of Life* (Wilson, 1992):

Suppose that we encounter a fauna of butterflies consisting of 1 million individuals divided into 100 species. Say one of the species is extremely abundant, represented by 990,000 individuals, and each of the other species therefore comprises an average of about 100 individuals. One hundred species are present but, as we walk along the forest paths and across the fields, we encounter the abundant butterfly most of the time and each of the other species only rarely ... In a nearby locality we encounter a second butterfly fauna, comprising the same 100 species, but this time all are equally abundant, represented by 10,000 individuals each. This is a fauna of high equitability, in fact the highest possible. Intuitively we feel that the high-equitability fauna is the more diverse of the two, since each butterfly encountered in turn is less predictable and therefore gives us more information on average.

Wilson's view embraces the idea that societies with members equally distributed among subsets are the most diverse. It also suggests that diversity and information are closely related concepts. Information entropy is used in a number of related fields as well. It is used by ecologists as a means of evaluating species' diversity (Lurie et al., 1983; Lurie and Wagensberg, 1980; Magurran, 1988), by sociologists as a model of societal evolution (Bailey, 1990), and by taxonomists as a tool for evaluating classification methodologies (Sneath and Sokal, 1973; Jardine and Sibson, 1971).

Shannon's measure, *information entropy*, is easily adapted to suit the needs of a societal diversity metric (Shannon, 1949). Bailey popularized the application of information entropy to the study of social groups in his book *Social Entropy Theory* (Bailey, 1990). Although the formulation of simple social entropy for robot groups is somewhat different than Bailey's formulation for human societies, we adopt his term here.

Boundary Maintenance in Living Systems Theory and Social Entropy Theory

Kenneth D. Bailey, *Systems Research and Behavioral Science*, Vol. 25, Is. 5, pp. 587-597,
January 7, 2009

Social Entropy Theory (Bailey, 1990, 1994) views the social system as an entity that seeks to maintain internal entropy at some optimal level below maximum entropy. The role of the boundary is crucial in this task. The societal boundary must be able to open in the proper manner and at the proper time to ensure that adequate inputs of energy and information can be attained from the environment, that refuse or harmful material can be properly extruded from the system, and that needed exports of matter- energy and information can be moved across the boundary.

Conversely the boundary must be able to close in the proper manner and at the proper time in order to ensure that the system remains secure from threats outside in the environment (prohibits harmful inputs), and also guards against the loss of valuable internal resources (prohibits harmful outflows). Thus, the functions of boundary maintenance are fourfold: to open in a manner that (1) ensures needed inputs and (2) ensures needed outputs, and to close in a manner that (3) prohibits harmful inputs and (4) prohibits loss of valuable matter-energy or information through harmful outputs.

Social Entropy Theory states that the social system functions on a daily basis by regulating six key system components: Population (P), Information (I), Space (S), Technology (T), Organization (O), and Level of Living (L), which can be remembered by the alternative acronyms of PILOTS or PISTOL. This framework can be used to analyze the large variety of flows across the body of a given social system.

These flows across social boundaries can be roughly divided into matter-energy flows, or information flows (Miller, 1978). We can identify eight essential dimensions presented in that can be represented in terms of flows or movement across boundaries. These are: (1) human population; (2) elements from the internal environment (for example, plants, animals, or minerals); (3) energy; (4) culture; (5) technology; (6) information; (7) organization; and (8) level of living (for example, wealth).

Social groups obviously can vary widely in their ability to achieve their specific boundary maintenance goals. Efficacy in boundary control can depend upon a number of factors, including the following:

1. The distance from the central decider (government) to the boundary.
2. Accessibility of the boundary.
3. Physical conditions, terrain, and topography at the boundary.
4. Length of the boundary.
5. Form of the boundary, and so forth.

The physical form of the boundary can vary widely. In some cases it may be basically only an “informational” boundary consisting of a line on the ground, or merely a sign indicating the location of the boundary. In other cases the boundary might be a wire, or a small fence, or a very large and impenetrable fence or wall such as the Berlin Wall. In some cases it is unguarded. In other the boundary is an expanse of territory that is heavily guarded and filled with land mines, such as the North Korean-South Korean De-Militarized Zone (DMZ). Although it is a gross generalization, we can say that the boundaries that control the flow of matter-energy tend to be the more traditional physical boundaries such as gates, fences, and steel shutters. These gates and shutters are often mechanized, and can thus be controlled through motors that are capable of moving them rather rapidly.

Notice, however, that even physical boundaries that are regulated to either bar or admit physical (matter-energy) flows, also require the use of information. Thus, boundary regulation is generally not solely accomplished through physical (matter-energy) processing or solely through information-processing, but is a combination of both.

For example, consider the common occurrence of visitors approaching the gate of a walled mansion in a wealthy residential area. Assume that this is the front gate, and is deemed a “public entrance.” Assume also that it is never used for “transducer” functions such as garbage removal (another gate, in the rear, serves this purpose), nor for exits of persons from the mansion (yet another gate, a side exit gate, serves this function). ... It is always closed to outputs, and it is variable with regard to its openness of input...

Notice however, that while the gate is a matter-energy (physical) barrier, and is regulating the flow of matter-energy (primarily people), this regulation ultimately depends not only on matter-energy, but also on information. After the people approach the gate, the gate will remain closed, and they will not be allowed to enter unless some information is received by the decider that indicates that entry would be warranted, and would not be harmful to the group (family) residing in the mansion. This information must be transmitted by some form, such as direct voice transmission (speaking), wireless voice transmission, wired voice transmission, video, and so forth.

The length or distance of the information transmission required for gate regulation may vary widely, from a short-distance transmission to a gate-keeper such as an onsite guard stationed at the gate, to a much longer distance transmission to some more remote gate-keeping location. The particular information to be transmitted needs to be sufficient as a signal either to admit, or not admit.

This can be determined in a number of ways, such as the clothing of the persons desiring entry, an identification badge, or credentials (Miller, 1978), passports, passwords, and so forth. Since all of these are increasingly easy to imitate and thus to falsify, security decisions will increasingly be determined through data that is more difficult to alter. This includes biometric data such as fingerprints, unique blood vessel patterns in the face, patterns in the eyes, or even ultimately through rapid DNA determination conducted at the site.

While information is always required, along with matter-energy to process the admittance or barring of entry of matter-energy at a physical barrier, the reverse is also true. That is, the decision to either admit or bar information generally also necessitates the utilization not only of information, but also of some matter-energy or physical apparatus (“hardware”). That is, while information may be transmitted in via a “wireless” device, at some point, generally the organization and decoding of the message (and perhaps in between, as in the case of a satellite or transmission tower) there is “hardware” (matter-energy). You may devise a password to determine whether the information is to be admitted, and you may consider this password to be “information” rather than a physical entity, or matter-energy. Nevertheless, unless you imbed this information in some form of hardware (for example, your computer) it generally cannot fulfill its safeguarding function.

Thus, it is axiomatic that even when using matter-energy boundaries to control matter-energy flows, information processing is required. Conversely, even when using information boundaries to control information flows, matter energy is required. To summarize, it takes matter-energy to process information, and information to process matter-energy.

The classical distinction is that thermodynamics systems are “isolated” systems, whose boundaries are closed to flows of both energy and information (Bertalanffy, 1968). ... No living system such as a social system could conceivably exist in such a permanently closed fashion. Thus, in contrast to isolated or closed systems, social systems are said to be “open systems” (Bertalanffy, 1968; Parsons, 1951).

However, this term has often been used without clarification, implying that all social systems are permanently open. Often the types of flows that social systems are supposedly open to are not specified. ... While it is doubtful that any social system could survive if it remained permanently closed, it is theoretically possible (but highly unlikely) that a social system could exist in a permanently open state. However, this would certainly not provide an optimal quality of life. As we have indicated previously, a social group with no security measures in place to bar nonmembers can suffer not only losses such as the theft of resources, but also dilution of group identity, and contamination of its information base or ideology. Perhaps the sort of social group most likely to survive with totally open boundaries is one with minimal resources, and minimal invitations, theft, or contamination attractions.

The average society cannot leave itself perpetually open even to flows of potentially valuable raw materials or food or energy, as it would then face subsequent problems of transportation and storage. It cannot leave itself open to unregulated information inputs without danger of information overload, which can be a rather severe problem (Miller, 1978). Similarly, it cannot leave itself perpetually open to exports of matter-energy or information without the risk of having all of its needed resources diminished.

... doubtless some societies would be willing to receive inputs of goods without reciprocating through exportation, but this is obviously difficult to achieve in a world of shortages. Probably the contemporary society that comes closest to this is North Korea, as it lacks a market economy, and can afford comparatively few exports, as the goods of the sort it produces are generally needed at home. However, it does welcome inputs in the form of humanitarian food aid, and does receive such aid from a number of countries.

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See Appendix IP – Interventions Reference Sheet

Catherine Sakai: *While I was out there, I saw something. What was it?*

G'Kar: [pointing to a nearby flower] *What is this?* [upon closer inspection, an insect is visible]

Catherine: *An ant.*

G'Kar: *“Ant”!*

Catherine: *So much gets shipped up from Earth on commercial transports, it's hard to keep them out.*

[As Catherine is talking, G'Kar carefully picks up the ant.]

G'Kar: *I have just picked it up on the tip of my glove. If I put it down again [replacing the ant on the flower] and it asks another ant, “What was that?” ...how would it explain? There are things in the universe billions of years older than either of our races. They are vast, timeless. And if they are aware of us at all, it is as little more than ants...and we have as much chance of communicating with them as an ant has with us. We know. We've tried. And we've learned we can either stay out from underfoot, or be stepped on.*

Catherine: *That's it? That's all you know?*

G'Kar: *Yes. They are a mystery. And I am both terrified and reassured to know that there are still wonders in the universe...that we have not yet explained everything. Whatever they are, Ms. Sakai, they walk near Sigma 957. They must walk there alone.*
– Babylon 5, “Mindwar” (1994)

Ants!: The idea of ants gaining technology has rightfully scared the bejesus out of us since we first understood the power of humans plus knowledge. Many ancient cultures were impressed by ants, the ancient-Greek derived *myrmidon* is associated with ant-like subordination to the hive.

- ✓ “It’s the highest form of sociality,’ he said, ‘and it’s what enables the ants to dominate the tropics. No organism but man so dominates everything that goes on in a tropical rain forest.’ Dr. [William D.] Hamilton [Oxford University] attributes the ants’ success to their ability to organize their activities.” – Carol Kaesuk Yoon, “Social Castes Found to be Not So Rare in Nature,” New York Times Archives, 1993.

The idea has been explored in many movies and short stories (for schlock horror rather than philosophical purposes) since H.G. Wells introduced it in his famous 1905 short story, “The Empire of the Ants.” The appearance of advanced intelligence “Phase IV” (1974) ants on Earth (especially if they happen to be starfaring) would be an event for humanity of epochal proportions.¹

Entropy Is...: Entropy is the pervasive natural tendency of the universe, it is the chaos that exists just beyond order. Order and systems are imposed by intelligent life and some other natural forces of the universe, but as any system expands, as the universe continues to expand (and become less and less absolute), entropy seeps in and breaks down order.

- ✓ Rhetorical Questions: Is the modern general concept of Entropy, as applied to all things, a form of Camus philosophical suicide? Are they in the pale of this world, or do we treat them as something transcendent? Is Entropy like ambient noise or is it the modern *sacrificium intellectus*? See 3 Kairotic Moment, p. 1450, *infra*.
- Entropy Is Not Constant: Entropy is both a low-level corrosion and a sudden, explosive systemic collapse. It is the pebble that starts the avalanche, and it is also the avalanche. Entropy is not constant in application but it is always there.

- ✓ The implicit suggestion here is that we will never eliminate all of the problems – there is no utopian society waiting for our future generations. Rather, society has to decide what problems to eliminate and what social problems are tolerable; how to allocate resources. Solving one social problem creates another.

The Concierge applies Entropy creatively in different ways for the benefit of the game.

- ✓ Interventions should rely significantly upon and frequently reinforce the position's ***Fundamental Realities*** either as historical echoes or as reactions to departures violations by the position during play. During the game, it is probable that many players will forget about their Fundamental Realities, they will fade into the background.
 - Example, during Season 1 of *The Man in the High Castle*, Smith and Kido are presented as humans, with human problems, and so much happens, so many tortured twists and turns in the story, that it becomes easy to forget they are both cold-blooded murderers, each personally responsible for multiple deaths either through their authority or by their own hands.

It is the providence of the Concierge to keep the Fundamental Realities *in play* alongside Interventions based on the unfolding events of the game and the storytelling arc.

- ✓ See also *Stewed, Brewed, Baked, Boiled or Fried*, 1 Disruption, p. 258, *infra*.

Players might not always appreciate the application of entropy to their position, however, players are encouraged to take a longer view of the game as a story arc.

- ✓ Stories (even comedies) where nothing bad or unusual happens are not usually very interesting; all of our stories are primarily about or contain an element of bad things happening to good people or sometimes bad people, e.g., Alfred Hitchcock's 1960 movie, *Psycho*, where the *original* morally compromised protagonist has fled to the Bates Hotel, setting up the 'she had it coming' archetype in horror films, basically desperate thief meets psycho serial killer.
 - This is one of the reasons, for example, why GDW decided to shatter the seemingly stable (and somewhat boring) Third Imperium setting of Traveller RPG to create the more open and adventurous setting of the Shattered Imperium for MegaTraveller RPG. The carnage of the Imperium civil war began the inevitable road to the Asimovian Long Night. The AI Virus (Traveller: New Era or the third edition of the game), inadvertently created by Imperium researchers, finished the job, leaving a cluster of highly developed interstellar civilizations in ruins. And many places, of many flavors, for RPG adventure.
- ✓ Similarly, most of what we call 'news' are reports of bad things happening to other people (cynically: "if it bleeds, it leads"). History can be viewed in one sense as the story of bad things happening. So can our lives.
- ✓ Stories about normal people having normal days and lives aren't interesting.
- ✓ And 'bad things' happening to anyone in our stories, excepting the natural disaster movies, usually equates to either bad people doing bad things or people doing bad things to others out of ignorance.
- ✓ Thus, in GGDM, someone will become or will need to be the Bad Guy in the story (as discussed in 3 Beginnings, EN 10, p. 45, *supra*). It takes a special kind of player (or actor) to become the Memorable Bad Guy.²

- “The difference between life and the movies is that a script has to make sense, and life doesn’t.” – Joseph Mankiewicz.

- The Devil’s Argument: [Navarre approaches the Bishop with his sword drawn] **Bishop**: “But kill me, Navarre, and the curse will go on forever. You must think of Isabeau.” – Lady Hawke (movie, 1985). Without bad guys, there wouldn’t be much news or many movies.

And this is always the difficult part, the ‘devil’s argument’ if you like: Without racism, we would not have the wisdom of opposing racism, without sexism, we would not have the argument for equality of the sexes, without the experience of war, especially in the mid-20th Century, and it’s generational aftereffects, there would be no modern pacifist argument, without alcohol, cigarette smoking and drug abuse, we would know significantly less about humanity; without Victorian morality, there would be no modern medical study of psychology. No one is in ‘favor’ of these ‘evils,’ but no one can seriously imagine a world where they never existed and can hardly imagine a future where they don’t still exist.

A utopian world would be, of necessity, perfect, and because it is perfect, nothing can change, otherwise it would no longer be perfect. This is the problem with the utopian argument. *An author quote is like utopia*, it is perfect because it is a quote, if anything is changed, it is not a quote any longer, but perhaps a paraphrase.

So in the GGDM game, players, like fiction authors, must let bad things into the game to move the story along the track; they must assume that their races are not perfect beings, but rather, filled with pregame fallacies and vulnerabilities.³

- Crappy Things Must Happen: What we forget when we fall into a big budget movie is that for the story to work, *really crappy things* must be assumed to have happened to a lot of people, to our world, to specific people, before the story begins (i.e. the background) and/or will happen during the story, and possibly afterward as a result of the story. We forget these things in the moment, let them pass over us, *because it is exactly what we expect*, nothing new here – just as we don’t notice people coming and going in a crowded public place, unless there is something different. It is only a matter of what flavor of bad we prefer.
 - ✓ “Every account of a higher power that I’ve seen described, of all religions that I’ve seen, include many statements with regard to the benevolence of that power. When I look at the universe and all the ways the universe wants to kill us, I find it hard to reconcile that with statements of beneficence.” – Neil deGrasse Tyson, at the University at Buffalo, Q & A session, April 9, 2010, video on YouTube as of September 2018.

Bad things are always necessary to create an interesting background.

- ✓ Example, **alien** Colony Ship arrives at the Earth, aliens want to settle on Earth, humans allow some settlement, negotiations continue, humans and aliens reach an agreement for mass settlement of a million aliens on Earth, the alien ship explodes, killing most of the alien population, the sides blame each other, debris from alien ark ships fall to Earth, alien terraforming technology is loosed, uncontrolled, massively alters the Earth, billions of humans die, there is a war, Earth is unrecognizable when it ends...

This is the ketchup ... uh, setup for the 2013 TV series, Defiance. It allows the writers to do whatever they want, just as the space-opera setting of GGDM allows participants wide lati-

tude (almost) without historical constraint. It is also the requirement for every post-apocalyptic setting (Ark II, Twilight 2000, Mad Max, Gamma World, Jericho), to have a post-apocalyptic setting, one must have an apocalypse and Defiance is an example of the post-Cold War sort now that the threat of global thermonuclear war has receded. And sometimes the bad guy is right and makes the most sense too:

- ✓ “The plot has a raggedy quality.... At its worst, it raises basic creative questions that are a far cry from its philosophical and moral concerns: *Is the heroine special because she truly has special qualities, or because the ‘You are the chosen one’ thing lets [Brad] Bird barrel through two hours without having to give Casey any traits besides spunk? Is it a problem, story-wise and message-wise, that Frank’s chief antagonist ... makes more sense than the heroes who oppose him?*” – Matt Zoller Seitz, review of Tomorrowland on rogerebert.com, March 18, 2015 (emphasis in original).
- ✓ “It is also a fallacious *ad hominem* argument to argue that a person presenting statements lacks authority and thus their arguments do not need to be considered. As appeals to a perceived lack of authority, these types of argument are fallacious for much the same reasons as an appeal to authority.” – from Wikipedia article, “Argument from Authority,” captured April 7, 2020.

“I want to talk about Feng Shui, which is something I know very little about, but there’s been a lot of talk about it recently in terms of figuring out how a building should be designed, built, situated, decorated and so on. Apparently, we need to think about the building being inhabited by dragons and look at it in terms of how a dragon would move around it. So, if a dragon wouldn’t be happy in the house, you have to put a red fish bowl here or a window there. This sounds like complete and utter nonsense, because anything involving dragons must be nonsense – there aren’t any dragons, so any theory based on how dragons behave is nonsense. What are these silly people doing, imagining that dragons can tell you how to build your house?”

Nevertheless, it occurs to me if you disregard for a moment the explanation that’s actually offered for it, it may be there is something interesting going on that goes like this: we all know from buildings that we’ve lived in, worked in, been in or stayed in, that some are more comfortable, more pleasant and more agreeable to live in than others. We haven’t had a real way of quantifying this, but in this century we’ve had an awful lot of architects who think they know how to do it, so we’ve had the horrible idea of the house as a machine for living in, we’ve had Mies van der Roë and others putting up glass stumps and strangely shaped things that are supposed to form some theory or other. It’s all carefully engineered, but nonetheless, their buildings are not actually very nice to live in.”

– Douglas Adams, “Is there an Artificial God?” speech at Digital Biota 2, Cambridge U.K., September 1998

Flipping (off) Modernity: Entropy and the four Constructural Elements in GGDM are probably broadly (and unintentionally) functionally similar or analogous to in many ways *yin-yang* and the Five Elements of *Wuxing* (Chinese philosophy). See 1 Constructural Elements, p. 180, *supra*.

- ✓ You may be familiar with the West’s poor cousin: Earth, Wind, Fire and Water. The five elements of *Wuxing* are Wood, Fire, Earth, Metal and Water (various orderings).

It’s a matter of worldview – how one slices the pie – as both are deductive, the difference being what is attempted to be described or explained and the starting point from which it is deduced,

e.g., if one were to try to deduce the parts of a modern automobile as opposed to beginning with deducing the parts of the passenger cabin or engine without looking farther. Both *Wuxing* and GGDM describe relationships between humans and the universe and between each other, *Wuxing* begins appropriately with the cosmos *down* to Earth, whereas GGDM begins with the Earth *up* to the cosmos. It's a matter of view, ancient mythopoeic vs. modernity, top-down or bottom-up. Taken in this sense, we have completely 'flipped the script' in modernity and that is the essence of the three-century dispute between religion globally and modernity.

- ✓ Continuing: “An awful lot of theory has been poured into this, but if you sit and work with an architect ... then when you are trying to figure out how a room should work you're trying to integrate all kinds of things about lighting, about angles, about how people move and how people live – and an awful lot of other things you don't know about that get left out. You don't know what importance to attach to one thing or another; you're trying to, very consciously, figure out something when you haven't really got much of a clue, but there's this theory and that theory, this bit of engineering practice and that bit of architectural practice; you don't really know what to make of them.” *Id.*
- ✓ “Another approach to Western esotericism has treated it as a world view that embraces ‘enchantment’ in contrast to world views influenced by post-Cartesian, post-Newtonian, and positivist science which have sought to ‘disenchant’ the world. Esotericism is therefore understood as comprising those world views which eschew a belief in instrumental causality and instead adopt a belief that all parts of the universe are interrelated without a need for causal chains. It therefore stands as a radical alternative to the disenchanted world views which have dominated Western culture since the scientific revolution, and must therefore always be at odds with secular culture.” – from Wikipedia article, “Western esotericism,” February 20, 2019, citing to Wouter Hanegraaff, Western Esotericism: A Guide for the Perplexed (2013).

“Many arc-based series in past decades, such as V, were often short-lived and found it difficult to attract new viewers; they also rarely appear in traditional syndication (one notable example being the science fiction ‘novel for television’ Babylon 5). However, the rise of DVD retail and DVR of television series has worked in arc-based productions’ favor as the standard season collection format allows the viewer to have easy access to the relevant episodes. One area of television where story arcs have always thrived, however, is in the realm of the soap opera, and often episodic series have been derisively referred to as ‘soap operas’ when they have adopted story arcs.

Arc-based series draw and reward dedicated viewers, and fans of a particular show follow and discuss different story arcs independently from particular episodes. Story arcs are sometimes split into subarcs, if deemed significant by fans, making it easy to refer to certain episodes if their production order titles are unknown. Episodes not relevant to story arcs (such as ‘monsters of the week’) are sometimes dismissed as filler by fans, but might be referred to as self-contained or stand-alone episodes by producers.”

– from Wikipedia article, “Story Arc”

Arc Covenant: Story arc is a relatively recent development in television programming. A story arc in a program is a covenant with the viewer to which television people were hesitant to enter.

Three features distinguished American television series up to the late 1980s: they were formulaic, episodic, and written for a very low common denominator. That is, the premise and main characters were established in the pilot, each episode was predictable, nothing ever changed (everything was reset at the end of each episode), no one ever died or was seriously hurt, rarely were social controversies raised, *rarely did the characters display any memory of previous episodes* (thus the episodes could be viewed/aired in any order), and shows were suitable for an 8 year old to watch, possibly understand, and be amused (i.e. the lowest common denominator).

Change, increased maturity level (lowest common denominator perhaps hovers around 10 to 12 years old now), increased complexity, and social issues in television coincide approximately with the end of the Cold War and increasing audience education level (i.e. a surge in college graduates) and sophistication.

- ✓ “In order to understand how ‘Babylon 5’ changed the rules of dramatic television, it is important to first understand the evolution of dramatic television over the last two decades. Up until the late 1970s, most prime-time dramas on American television consisted of a series of standalone episodes with very little continuity between each show (the events on one episode rarely had an impact on the events in subsequent ones). In addition, the events portrayed in the series usually revolved around a central character. The original ‘Star Trek’ is a good illustration of this, as you can watch the majority of the episodes in any order without any continuity issues, and the stories tended to revolve around its lead character, Captain Kirk.

However, at the latter end of 1970s, a number of ‘prime-time soaps’ emerged (‘Dallas,’ ‘Dynasty,’ etc.), which brought the ongoing and multi-episodic narratives of daytime soap operas to mainstream audiences. Furthermore, these ‘primetime soaps’ were characterized by ‘community creation,’ in which the action revolved around a number of individual characters related to one another through some means, and the dramatic conflict was often derived from the interactions between these characters. The popularity of the prime-time soaps soon begat the ‘ensemble drama,’ which combined the multi-episodic story arcs and community of characters with decidedly more serious thematic content. The first ensemble drama that exhibited these characteristics was ‘Hill Street Blues,’ which was cited as a ‘groundbreaking show’ and helped to pave the way for other ensemble dramas such as ‘St. Elsewhere,’ ‘L.A. Law,’ ‘Twin Peaks,’ and yes, even ‘Star Trek: The Next Generation. ...

In many genre programs (and numerous ‘old school’ television dramas for that matter), the main character usually remained static over the life of the series. For example, Detective Columbo was the same person from week-to-week and only the situations he was in differed.” – Anthony Leong, “Babylon 5: Triumph and Tragedy in Three Acts,” *Frontier: the Australian Science-Fiction Media Magazine*, April/June 1999 (article is available free online).

- To this list, I might add one of my multi-episodic story arc favorites from the ensemble drama era, *Wiseguy*, 1987-1990 (not to be confused with that awful episodic series, *The Fallguy*, 1981-1986). Another ♥, *Forever Knight* (1992-1996), was a dark-themed episodic late 1980s style series (including prime-time hair) with pretensions of being an ensemble drama, that desperately wanted to have a story arc, but eventually just wore itself (and the actors) out and tried to revive with a sudden change in the third season.

“Social Entropy Theory (SET) is a very general macrosociological systems theory.”

– Kenneth D. Bailey, from Abstract of “Social Entropy Theory: An overview,”
Systems Practice, Vol. 3, Is. 4, August 1990

SETiGGDM: Entropy as used in GGDM is primarily an application of Social Entropy Theory salted with a little ‘stupid crap happens’ for storytelling purposes.

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- ✓ “Our goal in Social Entropy Theory is to construct an adequate model of complex society. It is taken as axiomatic that to understand complex society adequately, we must have a complex model. More specifically, the model must be isomorphic with the society, and, so, must be as complex as the society that it models.” – Kenneth D. Bailey, “Social Entropy Theory: An overview,” Systems Practice, Vol. 3, Is. 4, p. 365, August 1990 (was he talking about GGDM? ☺).
- ✓ “A pseudo state function, the ‘*Social Entropy*’ (SE) is defined in order to show the application of the second law of thermodynamics to the human social behavior. This is achieved under the assumption that such property (SE) is equivalent to the degree of *social dissatisfaction* (SD), of certain social, economic, or political system. Hence, a Boltzmann type equation is used after simplifying it with Stirling formula, to obtain a rough estimative of the amount of the relative SE in a determined place and moment of history. A case study related to the Peruvian society has been used here to demonstrate our hypothesis that the *social entropy* tends to increase with time. Similarly the **degree of disorder** of a thermodynamic system increases with time. Generally speaking we observe so far that the degree of disorder is a manifestation of the social dissatisfaction within the limits of the system.” – Alfredo Palomino Infante and James H.L. Lawler, “Social Entropy: A Paradigmatic Approach of the Second Law of Thermodynamics to an Unusual Domain,” Nexial Institute, 2002 (http://www.nexialinstitute.com/social_entropy.htm).

While I have little to no chance of understanding the math of Social Entropy Theory, the basic concept resonates in GGDM: ‘Increase’ in entropy is change from low- to high-probability states (like your cup of coffee getting ‘cold’ over time), in the GGDM setting, population movement from the single homeworld to the stars. The Entropy rules in GGDM are both a simulation of SET and a storytelling tool in the game (what’s the difference anyway? What is history?).

“The student of mathematics does not, as a mathematician, know anything whatsoever about the world of concrete reality. This is true because mathematics is not a body of knowledge with respect to any of the order of phenomena in the objective world. It deals with concepts and is a kind of quantitative logic, purely subjective in its essential nature. But that is not to say that it is not an immensely valuable discipline.

Quite the contrary. While one who knew only mathematics, even if he mastered it all, would know nothing about the objective, phenomenal world, he would be in command of an incomparable mental equipment for the accurate explanation of natural phenomena if he were to turn his mathematically equipped mind to their systematic investigation. Thus it is that pure mathematics, far from being a single science, is no science at all. It is, however, the measure of accuracy for all sciences, or the ‘standard of positivity,’ as Comte expressed it.”

– Clarence Marsh Case, Outlines of Introductory Sociology (1924), p. xvi

Math Boy: I did not grasp math as “quantitative logic” when I was young; if I had thought of it or been taught and internalized it in that way, the outcome might have been different. My main memories of math are memorizing multiplication tables in elementary school and failing math (but somehow passing) every year in high school.⁴ I knew I was lost and failing, but somehow passing onto the next course each year in high school, and passing toward graduation (or at least not getting into trouble for failing a course) was all I cared about in high school.

- ✓ In high school, I think my math teacher assumed you’d either ‘get it’ or not get it, and it didn’t matter which; thus no effort was made to frame ‘what is math’ or to pull the most dimwitted students up to the shelf where they ‘got it’. The same was true later in college, but the difference is that not getting it blocked progression in my majors; *understanding* is the difference between college and mandatory public high school.

I think in my youth, math was a sort of mystical thing that kids smarter than I was understood (for example, the girl in the orchestra with whom I was infatuated), I don’t know that I really could have said what math was when I was young (any more than I could have said what literature was at that time). Maybe this is middle-age excuse-making, but if you are teaching math, perhaps it is better to start students with this concept and keep repeating until they internalize it.

- ✓ “Who does not know, as regards to the so-called mathematicians, what very obscure subjects, and how abstruse, manifold, and exact an art they are engaged in? Yet in this pursuit so many men have displayed outstanding excellence, that hardly one seems to have worked in real earnest at this branch of knowledge without attaining the object of his desire.” – Marcus Tullius Cicero, *Of Oratory* (55 B.C.), Bk. 1 (trans. E. W. Sutton and H. Rackham) from Patricia Bizzell and Bruce Herzberg, *The Rhetorical Tradition* (1990), p. 201.

In college it might have been better had I begun with the question, ‘what can calculus do that math cannot?’ But it was ever presented that way; they simply began teaching calculus as if students already knew that answer or would figure it out.⁵ Similar questions are asked on the internet even now; e.g., on Quora in 2013, “How is calculus different from algebra?” and a redux in 2017, “What is the difference between maths and calculus?” There are many sites dedicated to explaining what is calculus; this is the one I wished I had been able to read back around 1990:

- ✓ “For over seven hundred years algebra and geometry coexisted but were not well linked. Geometry describes the physical nature of our world while algebra is a sophisticated tool for mathematical analysis. Due to the Greek influence on Persian (or Islamic) mathematics geometry was successfully used to verify some of their algebraic methods, but there was no known way to harness the analytical power of algebra to analyze geometry.

In the late 1500’s the French philosopher and mathematician, Rene Descartes, had a profound breakthrough when he realized he could describe position on a plane using a pair of numbers associated with a horizontal axis and a vertical axis. By describing, say, the horizontal measurement with x’s and the vertical measurement with y’s, Descartes was able to give geometric objects such as lines and circles representation as algebraic equations. This seminal construction of what we call graphs is, arguably, the cornerstone without which our modern technology would not be possible. Des-

cartes thus united the analytical power of algebra with the descriptive power of geometry into a branch of mathematics he called analytic geometry. This term is sometimes seen in textbooks with titles such as ‘Calculus with Analytic Geometry.’ ...

The next major breakthrough in mathematics was the discovery (or creation) of calculus around the 1670’s. Sir Isaac Newton of England, and a German, Gottfried Wilhelm Leibnitz, deserve equal credit for independently coming up with calculus. Each accused the other of plagiarism for the rest of their lives, but for what it’s worth, the world largely adopted Leibnitz’s calculus symbols. Calculus did allow Newton to establish physics principles which remained uncontested until the year 1900 and which in our ordinary scale world still suffice to explain physics to excellent accuracy.

Calculus was developed out of a need to understand continuously changing quantities. Newton, for example, was trying to understand the effect of gravity which causes falling objects to constantly accelerate. The speed of an object increases constantly every split second as it falls. How can one, for example, determine the speed of a falling object at a frozen instant in time, such as its speed when it strikes the ground? *No mathematics prior to Newton and Leibnitz’s time could answer such a question, which appeared to amount to the impossibility of dividing zero by zero.* The solution to this type of issue came to be known as the derivative. Derivatives are slopes of particular lines called tangent lines, and the reader may recall that slope of a line is a concept from Descartes’ graphing.” – Jon Davidson, “What is Calculus,” Southern State Community College (Ohio), undated article (emphasis added).⁶

So calculus solved a problem that seemed previously impossible. Ok. And the solution is precisely and accurately applicable to modern physics and graphic visualization problems. Even better. Would the impossible framework problem of quantum physics likewise be solved by a new form of math? That seems to be the strong underlying assumption of most who understand the problem far better than I; it is implied in much of modern science-fiction literature.

- ✓ Rhetorical Question: What ‘impossible’ problem has GGDM solved or not solved? Or is that not the correct framework for discussing human civilizations? Or GGDM?

The Stargate Universe series character Eliot (“Eli”), an apathetic MIT dropout and ‘math boy’ as he called himself in the episode “Light” (2009) is the epitome of Mr. Case’s preceding description of a mathematician. It is not likely that the SGU staff ever heard of Mr. Case or read his books; it is most likely that Eli’s character is derived from a long-running sci-fi stereotype.

- ✓ “The origin of the mathematization of economics is traced back to Swiss mathematical genius Daniel Bernoulli, who precisely conceived of utility in terms of the intensity of psychic effect. Murray Rothbard elaborated on the foundation of mathematical economics ... but it is worth noting that two hundred and fifty years after his death, Bernoulli’s probabilistic insights are also getting criticized by Nobel Prize winner Daniel Kahneman.” – Michael Accad, M.D., “An introduction to praxeology and Austrian school economics,” alertandoriented.com (blog), April 13, 2016.
- ✓ See Unsolved Problems discussion, 3 Constructural Elements, p. 209, *supra*.
- The Other View: There was debate in the early 20th Century about whether mathematics was a science; there are other views that are contrary to the ones expressed by Mr. Case:

- ✓ “Mathematical science is in my opinion an indivisible whole, an organism whose vitality is conditioned upon the connection of its parts. For with all the variety of mathematical knowledge, we are still clearly conscious of the similarity of the logical devices, the relationship of the ideas in mathematics as a whole and the numerous analogies in its different departments. We also notice that, the farther a mathematical theory is developed, the more harmoniously and uniformly does its construction proceed, and unsuspected relations are disclosed between hitherto separate branches of the science. So it happens that, with the extension of mathematics, its organic character is not lost but only manifests itself the more clearly.” – David Hilbert, “Mathematical Problems,” an address to the International Congress of Mathematicians at Paris (1900), translated by Maby Winton Newson for the Bulletin of the American Mathematical Society 8 (1902).

Thus, it seems that Mr. Hilbert, a mathematician, who is considered one of the greatest mathematicians of the 20th Century, would disagree with Mr. Case, a sociologist, on that point. But there are other statements from the address in which Messrs. Hilbert and Case would seem to be in agreement, e.g.:

- ✓ “The organic unity of mathematics is inherent in the nature of this science, for mathematics is the foundation of all exact knowledge of natural phenomena. That it may completely fulfil this high mission, may the new century bring it gifted masters and many zealous and enthusiastic disciples!” *Id.*

I still think the view of mathematics as “a kind of quantitative logic” is and would have been far more useful. But math is now unanimously presented as a ‘science.’

*“Some say the wind just stoppered.
Others reckon it were a gang called Turbulence!”*

– The Tell of Captain Walker, *Mad Max: Beyond the Thunderdome* (1985) ⁷

...Turbulence of Being: Beyond entropy, the universe seems to have a quota for stupidity, pettiness and annoyance of which it is mine and humanity’s designated role to fulfill (I call it the ‘To Screw List’). What would happen, if for once, when there is a probability that the cat food can with a spoon in it would not fall over, if, in fact, it didn’t fall over? Would the universe collapse into chaos? Would the universe cease to exist as we know it?

We will never find out because the stupidity quota insures that the can of cat food with the spoon in it, will always fall over regardless, especially if doing so is to our greatest annoyance. Or under the Many Worlds Interpretation of quantum mechanics, it always ‘happens’ because we never see the universe where it doesn’t happen. What’s the difference? It’s like an executing computer program. Although these questions might be regarded as humor, they are equally part serious,⁸ to wit:

- ✓ Is it the basis of our science and technology that observed phenomenon are repeatable, and if they are repeatable, then they can be tested and eventually, we obtain a natural law by which they operate, and are predictable? I am waiting for science to explain the preceding to me (and other related commentaries in GGDM, e.g., top of 3 Entropy, 1 Temporal Technology, 2 Fallen to Earth, 3 Colleges, etc. *infra*, a theme

running through GGDM), why this always happens? Science cannot even frame the problem, the observed phenomena, in fact, it will be dismissed instead as just my mental state, my negative interpretation, when everyone who is paying attention can see it happening every day. We write songs about it, e.g., what happens when you play a country song backwards (old joke)?⁹ I feel that it is at least colorable that the phenomena will be understandable when we have the proper framework in which to ask quantum questions:

- “Unlike classical physical processes, some quantum mechanical processes (such as quantum teleportation arising from quantum entanglement) cannot be simultaneously ‘local,’ ‘causal,’ and ‘real,’ but it is not obvious which of these properties must be sacrificed, or if an attempt to describe quantum mechanical processes in these senses is a category error such that a proper understanding of quantum mechanics would render the question meaningless.” – Wikipedia, “List of Unsolved Problems in Physics,” captured June 18, 2018.
 - This quantum quandary is mirrored in GGDM game mechanics.
 - See also Peek-a-Boo, 2 Expansion, p. 893, *infra*.
- “As time travel films get more complex, however, we need new models to think through their mechanics, and *new ways to think about the ways they produce meanings*. A recent and quite impressive addition to the genre is Rian Johnson’s 2012 film *Looper*. And as with many such films, soon after release, there were a panoply of explanations, diagrams, and attempts to explain its time-travel dynamics, many on the Internet. While most praised the film in one form or another, many argued that the presentation of time travel in the film is in some senses sloppy, because it mixes and matches various theories of time travel, and hence sacrifices structure for character development. This reading of the film has in some senses been supported by the director, who implied in at least one interview that he went with his gut rather than work out the details. Despite this, there’s actually some very strong reasons to see Johnson’s gut instinct as having a lot going for it. *For when contextualized by aspects of contemporary quantum mechanics, the fuzzy logics of Looper are hardly inconsistent*. In fact, this film can be seen as actually advances the time travel genre to a new level of complexity.” – Christopher Vitale, “Collapsing the Fuzzy Wave: Rian Johnson’s ‘Looper’ (2012), Quantum Logics, and the Structures of Time Travel Films,” networkologies (blog), written in 2012, updated and reposted, October 31, 2014 (emphasis added).
- When this occurs, the results will be epochal, emergent throughout humanity. See continued epochal evolution discussions in 1 Order, 1 Star-drive, and 1 Reformation, *infra*.

These are questions I have asked myself over and over again for years and years (it might be somewhat evident in the design of GGDM).

- ✓ You are free, of course, to dismiss my unfavorable views in GGDM as confirmation bias (the modern pat on the head). As self-fulfilling prophecy. The glass half-full or

half-empty, and all that. We can all go on pretending that the causality around humans is coincidental, random, that the universe loves us and is our intellectual playground (like kids who don't know snakes bite). And all that. Because of course, I am nuts. Santa Claus is watching, you had better look happy, innocent and harmless.

- Sometimes I feel like Paul Simon's "Something so Right" (1973).
- ✓ You may think that like Pangloss, I am confusing causes with effect. That because the universe annoys me, I think that it is the intent of the universe to annoy us. I can only shrug at such a suggestion, "you may be right, I may be crazy, I may be just the lunatic you are looking for!" (Billy Joel, "You May be Right" (1980)). But that is what the universe means to me, and to many others if they stop to think of it. And the only way you can dismiss my thoughts is to believe that what I think has no meaning or effect on the universe, is not a fact equivalent to or the same as say, a lightning strike that blew off the corner roof of my grandmother's garage in 1996.
- A Simple Proof: If I hold and release a ball, it falls to the ground. If I do it 100 times, in exactly the same way, applying no other forces, it falls to the ground 100 times, in exactly the same way. How many times does this need to happen before you decide it is not a coincidence, even if you do not have modern knowledge?
 - ✓ *Why* did an egg (have to) drop on the floor while I was making breakfast this morning? Well, you might say, you were careless or you didn't have a good grip on the egg when you took it out of the carton. Those are answers to *how* the egg dropped on the floor, who is responsible, blameworthy, not why the egg dropped on the floor (the 'have to' part is a separate issue). So you say, ok gravity caused it to fall to the ground and it broke. Again, this is the mechanics, a *how* answer. Since we never get an answer to the *why*, *we have become accustomed to interpreting how answers as whys*. Our language actually makes it difficult to directly express the real question, and very easy to fumble about hows, responsibility, causal chains, and blame. Thus we live in confusion and ask confused questions. Can physics solve this?
 - ✓ That is the question we must resolve: How many times does entropy – either petty or large – have to happen before we resolve that it is not a coincidence? And if it is not a coincidence then it is either natural law or malicious agency, and what is the difference? Treatment of natural laws as neutral is just a mental trick to keep us from losing our minds, to keep it empirical; no one can prove that natural laws are neither benevolent nor malevolent though science so asserts. The best that science can argue is that they are neutral in application from a strictly empirical perspective.

- See also UNITY OF OPPOSITES discussion, 5 Fallen to Earth, p. 1570, *infra*.

The ancients didn't think for a moment that gravity was a coincidence and expressed it in their own framework, their own terms. They also used it, giving it military and engineering applications, just as they did the wind and the currents. Phenomenology and ontology are not so separated from empirical science as they would like; to be empirical, it must both exist and appear, from which we derive facts such as measurements, behavior, natural laws.

- ✓ Long ago, I read a story that I think was titled, "The Girl Who Lied to Save the Earth." I cannot locate it now, but the gist of the story was that an extradimensional explorer crossed over to Earth. The explorer noticed that there was much chaos in humanity and asked a girl if this was normal. She lied. Thinking that it had disturbed

this dimension, the extradimensional explorer removed itself back to the origin, and made ‘repairs’ of the damage to our planet that it thought it caused.

- Fourth Frame: Turning to a different framework, it ‘feels’ or ‘seems’ as though the idiot, petty entropy in our daily lives is a form of ‘turbulence’ (I have no other suitable term, so that will have to do) from the very fact that we exist. Of course, science holds that everything in the universe experiences entropy, that is, that entropy migration to high entropy is a universal process the same as gravity, magnetic attraction and so on. But there seems to be something different about the way humans experience petty entropy in their daily lives.
 - ✓ One colorable possibility is that the low entropy state, the existence of anything in this universe interrupts something that we have not yet identified, or perhaps the successive emergences of the natural orders (see discussions 2 Culture and 1 Order, *infra*) has ‘violated’ some laws of the universe, but not in the sense that they would be prohibited (again, we really lack the vocabulary) or perhaps the laws were changed by the emergences. We live in a fractured universe, so to speak.
 - However, there is possibly a circular argument that could occur here: That the fractures are the cause of entropy, but then, what else – other than entropy – would we call the process that caused the fractures? Or more precisely, is an emergent event entropic? Which comes first, the chicken or the egg?
 - See also discussion of paradoxes, 2 Temporal Technology generally, *infra*, and opposites, 5 Fallen to Earth, p. 1570, *infra*.

Humans experience entropic events in an emergent way. What among the first order of natural phenomenon laws (i.e., the physical universe) known to us dictates that an entropic event should cause anger, annoyance, cognitive dissonance in human observers? Gravity, magnetism, electron spin? Within the framework of the second order of natural phenomenon (i.e. the organic), we find some cause in organic reaction to entropic events that are negative stimuli, but that is still a far cry from human reaction (of all types) to entropic events. It is only within the third and fourth orders of natural phenomenon (i.e. the mental and the super-organic, respectively), that human reactions to entropic events become frameable and to these, we hardly have developed any natural laws in the sense of the first/second order sciences.

- ✓ The orders of natural phenomenon described by sociologist Clarence Marsh Case in 1924 are discussed throughout GGDM, see especially 2 Culture and 1 Order, *infra*.
- ✓ Entropy is relative to the environment. If you lived in the ocean, dry would be a very low entropy state and wet would be the high entropy state (like the distribution of air molecules in a room). In fact, fish would never know they are ‘wet’ without an opposite state. However, in physics lectures and videos, it is not presented this way, rather, high and low entropy are always presented as either a room full of air or against the ultimately objective background state of the universe beyond the Earth and Sun. Physics is in love with the ultimate objective reality, which is the background state of the entire known universe and every argument flows from there. But not human arguments. Human experiences flow from the *ought* and *not*. Or the *ought*, the *is*, and the *not*. Relativity is the recent interloper into the world of physics.

The next question is, does the universe have an emergent response to humanity? Does the emergence work both ways? In the same way perhaps that the Earth’s gravitational pull moves the Sun very slightly due to the vast differences in mass? Or the way the Moon

causes tides on Earth? The problem is that for all of history, our experience of entropy, was just the way things were, the craziness of the world, and no one gave any thought to it (and it almost destroyed us, may in the future), instead, we learned to bump along on the waves. I have refused to accept that it is ‘just the way it is’ or that it’s just the natural universe, I want a better understanding personally, and I believe if we are to survive in the next centuries, humanity needs to understand this (nay, *grok* this) better as a civilization.

The human experience of entropy, both individually and as civilization, is either then peculiar to the third and fourth orders of natural phenomenon and/or we are more likely to experience the ‘turbulence’ because we are more complex still than all of the other lifeforms on Earth (that is, the nail that sticks up most gets hammered down the hardest and first).

- ✓ Oddly, Douglas Adams said of the Infinite Improbability Drive in the Hitchhiker’s Guide to the Galaxy (radio scripts 1978, novel 1979 *und so wieter*) books that the less probable your existence, the faster you can go. Though it was taken as some vaguely philosophical comedic comment, it has always been intriguing and who knows, maybe Mr. Adams sensed something of what I have noted above?
 - See also ‘disturbulence modifier,’ 2 Movement, p. 846, *infra*.
- ✓ I may, if you will pardon, be the sanest person on Earth for all of my eccentricities.

“But I know this: I have never believed much in conspiracy theories. Secrets are difficult to keep when they involve two or more people. My answer to questionable events aligns more with Peter Bergen’s spot-on assessment: ‘Incompetence is a better explanation than conspiracy in most human activity.’”

– James Gagliano (Ret. FBI), “The GOP uses FBI secret society charge to overplay its unbeatable hand,” The Hill, January 25, 2018

“When nothing conspiratorial is revealed in the JFK files, the conspiracy theorists will insist the cover up continues. No point.”

– David M. Drucker, from the Washington Examiner, on Twitter, October 25, 2017, as reported in the Washington Post, regarding the announced 2017 release of JFK investigation file materials from the National Archive

[Interview] *“Could just be incompetence. Never underrate that possibility.”*

– Richard Beeston, *The Spy Who Went into the Cold: Kim Philby, Soviet Super Spy* (documentary, 2013) ¹⁰

Interventions: Entropy is the ‘player position’ of the Concierge; it is the means by which the Concierge can participate in the story of the game. The Concierge interacts with players in various ways while running the game (such as processing turns, News Events, and Patents), but Interventions provide a special ability for the Concierge to influence the game directly. Perhaps you guessed that Interventions happen without warning or permission of the position players...?

- ✓ The Concierge has thus progressed in these rules from being first an admin (set up and processing of turns) to being a mod (game forums and News Events) to a fully-empowered game master (Interventions) and participant in the game.

The Concierge is not beyond the Fourth Wall, is not lowered from the ceiling by ropes (*deus ex machina*) and is not the wizened little old guy emerging from behind the bush to dispense gentle moral wisdom;¹¹ the Concierge is standing on the stage with the rest of the actors – or at least off to the side with a Vaudeville Hook! In all sports, the referees standing on the field are considered to be part of the playing field, e.g., if they inadvertently get in the way or if the ball or puck hits them, they are part of the field.

- ✓ “All existential thinkers quoted by Camus have realized the futility of reason, all them are seen to have recourse to some transcendent entity as *raison d’être*: Husserl to his ‘extratemporal essences’ of innumerable phenomena, Chestov and Kierkegaard to a deity whose loftiness consists precisely of His incomprehensibility, indeed in His inconsistency, arbitrariness, inhumanity.” – Erich Kahler, The Tower and the Abyss (1957) (see full quote, 3 Kairotic Moments, bottom p. 1450, *infra*).
- Interventional Potentials: The Concierge receives one Intervention Potential each time a Regular Turn is processed. Interventions should be used when appropriate but may be retained from turn to turn, indefinitely (i.e. they never ‘age-out’). The Concierge may use any number of available Interventions in a Regular Turn or Turn Cycle. Interventions may be used freely and do not have to be directed to the position from which they were generated. They *should* be used, however, as there are few good reasons not to intervene regularly.

It is possible that one Intervention Potential per turn will be insufficient later in the game, when the positions have grown. Other rules provide some ways that extra Potentials may be generated by player actions. It may be necessary to add Intervention Potentials to the game; hopefully, this can be done with consent and understanding of the players, and in a creative way that fits the style and story of the ongoing game.

In the language of Entropy, Intervention Potentials represent any or all of the following: a measure of the unavailability of part of the system to do work, the increased amount of information needed to determine the exact state (i.e. Byzantine Fault), the increased range of possibilities arising from the uncertainty, the dispersal of social energy and parts toward unintended purposes, and conflicts arising between parts. Interventions can also be used to introduce external and random factors into an otherwise orderly appearing system.

- Intervention Bulletins: Each use of an Intervention requires a Special Bulletin news posting. All Special Bulletins by the Concierge are considered to be absolutely true, with the exception of Prose Bulletins. Of course, when using Interventions the Concierge will operate from their superior knowledge of the game.
 - ✓ The principles of the Special Bulletin are storytelling promotion and transparency even if unrealistic. Players may be upset if the Concierge constantly acts in secrecy.
 - ✓ Like Game Masters everywhere, the Concierge receives their superior knowledge of everything from a 6’ 3.5” invisible rabbit named Harvey, who can stop the hands of the clock and go anywhere.
- Intemperance: The Concierge should avoid the appearance of pettiness and vindictiveness (or other intemperate acts) or impropriety in use of Interventions, nor should players feel

their positions are being constantly ‘targeted’ by the Concierge. Interventions should fit the *scale of the game* and advance the story or keep the game interesting with new twists.

- ✓ “Human beings are very bad at scale, and theories about the rigging of a presidential election make that clear. Maybe you can throw a mayoral race in a small town by getting a handful of people to go vote several times (assuming they can sneak past the protections in place to prevent such a thing). But presidential races involve millions of votes. That’s a whole different ballgame.” – Philip Bump, *The Washington Post*, October 17, 2016.
- ✓ “The Trump administration’s May budget called for cutting *\$1.2 billion* from the Centers for Disease Control and Prevention, which is part of HHS, including an *\$82 million* cut at the center that works on vaccine-preventable and respiratory diseases.... Price’s budget proposed a cut of *\$186 million* from programs at CDC’s center on HIV/AIDS, viral hepatitis, sexually transmitted infections and tuberculosis prevention. There was also *\$222 million* in cuts to the agency’s chronic disease prevention programs.... The agency’s center on birth defects and developmental disabilities saw a 26 percent cut to its budget. ... Price’s first budget also sought *\$1 billion* in cuts for the National Cancer Institute, *\$575 million* in cuts for the National Heart, Lung and Blood Institute and *\$838 million* in cuts for the National Institute of Allergy and Infectious Diseases. The administration asked Congress to slash the overall National Institutes of Health budget from *\$31.8 billion* to *\$26 billion*. ...

All these numbers are far more consequential to the long-term health, both fiscal and physical, of the United States than Price’s private plane habit. But they are also way more abstract, and thus less sexy, than a million bucks spent on airfare. People are inclined to focus on relatively small expenditures because they sometimes struggle to wrap their heads around bigger numbers that underscore harder truths. A search of Lexis Nexis and Google News makes clear that Price’s flights have garnered far more attention than the proposed HHS budget cuts in May or even the GOP’s \$1.5 trillion debt deal last week.” – James Hohmann, *The Washington Post*, September 29, 2017 (emphasis in original)

- User PelletFan on YouTube commented in regard to Stephen King’s *The Stan* (1978), that loss of 99.4% of the U.S. population in 1990 still leaves 1.5 million people! Certainly, it is collapse, but not extinction. People don’t *grok*.

Mysterious losses of ships, for example, are acceptable on a certain number of occasions during the game (perhaps when the technology is new), but should not be the steady resort of Concierge Interventions unless doing so serves a much larger purpose in the game.

- ✓ The Concierge must be – like the Lawnmower Man (movie, 1992) – God in the game (and game program), both able to change anything in the game data, and of the wisdom to refrain from doing so unless there is a good long-term reason or necessity.
- **Indifference:** Interventions are not always negative, destructive, or ‘bad’ nor are they required to be. An Intervention can be positive, negative, or neutral, good, bad or just ugly; and the view depends on the observer.
 - ✓ “And thus I clothe my naked villainy / With old odd ends stolen forth from holy writ / And seem a saint when most I play the devil.” – William Shakespeare, “Richard III” (1597).

Interventions are not a form of ‘justice’ or ‘retribution’ or ‘balancing’ or ‘leveling’ as that implies that the Concierge has abandoned neutrality.

- ✓ “There is an artistic principle – not a rule – that volitionals should be treated consistently. But to insist on kindness would be to eliminate that degree of freedom for which volition in creatures was invented. Without the possibility of tragedy the volitionals might as well be golems.” – The Entity *above* Yehwah talking about humans (i.e. ‘volitionals’) in Robert Heinlein’s Job: A Comedy of Justice (1984).

Honor is something that only occurs when there is a choice and when some stupid situation arises among creatures with volition; if humans were computers, there would be no honor.

- ✓ **Fundamental Realities** are an important part of the Concierge’s position in the game. Some Intervention Potentials should be used to prod a position to act within their Fundamental Realities and when the position is acting in ways inconsistent with their Fundamental Realities, these Interventions would be deemed helpful and good and not entropic and harmful. For example, a position whose Fundamental Reality says that its Native Population Type has a ‘migration urge’ might receive ‘helpful’ Interventions by the Concierge when Loading Population on Colony Ships. The Load Population mechanics (see Sardine Tins, 3 Expansion, pp. 911-912, *infra*) provide no bonuses or variance for Fundamental Realities, and thus it would be incumbent on the Concierge to possibly give a little boost so the Fundamental Reality has real effect.
- **Inspiration:** The daily news provides plenty of examples and inspirations for Interventions by the Concierge; knowledge and understanding of history and historical conditions adds nearly infinite options and ideas. Most good fiction comes from or is based more or less on history and reality; it helps with suspension of disbelief (see Grinding Chic Fact, 1 Dreamtime, p. 138, *supra*). Additionally, there is a general literary and anthropological consensus that there are 7 basic plots that describe all human stories, and 36 types of dramatic situations – that is, 36 types of human personal conflicts described in literature. All of this can be found easily on the internet by searching. *Google it.*

“The Little Ice Age, by anthropology professor Brian Fagan of the University of California at Santa Barbara, tells of the plight of European peasants during the 1300 to 1850 chill: famines, hypothermia, bread riots and the rise of despotic leaders brutalizing an increasingly dispirited peasantry. In the late 17th century, agriculture had dropped off dramatically: ‘Alpine villagers lived on bread made from ground nutshells mixed with barley and oat flour.’ Historian Wolfgang Behringer has linked intensive witch-hunting episodes in Europe to agricultural failures during the Little Ice Age.”

– from Wikipedia article, “Little Ice Age,” July 9, 2019

Merriam-Webster online dictionary at *Little Ice Age*: an episode of glacial expansion whose maximum extension occurred in the 17th and 18th centuries.

Sands & Seas: Some entropic events in history seem so perfect in hindsight that we imagine some supernatural intelligent agent at work, or if they weren't, they could not have done it better. Allow me to introduce the Concierge who has a handful of Intervention Potentials and probably had a bad or slow, boring day at work ... though that shouldn't have anything to do with it!:

- ✓ If you wanted to destroy the Minoan civilization, could you have done better than the volcanic eruption on the island of Thera, 100 km from Crete? Simple, really.
- ✓ If the Peloponnesian War (along with Socrates, Plato, and Aristotle, Alexander the Great) was your objective, could you have done better than the earthquake in Sparta in 464 B.C. and the Plague of Athens in 430 B.C.?
- ✓ If you wanted to destroy the late Roman Empire, could you do better than the Great Migration, would you have uprooted the Huns from the northern frontier of China?
- ✓ If your objective was the collapse of mound-building late Mississippian civilization in North America, how about starting the Little Ice Age?
- ✓ If weakening the Church to move Europe toward exploration and secularization or to make sure the printing press was not suppressed was your goal, was there any agent craftier than the Black Death?
- ✓ If you had wanted to destroy the Aztecs, Cortez was your man on the spot...

The tools of entropy are many and this list is, of course, Western-centric. Our ancestors made stories about the bad events that they felt were too perfect to be just chance, e.g., Iram of the Pillars, sometimes called Ubar, known in the West as the Atlantis of the Sands.

➤ **In Our Puddle:** This, of course, is the little cousin to the larger feeling of humanity that the universe must have been designed, even while religion has receded in the face of secularization. Although 'intelligent design' has been rejected by the Courts and media as a progeny of 'creation science,' which in turn has been rejected as any sort of science by everyone except creationist, still, it represents a lingering, persistent intuition or idea that the current universe could not have arisen to such complexity and form without some supreme intelligence.

- ✓ "Occasionally someone remarks on what a lucky coincidence it is that the Earth is perfectly suitable for life – moderate temperature, liquid water, oxygen atmosphere, and so on. But this is, at least in part, a confusion of cause and effect. We earthlings are supremely well adapted to the environment of the Earth because we grew up here. Those earliest forms of life that were not well adapted died. We are descended from the organisms that did well. Organisms that evolve on a quite different world will doubtless sing its praises too..." – Carl Sagan, *Cosmos*, Episode 2.

If the universe was designed by an intelligence, entropy must be intentional? And we were 'placed' in it – or at least entropy was a partial 'cause' of our existence. Why? Why Not?

- ✓ "This is rather as if you imagine a puddle waking up one morning and thinking, 'This is an interesting world I find myself in – an interesting hole I find myself in – fits me rather neatly, doesn't it? In fact it fits me staggeringly well, must have been made to have me in it!' This is such a powerful idea that as the sun rises in the sky and the air heats up and as, gradually, the puddle gets smaller and smaller, it's still frantically hanging on to the notion that everything's going to be alright, because this world was meant to have him in it, was built to have him in it; so the moment he disappears catches him rather by surprise. I think this may be something we need to be on the

watch out for.” – Douglas Adams, “Is there an Artificial God?” speech at Digital Biota 2, Cambridge U.K., September 1998 (transcript and audio recording of speech are available free at <http://www.biota.org/people/douglasadams/>).

These arguments by Carl Sagan and Douglas Adams seem designed to specifically refute self-fulfilling Christian intelligent design arguments about how perfect the Earth is for human life, e.g., see Christian exoplanets discussion, bottom 2 The Sidereal Stage, p. 117, *supra*.

- ✓ See also additional related Douglas Adams quote and Children & Puddles discussion, 3 Technology, p. 720, *infra*.

“Curious, I took a pencil from my pocket and touched a strand of the web. Immediately there was a response. The web, plucked by its menacing occupant, began to vibrate until it was a blur. Anything that had brushed claw or wing against that amazing snare would be thoroughly entrapped. As the vibrations slowed, I could see the owner fingering her guidelines for signs of struggle. A pencil point was an intrusion into this universe for which no precedent existed. Spider was circumscribed by spider ideas; its universe was spider universe. All outside was irrational, extraneous, at best raw material for spider. As I proceeded on my way along the gully, like a vast impossible shadow, I realized that in the world of spider I did not exist.”

– Loren Eiseley, “The Hidden Teacher” (1969)

Endnotes.

¹ Citation: Phase IV is a very surreal movie from 1974 about ants who have suddenly developed collective intelligence. It was a box office flop but is a creepy cult classic now.

² Citation: “Bad people sometimes tell the truth, that is, bad people aren’t always lying.” – David Pakman, David Pakman Show, June 18, 2020.

- ✓ “It is not polite to assume someone is lying when you have only just met them.” – Phillipe Gaston, Lady Hawke (1985).

³ Citation: “A few weeks ago, Zeb Cook wandered into my office and told me that the Berlin Wall was coming down. I had been to both West and East Berlin in 1979 while I was in the Army, and I was staggered by the news. The world was miraculously made a better and brighter place – or so I certainly hoped. Shortly after that, I had a slightly twisted thought: This was probably *bad* news for all of the post-holocaust, nukes & mutants RPGs on the market. The rise of democracy and freedom across Eastern Europe makes it unlikely that we’ll see those white mushrooms rise over our home towns in the near future. And that does take some of the thrill out of playing World War III games. I had to admit that hand-to-hand combat with a four-armed alligator over a box of stale Puppie Yummies in the radioactive sewers of New York now seemed a little less believable. In his editorial in GDW’s *Challenge Magazine*, issue #41, Timothy Brown correctly pointed out that ‘a peaceful world is a boring world – from a role-playing point of view.’ I would personally never want to be within a light-year of a *real* nuclear exchange, but the *idea* has lots of entertainment value. Conflict and adventure are key elements in any role-playing scenario, and few modern-era events can dish out conflict and adventure like a nuclear war. Many gaming companies saw that and played up on it. ... The themes of the post-holocaust games probably reflected the changes in public opinion on nuclear war. Not many people ever really cared for the idea, but the longer we all lived with the Bomb, the less enthusiasm we had for it. Movies like *The Day After* and *Testament* certainly showed that. And now it seems that the collapse of the old order in Europe has given those nightmares a final kick in the head (again, so we hope).” – Roger Moore, Editor, “Bye-bye, WWII,” *Dragon Magazine* #154, February 1990 (emphasis in original).

- ✓ “After naming some of the current destabilizing factors at work in the world today, Allen [Varney] [Austin TX] wrote, ‘this is no time for complacency.’ I admit that the idea had occurred to me that I might not die from fallout, and I did feel pretty good about that. The thought had been with me since I watched Civil Defense supplies being stockpiled in my high school during the Cuban Missile Crisis in 1962. With regards to gaming, my main thesis was that gamers who wanted realistic scenarios would have to forget about the Big

Nuke option. I did take pains to point out in my editorial that there were ‘lots of believable bad things left to come for our gaming enjoyment.’ I wasn’t very specific about what bad things there were, though. I wasn’t in the mood to think about them. In all that cheer, I missed a few things, like Iraq, and an Army buddy of mine is now in Saudi Arabia for the indefinite future. War has lost its ‘gaming enjoyment’ value for me. I certainly don’t feel complacent about anything, either. And nukes? They never went away, did they? Submarines still cruise the seas. Bombers still fly. ICBMs still sleep in their silos. At least six nations have atomic weapons, and every one of them has been at war within the last 45 years. Many other countries would love to have the Bomb. Iraq sure would. No reason the Bomb can’t hang around in games as well. I fooled myself, and I admit it. Sometimes you go with what you want rather than what’s actually there. I’ll avoid getting too wishful in my editorials in the future. Role-playing games are unrealistic and romantic. And that’s a blessing, isn’t it?” – Roger Moore, Editor, “Bye-bye, Complacency,” *Dragon Magazine* #165, January 1991.

⁴ Commentary: One alleged quote attributed to David Hilbert reminded me of what seems to be the attitude of mathematicians; he is reported to have said, upon hearing that one of his students quit the mathematics program to study poetry: “Good, he did not have enough imagination to become a mathematician.” Some may take the statement as ironic humor, but it echoes what has seemed to me for a long time: To mathematicians (‘math people’) if you don’t get mathematics, then you are just one of the dumb people; the world is divided into mathematicians and the dumb masses. And I think that describes the attitude of my high school math teacher in whose class I spent 10th, 11th, and 12th grades (so he well knew I was lost and clueless when he was passing me to the next grade).

- ✓ Hilbert’s sentiments additionally express an attitude that is inappropriate for any teacher regardless of the subject; you should not be happy that someone has quit learning, quit your program – though I do know that several of my elementary school teachers were happy when I moved to a new school.
- ✓ “Mathematicians know that they are studying an objective reality. To an outsider, they seem to be engaged in an esoteric communion with themselves and a small clique of friends. How could we as mathematicians prove to a skeptical outsider that our theorems have meaning in the world outside our own fraternity? If such a person accepts our discipline, and goes through two or three years of graduate study in mathematics, he absorbs our way of thinking, and is no longer the critical outsider he once was. ... If the student is unable to absorb our way of thinking, we flunk him out, of course. If he gets through our obstacle course and then decides that our arguments are unclear or incorrect, we dismiss him as a crank, crackpot, or misfit. Of course, none of this proves that we are not correct in our self-perception that we have a reliable method for discovering objective truths. But we must pause to realize that, outside our coterie, much of what we do is incomprehensible. There is no way we could convince a self-confident skeptic that the things we are talking about make sense, let alone ‘exist’” – Philip J. David & Reuben Hersch, “The Ideal Mathematician.”

⁵ Commentary: Not only didn’t I understand this, I didn’t even know to ask the question until much later in life; *this is a personal example of the Dunning-Kruger effect*. They assumed that I knew at 21 years what calculus was and what we were trying to achieve, therefore, it was never explained. Had a competent instructor given my difficulty any thought, he who barely spoke English might have asked questions and revealed my incompetencies to me, but I don’t think the instructor cared: either you got it or you didn’t and you were just wasting tuition money.

⁶ Commentary: René Descartes was a polymath. He is more famous for his philosophical musings, but he contributed to both math and philosophy in original ways, evinced by the fact that he is still relevant today.

⁷ Commentary & Citation: From the Lost Tribe’s (feral children’s) account of the crash of the Boeing 747 piloted by Captain Walker that flew them and their parents away from the nuclear apocalypse (or “Pox-eclipse” in the language of the children) and into the Outback.

⁸ Commentary: My personal journey has possibly been from disdain for the world I live in to despite for being in this universe. Which is the precise distance from Thomas Covenant the Unbeliever to Lord Foul.

⁹ Citation: e.g., Rascal Flatts, “Backwards” (2006), Ryan Arklin, “Country Backwards” (2014) – two songs with amazingly similar concepts – videos on YouTube. And there is the ultimate kiss-off classic ‘perfect country song,’ David Allen Coe, “You Never Even Called Me by My Name” (1975).

¹⁰ Citation: “No plot emerges, no premeditation ... Let the emphasis repose on ignorance – an accident is safer to invoke than design.” – Sir Ronald Syme, quoted by C. L. Murison in “The Revolt of Saturninus in Upper Germany, A.D. 89,” *Echos du monde classique: Classical views*, Vol. 29 No. 1, 1985, p. 31-49 (found on Project Muse).

¹¹ Citation: From the Dungeons & Dragons cartoon (1983-1985) that I used to watch on Saturday morning in high school. The timing coincided generally with my early interest in the basic Dungeons & Dragons game.

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See Appendix IP – Interventions Reference Sheet

“My son, we are non-noble and proud of it. The non-noble is the man par excellence. It is he who pays the taxes, works, sows, harvests, trades, builds and manufactures. The right to be useless is a poor right indeed.”

– By the father of writer Nicolas Restif de la Bretonne ¹

“Gratitude is one of those things that cannot be bought. It must be born with men, or else all the obligations in the world will not create it.”

– Edward Wood, 1st Earl of Halifax

Arrears in Aristos: “Aristocracy is that form of government in which education and discipline are qualifications for suffrage and office holding.” – Aristotle. Inherent in *aristos* is the vague, questionable, mythic concept that social superiority equates to moral and intellectual superiority.

There appears to be a link between the failure of *aristos* in the aristocracy and the print revolution: Deprived of their major advantage in education, critical thinking, over the masses by the wide availability of learning and the rising middle class, the only things left to the position of the aristocracy were their eroding wealth advantage and hereditary dynastic authority. That is, during the Middle Ages (as we call them) and, to a lesser extent, up to the Reformation period, the aristocracy was *aristos* by virtue of their position and educational advantages, but following 1500 A.D. both eroded very quickly into a hereditary, leisured – useless – upper class.

- ✓ George III of England was mocked by the late 18th century press because he was interested in mundane things like agriculture, astronomy, because he wanted to learn and to know on his own.

There is a distinct contrast between a person who has a sense of entitlement, especially of the unearned kind, and a person who has a sense of obligation (duty), especially to strangers and when not externally imposed. Just as there is a similarly distinct difference between a government that has a duty toward those it rules (i.e. *Nobless Oblige*) and those who feel that people have a duty to and serve the purpose of wealthy, elite, and powerful (i.e. *Noblesse n’oblige plus*), see 4 Movement, p. 869, *et seq., infra*, for further discussion of this issue in an interstellar setting.

The tug-of-war is so fundamental to our civilization that books and volumes could be – and probably have been – written. The two go hand-in-hand through history, we all have a daily part.

“It is believed that when the Creator made the earth, he unknowingly released Despite upon it, and did not realize his error until it was too late. In actuality ... Lord Foul seems to have existed for as long as the Creator and is his antithesis as he marred one of the Creator’s creations which became known as The Wounded Rainbow and somehow became trapped in the Land when the Creator sealed the wound on the Rainbow which also trapped the Creators children on the Land creating the stars.”

– from unbeliever.fandom.com wiki article, “Lord Foul”

“The Creator is the mysterious being who created the Land and the universe in which it exists. This universe is referred to as ‘the Land’ but is clearly a different reality than Covenant’s world. The fundamental structure of the universe, the Arch of Time, prevents the Creator from intervening directly in events in the world of his creation, and he never appears in physical form within that world. He can, however, manifest himself in the ‘real’ world – he appears to Covenant and Linden as an old man in an ochre robe – and guides those who attempt to make contact between the universes.”

– from unbeliever.fandom.com wiki article, “Creator”²

Acts of Intervention: Each Intervention Potential equates (in most cases) to one Intervention act at a later time, a potential is subtracted each time an Intervention occurs. The following five types of Intervention Actions should provide the Concierge with the ✂s needed. It is possible that other types of interventions may be invented later as necessity dictates.

GGDM is a macrosocial simulation; because of this, the divergence of local interests and cultures on colony planets isolated and separated by light years is diminished and minimized in favor of a broad picture of the largescale civilization. This is one deficiency of the game where the intervention of a human Concierge can improve the game and keep it interesting.

- ✓ “People are always coming up with new theories of the novel. But the main rule is, hold my attention.” – Margaret Atwood, Master Class video trailer.
- ✓ At the bottom of *every* adventure story is a sense of *divine intervention*; unusual events need to happen, things have to appear in convenient places and times to special people (the protagonists) to move the story along. Fiction writers are gods.
- **Push:** The Concierge issues a Special Bulletin, the text of which is given to push the game in a particular direction. Generally, this Intervention is not targeted at a specific position (unless something otherwise indicates) and should be phrased in the most general and gentle terms. The positions on their next Regular Turns should follow the push as much as practicable. Hopefully, the Concierge and players can agree on the direction of the game.
- **Pull:** The Concierge issues a Special Bulletin detailing some pregame history which has an immediate effect on the game and/or position. In most cases a Pull Intervention will detail history relating to one position, however, it is equally possible to detail history belonging to no position in the game and have that history affect a position in the present (e.g., ripples).
- **Plot:** The Concierge issues a Special Bulletin introducing a plot device or plot element to the game. A plot device is generally defined as anything that moves the plot forward, frequently it is an important-seeming object, sometimes it is a red herring. This in turn implies that there is a plot or storyline planned for the game, or for some part of the game. The plot or storyline can be that of the Concierge alone or in agreement with the players; however, the actors – in this case, the players – make the story happen.
- **Poke:** The Concierge issues a Special Bulletin, stating some immediate concrete event and effect that occurs to a specific position in the game. The effects generally should be small and probably will mainly effect a specific physical item in the Galactic Space, but is not limited to such application. The Poke can have ripple effects on the next turns.

- ✓ The ‘Poke’ is the most direct Intervention act by the Concierge, it most resembles an adverse News Event. Special Bulletins, of any sort, are not subject to modification by the positions, as they would a regular News Event. Nor can they be blocked by a Maintenance Shield, see Hammer Thumb, 4 Order, p. 567, *infra*.
- **Prose:** The Concierge, using a Special Bulletin, expands upon something that happened recently in the game using his/her own knowledge, or maybe just makes something up that does not have an immediate effect. What is said may or may not be true, so this is one exception to the absolutely true rule, Prose actions do not need to be taken as absolutely true for game purposes. The Prose Action may also be used for humor. The Concierge should be careful not to publish details of positions that should be kept hidden from other players.
- **Punch in the Nose:** The eternal question of godhood and GMing, is to what extent should the Concierge act to ‘force’ volitional positions or players to play within the guidelines of their Fundamental Realities and Government Titles? Like a director watching an actor, guest, or speaker go off script and start ad-libbing terribly on stage before a live audience, what can the Concierge do if the players, or some players, don’t want to play their part? There is some room for differing interpretation. *What if some players want to force the game in a different direction or think the game is boring?* The tools given to the Concierge are not autocratic, though admittedly, sometimes in the GGDM text, the tone seems as if they are intended to be or may need to be – *all participants* must have equal standing to weave the crazy game story.
 - ✓ **Ancient One:** [angry] Demons can do just about anything except possibly think what might happen when they do just about anything! – BeastMaster (TV Series), “A Terrible Silence” (2001).

“Christ reigns in such a way that the Emperor who persecutes Luther for the Pope is forced to destroy the Pope for Luther.” – Martin Luther, LW 49:169³

Rascal Reverend: I have wondered about the story of Martin Luther helping the ladies escape from the convent (which included Katharina von Bora, his future wife) by hiding them in large empty barrels (do you think J.R.R. Tolkein copied this idea in *The Hobbit*?). How did it come about? And when did the authorities know of his involvement and what did they do? Did it play any part in later events, such as the Diet of Spire or the Diet of Augsburg?

- ✓ Anyway, it doesn’t seem from the stories I have read that he intended to marry Katharina von Bora (if you were thinking that was his motive, but few would blame him if that were the case), but rather, that was an *unintended consequence*. But it shows that Rev. Martin Luther had a rascally side when he was younger.

Unintended Consequences: GGDM participants should never underestimate the power of unintended consequences, which may be one of the Concierge’s most powerful tools. A historical example demonstrates one of the most profound effects on history.

Charles V, Holy Roman Emperor (and one of the most powerful men on the planet in his day⁴) was at war with the French in northern Italy. His mercenary armies were victorious, but unpaid and poorly supplied, in the spring of 1527. His armies marched on Rome, which they captured and sacked (loot, rape, burning and murder – in case the term needed any clarification) on May

6, 1527, also capturing and sacking several other towns along the way. The Habsburg commander, Charles III, Duke of Bourbon, was killed in the attack and the subordinate commanders lost control of the troops as they rampaged through Rome.

- ✓ Charles III, Duke of Bourbon, had what we would call ‘street cred’ with the mercenary forces he commanded – he was wanted for treason by the King of France, Francis I, with whom he had a very personal and familial dispute. In addition to being a capable military commander, with experience and fame, he was also an outlaw, a dispossessed titled noble, and a soldier of fortune, and was able to keep his army disciplined with his personality, gravitas and prestige. When he died attacking the walls of Rome, there was nothing left to restrain his men. His death probably led to unintended consequences, otherwise, you would have to argue that what happened in Rome is what Charles III intended. It seems he intended extortion after capturing Rome, but probably not a massacre, disease, burning, or looting of the Vatican (but that might have happened anyway).

This is the date of the famed stand of the tiny Swiss Guard within the Vatican, against overwhelming odds; the Guard was nearly annihilated buying time for the Pope to escape. As a result of which, the Swiss Guard became a symbol of a sort of eternal honor based on loyalty, duty, dedication, courage and sacrifice. This is consistent with generally, the Christian worldview.

- ✓ The little known Stand of the Swiss Guard is the subject of Sabaton’s excellent song, “The Last Stand” (available on YouTube). The historical problem is that while the Swiss Guard’s virtue was immortalized, the events and damage to the Church’s legitimacy were not something the Church wanted reminded of, but you can’t have it both ways; to talk about the Stand of the Guard brings forth the facts they wish to sideline.

Ninety percent of the population of Rome either was killed or fled in the course of eight months, Rome and the Vatican suffered immense and unrecoverable cultural damage, the city’s economy was destroyed, and disease ran rampant. The Pope was forced to pay a huge ransom, melting down gold artifacts and works of art to meet the demand. The Habsburg armies finally withdrew in February 1528, leaving a shattered city. Only the Vatican Library survived mostly unharmed, being used as a headquarters for the occupying army.

Following the Sack of Rome, the temporal power of the Papacy was effectively broken and bankrupt. Because of the fear of another such occupation by the Habsburg forces, the Pope was unable to restrain Charles V from dealing harshly with the Lutheran (Protestant) princes in Germany (the German Peasant’s War, the first ‘Protestant uprising,’ occurred in 1524-1525) and with the burgeoning Reformation movement. Additionally, the threat may have also convinced the Pope to refuse to annul the marriage of Henry VIII of England and Catherine of Aragon, who was Charles V’s aunt, resulting in the English break from the Roman Catholic Church and the subsequent English Protestant Reformation.

- ✓ King Henry’s envoy bearing the petition arrived in Rome in 1527, and would have been an eye witness to the Habsburg occupation. In 1529, the Pope forbade annulment without Papal approval.
- ✓ While some may dispute the sequence and facts presented here, please accept them as true for the sake of the discussion of unintended consequences. Certainly, Martin Luther recognized the oddity of the situation (*ut supra*).

A tricky thing to work,⁵ unintended consequences are by definition a rue in hindsight, meaning that to make them work in the story, participants must place themselves slightly in the future to anticipate the consequences unforeseen by the initial actor.⁶ Fiction authors and historians can always do this easily;⁷ it may take some practice to master, however, for group storytelling.

- ✓ “... it is rare for a series creator to envision how the series will develop over time. Furthermore, the creative process in dramatic television writing tends to be organic, as events in the series will unfold based on the events that preceded it. For example, were the wars with the Klingons and the Dominion on Deep Space Nine foreseen by its creators back in the first season? Of course not ... these events developed over time through the input of its writing staff.” – Anthony Leong, “Babylon 5: Triumph and Tragedy in Three Acts,” *Frontier: the Australian Science-Fiction Media Magazine*, April/June 1999 (article is available free online).

Thus, although there is a series creator, executives, directors, producers who hold the IP rights, purse-strings, and all final authority over the series, a television series with or that develops a story arc is still a group storytelling exercise in some sense through the input of the writers who create the scripts and the actors who bring the characters to life and argue for their characters.

- ✓ Emergent and group storytelling was discussed in *White Gold Wielder*, 2 Dreamtime, p. 153, *supra*.
 - ✓ See also Prophecy discussion, 2 *Wheels in the Sky* generally, *infra*.
- Hot Dog Conspiracies: After-the-fact conspiracies mistake unintended consequences for the intended consequences of the conspirators. The sign of an after-the-fact conspiracy theory is when the alleged intent of the conspirators matches exactly (or almost), the known end result of the completed conspiratorial acts. For this to happen, everything has to work exactly as planned, with no unexpected asides, obstacles or unintended consequences, with no unaccounted for facts or actors; the alleged conspiracy executed with extraordinary luck and skill.

This is true of the Russian conspiratorial claims about Mr. Browder, the post-9/11 conspiracy theories, and even to some extent, the illegal voting claims from the 2016 presidential election. The more steps and actors required, the more farfetched and amateurish the after-the-fact conspiracy theory appears (compare this to inchoate conspiracies, where the end result is obviously not known and may never happen). The problem with this, of course, is always *that you can never say it is impossible* that everything worked exactly, that the end result was exactly as intended regardless, or even that the conspiracy theorist might be correct, but for the wrong reasons, e.g., mistaking unintended consequences for the intended consequences.

- ✓ A pack of hot dogs has eight, a pack of buns has eight too. There is a conspiracy of hotdog makers and hotdog bun makers to make you buy a pack of each!☺

“The manuscripts I have to look over are full of the doodles of bored monks, like battle-armed knights dueling snails or monkeys using chamberpots, or their distinctly unholy complaints, like the monk who appended ‘Now I’ve written the whole thing: for Christ’s sake, get me a drink’ to the end of his manuscript. Would that their comments on performance techniques in Cycle Plays were so strikingly vivid.”

– Jay Eckard, “Drama PhD Students Delve into Medieval Manuscript Pages in UW Special Collections,” *University of Washington, School of Drama*, April 5, 2016

Torn Pages: My economically depressed, beleaguered home city (following the lead of several larger cities in the U.S.) decided to reinvigorate the local economy by building a convention center in a large empty lot next to the beltway (that had destroyed center city by allowing traffic to bypass the city in 3 minutes) for easy access. However, they could not compete with the larger, better-known cities and there were not sufficient quality hotels, dining, and other amenities in walking distance to support the convention business (it's a chicken or the egg first question, planners expected these to develop with the convention center) and the convention center folded in a few years leaving a huge, mostly new, large, empty building with a large parking lot.

Someone eventually broached the idea of turning it into a roller skating rink, it seemed like a wonderful idea as the only local rink had closed years before in the early 1980s.⁸ So they made it into a roller skating rink and it seemed to work well with the local youth, except that it became the center of the illegal drug trade, was raided by authorities several times, and the city was forced to close it down after about two years as a public nuisance (that they created). Last I knew, the big empty building with the big empty parking lot had finally been converted to a large chain grocery store that seemed to be doing well enough; center city, populated by few residents who are not in the county jail, had not had a large grocery store in at least 50 years.

- ✓ Drug dealers are like cockroaches and mice, they seem to just spread into wherever they can go and take over, any place where people congregate for any purpose, destroying the value of whatever place they plague, trading our society and legacy to pocket easy cash now (and adding nothing of value to civilization);⁹ because of them, generations of youth are deprived of places and experiences that their parents enjoyed. People have not fully realized the widespread corrosion caused by illegal recreational drug use and drug dealers; just as a small example, public restrooms in center city Pittsburgh are no longer available because an ordinance was passed to prevent drug dealers from using public restrooms as their place of business (if your office is the public restroom, what line of business are you in?). Because of people who take advantage of the former friendliness and openness of our culture, our culture has become much less friendly and open over the last 40 years. What effect will this have on the future? When everything is closed, isolated, everyone viewed with suspicion?
 - “I’m from Sydney yes. I live there now, yeah. Sydney’s a good city actually; it’s a very easy city to live in, a very hedonistic city in the sense that it’s full of sun and plenty of beaches and yet it’s small enough. It’s not like L.A. or somewhere that’s too spread out, it’s very small. And that’s where the film industry tends to be concentrated. Only one big bad problem with Sydney, we’ve had a succession of corrupt state governments almost since the early convict era, I think, and unfortunately during the sixties they let in organised crime, so Sydney is also the gateway to organised crime in Australia. Heroin and everything are ridiculous there. *Really I mean it has noticeably affected society.*” – George Miller as quoted by Anne Billson, “George Miller Talks about Mad Max, Heroes & Tina Turner: The 1985 Interview,” previously unpublished interview published on Multiglom: The Anne Billson Blog, May 12, 2015 (emphasis added).
 - “[Aaron] Shamo called himself a ‘white-collar drug dealer,’ drew in co-workers from his time at eBay and peppered his messages to them with smiley-face emojis. His attorney called him a fool; *his primary defense*

was that he isn't smart enough to be a kingpin. ... For traffickers, the profit margins are irresistible: The DEA estimates a kilogram of fentanyl synthesized for a few thousand dollars could make a dealer more than \$1 million. 'Any moron can basically become a major drug kingpin by dealing in fentanyl,' said [Mike] Vigil [former chief of international operations for the Drug Enforcement Administration]. 'You can have somebody with an IQ minus 100 who becomes an overnight multimillionaire.' ... The story they told convinced the jury to convict Shamo of 12 counts, including continuing criminal enterprise, the so-called 'kingpin charge' that is typically reserved for drug lords like El Chapo and carries a mandatory life sentence. The jury deadlocked, though, on the 13th count: the death of [Ruslan] Klyuev." – Claire Galofaro and Lindsay Whitehurst, "The rise and fall of an Eagle Scout's deadly fentanyl empire," Associated Press, September 15, 2019 (emphasis added, *what a fun defense!*).

- ✓ I recall an outcry over a page that was torn from a medieval manuscript in a special collections library by a German Ph.D. student who had a drug addiction problem. Sadly, that young scholar's future was probably destroyed by the act. This is offered here in relation to the unseen damage of illegal drug use, but the process has been ongoing for a very long time: Thousands of individual pages of manuscripts are available for sale and in collections, having been torn out of their original volumes by looters, thieves, or by owners, or by second-rate scholars, who needed quick cash to support hedonistic needs (feature quote, *ut supra*). There is of course, a black market. Occasionally, the destruction of manuscripts and illegal sales makes the news cycle, e.g., William H. Honan, "Teacher Tied to Stolen Manuscript Pages Faced Prior Ethics Questions, Colleagues Say," New York Times (archives), May 30, 1995 (available free online), regarding a U.S. university professor.

*"Does anyone know where the love of God goes
When the waves turn the minutes to hours?"*

*And all that remains is the faces and the names
Of the wives and the sons and the daughters"*

– Gordon Lightfoot, "The Wreck of the Edmund Fitzgerald" (1976) ¹⁰

Endnotes.

¹ Citation & Commentary: Cited in Crisis, Absolutism, Revolution: Europe 1648-1789 (2nd Ed., 1992), p. 226 by Raymond Birn. The 18th and 19th Century European nobility's "right to be useless," is an example of slow and insidious deterioration from within due to stratified economic and social inequities. Many works in or about the period (e.g., Horatio Hornblower and Barry Lyndon) explore the arrogant, self-entitled attitudes of European nobility.

² Commentary & Citation: These wiki entries refer to Stephen R. Donaldson's Chronicles of Thomas Covenant the Unbeliever; Linden appears in the Second Chronicles.

³ Commentary: Regarding the Habsburg sack of Rome in 1527.

⁴ Commentary: Upon Charles V's prominent Habsburg jaw (a result of extensive pedigree collapse) rested the nexus and zenith of European dynastic power and the Holy Roman Empire. He did much to push both toward their eventual sunset centuries later. By 1683, after the Thirty Years War left Germany in shambles and the Holy Roman

Empire battered, Vienna was saved from the last Ottoman invasion only by the intervention and brilliant leadership of the Polish king, John III Sobieski. Afterward, the sun set on the prospects of all of the Vienna combatants.

⁵ Citation: “WhatsApp’s Oct. 29 message to users warned journalists, activists and government officials that their phones had been compromised, Facebook said. But it also had the unintended consequence of potentially jeopardizing multiple national-security investigations in Western Europe about which Facebook hadn’t been alerted – and about which government agencies can’t formally complain, given their secret nature.” – Dov Lieber, Valentina Pop, Robert McMillan, “Police Tracked a Terror Suspect – Until His Phone Went Dark After a Facebook Warning,” *The Wall Street Journal*, January 2, 2020.

- ✓ “At that time, I warned about the deadly, so called, unintended consequences of a unilateral invasion. Today, 17 years later, that fear has unfortunately turned out to be a truth.” – Sen. Bernie Sanders speech, January 3, 2020.
- ✓ “I hope the administration, I pray the administration, has thought through the second and third order consequences of what they have chosen.” – Joe Biden speech, January 3, 2020.
- ✓ Unintended Consequences: U.S. Navy shoot down of Iran Air Flight 655 in the Persian Gulf, Russian shoot down of Malaysia Airlines Flight 17 in Ukraine, Iranian shoot down of Ukraine International Airlines Flight 752 near Tehran, all by surface air defense systems, not air-to-air (unlike Korean Airlines Flight 007).

⁶ Commentary: Rhetorical Question: What is the difference between unintended consequences and emergent behavior?

⁷ Citation & Commentary: “As it is popularly known, Straczynski went into ‘Babylon 5’ with a ‘five-year plan’ that he originally conceived in 1986, an ambitious blueprint that outlined the events of every episode right up until the series finale. In addition to providing a roadmap for the development of the series, this five-year plan ensured a level of consistency unparalleled in dramatic television, which allowed Straczynski to use literary devices such as foreshadowing and allusion to great effect during the course of the series. This was exemplified by the various dream sequences and flash-forwards that sometimes took up to three seasons for their significance to be revealed. This, of course, rewarded loyal viewers who tuned in week after week, and required the audience to take on a more active role while watching the series, analyzing and interpreting each plot point and line of dialogue in the context of the overall story.” – Anthony Leong, “Babylon 5: Triumph and Tragedy in Three Acts,” *Frontier: the Australian Science-Fiction Media Magazine*, April/June 1999 (article is available free online).

⁸ Commentary: The old roller rink was turned into a dirty, junk-filled warehouse for a moving and storage company at which I worked as a temp for a few memorable days in 1997.

⁹ Citation: “Despite his celebrity, sources say [David] Ortiz seems to have invited trouble in his home country. One Dominican source called the neighborhood around Dial Bar & Lounge ‘not a safe area’ and described the bars in that part of the city as ‘well-known for being full of people with unjustified money, new rich guys with attitude and unjust wealth, driving Lamborghinis and Rolls-Royces. You don’t have to be a genius to figure out how (they have the money). David [Ortiz] has a terrace (in his home) with a better view than the one he was at. It’s unconscionable what happened.’ ‘Everything is fishy in the D.R.,’ [Dominican Republic] adds the Cuban-born Dominguez, who spent six years investigating corruption in baseball as a DOI member and lived on the island off and on during that period. ‘What you see is not what you get. Everything is Three-card Monte.’” – Teri Thompson and Christian Red, “A drug lord, a car chase and more: New details make Ortiz shooting more complicated,” *Daily News*, June 16, 2019.

¹⁰ Commentary: The weather man can tell us about patterns, how storms move, why it rains. But he cannot tell us why it rains every evening when it’s time to walk home from work, or why it seems that it rains any morning when you have a bunch of stuff to carry to work. It’s 4:30 p.m., sunny, at 5:00 p.m. when you leave the office, it’s overcast, by 5:30 p.m., it’s storming. Why? No one can explain why, a hundred times a day, a simple task turns into an extended annoyance, three times more difficult than it should have been. This is the human question to the universe. This is why all of our science and empirical knowledge is unsatisfying in the long run of our lives.

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See Appendix IP – Interventions Reference Sheet

“When you admire the sunset, does it admire you back?”
– Riversong, Dr. Who, “The Husbands of Riversong” (2015)

*“All love is unrequited”*¹ – Lennier, Babylon 5, “Rising Star” (1997)

Sure as Hell: There are so many stupid, unnecessary things that happen every day in our daily lives, and it ‘*sure as hell*’ (idiom) isn’t for our benefit or enlightenment (hell is apparently a rather sure place, the only sure place in humanity’s universe). The concepts of some god guiding us to wisdom through events and tragedies in our lives are just outdated, worn out mythopoeic explanations. And what is this stupid thing exactly? It is that jackass, asinine event which, if it didn’t happen every time or nearly every time, you might think is really random, coincidental or just bad luck. Except that it happens or something idiotic happens, every time.

- ✓ Need an example do ya? You don’t know what I am talking about? Are you alive? Ok, I was just giving the cat his pill; the doctor said he has to take two of these pills (alpha blockers) per day for seven days. While giving the cat his pill, I set the bottle down and it fell over and went flying off the desk. All the tiny pills fell out, I only found one of the remaining four pills. Why did that have to happen? I was doing what I was supposed to do, caring for my cat. Yet, the stupid thing had to happen. Like being punished for doing what I am supposed to do, for doing anything at all, for living, for even getting up in the morning. You get punished by the universe for doing nothing at all too. Do you actually think this is random? Coincidence? How about if it happens every time? Like gravity.
 - Sometimes I feel like the character George Bergeron (Kurt Vonnegut, “Harrison Bergeron” (1961)).

- ✓ In July 2019, Pittsburgh Pirates closer Felipe Vázquez (né Rivero) was a sought after trade as the July 31st deadline loomed. He is considered one of the best closing pitchers in the MLB. Pirates fans were relieved when he wasn’t traded, being one of the few bright spots on the team that performed dismally after the All-Star Break; no team offered a trade that tempted the Pirates management to trade away an elite pitching anchor for next year’s team. In early September, he got into a locker room altercation with another pitcher which the broadcasters dismissed as typical end-of-the-season wear of seeing-the-same-guys-everyday; the participants were disciplined by the organization.

On September 18, 2019, Felipe Vázquez was arrested by Pennsylvania State Troopers on felony charges issued in Florida and Pennsylvania; and his locker had been cleaned out by that afternoon, all signs and promotional materials with his name or image removed from PNC Park. He instantly became a non-person, like many ex-Soviet dictators, no ‘innocent until proven guilty’ sentiments. During the game on September 18th, he was across the river incarcerated in the Allegheny County Jail, his bail denied by the Judge. On this date many teams were glad they hadn’t traded for him, while the Pirates’ *seemingly prudent no-trade decision* turned suddenly into a major headache.

- In the short term... As it turned out, the Pirates didn't need a closer anyway. From September 13 to September 22, 2019, the Pirates were clobbered by the Cubs in three games at Wrigley Field, then swept in three game sets by the Marlins and the Brewers, losing nine straight games, never needing a closer because most losses weren't close. When the Pirates finally won one over the Cubs on September 24, 2019 (the day before Vasquez arraignment), the score was equally lopsided and they didn't need a closer.

“And we have a saying that today's tyrant is yesterday's hero. And if you really look at the rhythm of the way things are, that's often the case. You have political heroes, for instance... but if you go back to the classical sense, the definition of a hero, as far as we can decide, is that they're the agents of evolution. They are the characters by which the world changes to a new order, usually for the better. They are the agents of evolution.

And they're simply that. If they create a new order, and they love that world too much, then they become what you might-call holdfast. (This is all this stuff from Joseph Campbell who I think is by far the best writer on mythology.) They become holdfast, they love their world too much, and they want to hold on, and they won't allow the next, natural evolution, natural change, to happen. [The world] becomes brittle and is doomed to change.

That's what we wanted with Tina Turner; we wanted to have the sense that before she built Baretown, she was a genuine hero. You could have told a story, almost like a Mad Max story, about her. But now, because she's holdfast...

... Yeah, you want to keep the same thing going. We do it in families, we do it in political institutions, we do it in corporate institutions, we do in political ideologies – look at Russia, the heroes of the Revolution; it didn't take long before they became the tyrants of Stalin. You look at tribes, at herds of buffalo, you look at anything; it seems to be a very simple rhythm in nature.”

– George Miller as quoted by Anne Billson, “George Miller Talks about Mad Max, Heroes & Tina Turner: The 1985 Interview,” previously unpublished interview published on Multiglom: The Anne Billson Blog, May 12, 2015

Entropy is not Unforeseen; Unforeseeable: Our ability to discuss entropy here abstractly as a concept and in historical hindsight implies that we may, can and do predict occurrences of entropy in fairly specific detail. With enough history and experience, one can predict or foresee that any action in a complex system will generate unintended consequences. That much is certain, but it is not the same as predicting what those consequences might be – new cottage industries arise, new forms of crime are devised, people leave or come in droves, demands might suddenly spike, new unforeseen inventions and innovations occur, processes slow or speed.

- ✓ “The different modes which nature takes to prevent or repress a redundant population do not appear, indeed, to us so certain and regular, but though we cannot always predict the mode we may with certainty predict the fact.” – Thomas Malthus, An Essay on the Principle of Population (1798).

While some events do appear to occur ‘out of the blue’ – for example, how could the Romans have predicted the displacement of the Huns from the northern borders of China? – most disruptions occur within the system (see 1 Expansion, p. 880, *infra*, for additional discussion of the

Hunnic migration). In game terms, then, players should expect most entropy to originate within the game with occasional incursions from the universe beyond the Galactic Space of the game.

- ✓ “While the late seventeenth century Europeans in India faced a declining empire, those who penetrated China found one on the ascendancy. In 1644, the Ming dynasty had succumbed to a recently formed confederation of invading northern tribes, the Manchus.... in 1662, the year following Louis XIV’s accession to absolute rule in France, an eight year old Manchu prince, Kangxi...became emperor of China. His impact on eastern Asia proved at least as great as the Sun King’s on Western Europe. During his sixty year reign, Kangxi...successfully wooed Chinese intellectuals through his respect for Confucian principles. Like Louis XIV, he subsidized classical forms of literature and learning....

Under Kangxi, Manchu China entered its golden age.... The Chinese peasantry probably welcomed the new regime. Out of the social turmoil of the 1640s emerged free tenancies and even independent peasant ownership.... He was sincerely interested in both Buddhism and Christianity and took European Jesuits as advisers. It was this tolerant, cultivated side of the emperor that captured the imagination of eighteenth-century Europe, which envisioned him as the archetypal Oriental sage, a philosopher king.” – Raymond Birn, Crisis, Absolutism, Revolution: Europe 1648 to 1789 (2nd Ed., 1992), pp. 162-163.

- Historical Accident: Prof. Joseph Tainter uses the term “historical accident” to describe the event that tips a complex civilization toward collapse; the event(s) that the system cannot handle. Merriam-Webster’s online dictionary’s definition at *accident* includes the words “unforeseen,” “unplanned,” “unexpected,” “uncontrolled,” “unfortunate,” and “lack of intention or necessity,” but the word “unforeseeable” does not appear anywhere in the definition, and that is no accident! Foreseeability is at once both a function of information processing and conscious will; we all know those who won’t (refuse to) see no matter what happened in the past or what is presented. Most historical accidents were foreseeable, even if only as speculative fiction; suppose that some speculative mind in ancient Knossos had tried to imagine the ways in which Knossos might end, understanding that nothing lasts forever? He would have been executed for sedition or sold into slavery in a distant land.
 - ✓ Pierre Curie (husband and Nobel Prize partner of Marie Curie) was killed in 1906 when he slipped and fell under a wagon while crossing a street. We tend, when we think about it, to assume traffic accidents are a phenomenon of automobiles, population and alcohol. Maybe we think there weren’t many accidents with horse-drawn wagons because horses are more intelligent than cars? Katharina von Bora, the widow of Martin Luther, was injured in a cart accident at Torgau, Saxony in a traffic jam at the city gates in 1552 and eventually succumbed to her injuries three months later. If this thinking is correct, to avoid auto accidents, cars must be made more intelligent than horses (and humans) and there would still be accidents because human pedestrians would be (are) less intelligent than cars!
- Standing on the Tracks: There are three ‘freight trains coming down the track’ – three events which at this time appear to be certain to happen in the next century: 1) Significant climate change from Global Warming (including rising oceans), 2) The Singularity and 3) Outbreaks of drug resistant or immune epidemics.² Any combination of these three added to and exacerbating existing problems, plus unforeseen collusions,³ will likely be catastrophic to global

civilization. We may not recognize the world of our grandchildren or even our great-grandchildren. The doom of humanity is probably not from alien invasion or a meteor strike. If you get hit by a train, it was because you were standing on the tracks.⁴

- ✓ “We had so much time to understand.” – Xandria, “Nightfall” (2014).

*“He knows changes aren’t permanent
But Change is”*

– Rush, “Tom Sawyer” (1981)⁵

Echo Chamber: The typical current use of “echo chamber” is somewhat derogatory (as a form of bias), as in “right wing” (or “alt-right”) and “left wing” (or “alt-left”) echo chambers.

- ✓ Example of the current use of “echo chamber.” I read an article by a conservative political columnist that was published in a regular media outlet. The article made some dubious conspiratorial assertions in the beginning, offered little evidence, and after a minute, I realized from the undertone of the article, that the writer of the article is probably one of those people who gleefully refers to liberals as “snowflakes” and therefore the assertions required no factual evidence because they were already accepted by the target audience and only needed to be recited (sort of like Biblical text). The writer was making assertions, but the tone of the article clearly suggested that it was written for the echo-chamber and that the writer was convinced of his own argument and only marginally interested in convincing anyone else. As we have recently become so aware, the social cost of the echo chamber is a breakdown of discourse that can be summed up by the old phrase, ‘you are preaching to the choir.’

While it is possible that groups of participants in this game might develop to reflect the current meaning of those terms, the term “echo chamber” as used within GGDM is intended to reflect how current real world events and circumstances (current or historical) might – intentionally or not – become part of the game or are reflected in the game narrative, actions of positions, and Interventions by the Concierge. That is, because of the scope and subject matter possible in GGDM as a literary sandbox macrosocial simulation, GGDM could and will likely become an ‘echo chamber’ of the real world of the participants. This is a similar process seen in fiction and ‘ripped-from-the-headlines’ legal drama television shows.

- ✓ To what extent do the extensive quotes throughout GGDM serve the same purpose as the current political use of the term *echo chamber*? Do extensive supporting quotes throughout the work – in the manner in which I have used them – serve to reinforce the author’s arguments while filtering out unfavorable information and other arguments – create or demonstrate cognitive bias? See Alison Griswold quote regarding Facebook filter bubbles, top of 3 Dreamtime, p. 158, *infra*, and Bob Moser quote about extremist information filtering, 1 Information, bottom of p. 1334, *infra*. What have I now just done? To what extent is a school or college paper filled with quotes – which is intended to demonstrate that the student has read and done appropriate research on the subject – simply a mechanism for enforcing the current paradigm on the next generation or a positive feedback loop to what the instructor already believes is true, playing back ideas they already find familiar and comfortable (see Andrew Oswald peer review quote, top of 2 Fallen to Earth, p. 1510, *infra*). ***Just did it again!***

- Human Drift-course: There is room within the powers and imaginations of the Concierge to introduce into the game all manner of subcultures:

Frontier Drift

“Competition between random genetic drift and natural selection play a central role in evolution: Whereas non-beneficial mutations often prevail in small populations by chance, mutations that sweep through large populations typically confer a selective advantage. Here, however, we observe chance effects during range expansions that dramatically alter the gene pool even in large microbial populations. ...

The observations presented here strongly suggest that enhanced genetic drift at expanding frontiers can dramatically alter the genetic makeup of large microbial populations. ... More generally, our experiments demonstrate that mutations at expanding frontiers can sweep through a population without any selective advantage. This observation supports theoretical arguments and genetic evidence that common alleles in a population might not necessarily reflect positive selection but, instead, recent range expansions, which have probably occurred in many species.” – Oskar Hallatschek, Pascal Hersen, Sharad Ramanathan, and David R. Nelson, “Genetic drift at expanding frontiers promotes gene segregation,” *PNAS*, December 11, 2007 (available free online).

Language Drift

A good example is Afrikaans, a Dutch language spoken in South Africa that, with over four hundred years of separation, shows significant divergence from the mother tongue. It is still mutually intelligible (if somewhat difficult) with spoken Dutch, but many of its forms are either archaic or odd to native Dutch speakers.

Another example is the Great Vowel Shift.⁶

Spatial Injustice

“The normal workings of an urban system, the everyday activities of urban functioning, is a primary source of inequality and injustice in that the accumulation of locational decisions in a capitalist economy tends to lead to the redistribution of real income in favor of the rich over the poor. This redistributive injustice is aggravated further by racism, patriarchy, heterosexual bias, and many other forms of spatial and locational discrimination.

Cultural Drift

“This revolution made cosmos out of chaos. Here, in the sixth century B.C., a new idea developed, one of the great ideas of the human species. It was argued that the universe was knowable. Why? Because it was ordered. Because there are regularities in nature which permitted secrets to be uncovered. Nature was not entirely unpredictable. There were rules which even she had to obey.

This ordered and admirable character of the universe was called cosmos. And it was set in stark contradiction to the idea of chaos. This was the first conflict of which we know between science and mysticism, between nature and the gods. But why here? Why in these remote islands and inlets of the eastern Mediterranean? Why not in the great cities of India or Egypt, Babylon, China, Mesoamerica? Because they were all at the center of old empires. They were set in their ways, hostile to new ideas. But here in Ionia were a multitude of newly colonized islands and city-states. Isolation, even if incomplete, promotes diversity. No single concentration of power could enforce conformity. Free inquiry became possible. They were beyond the frontiers of the empires.” – Carl Sagan, *Cosmos*, Episode 7.

Oligarchic Drift

“We will continue doing everything that we can to oppose the drift which currently exists toward an oligarchic form of society, where a handful of billionaires exercise enormous power over our political, economic and media life.” – Sen. Bernie Sanders, July 4, 2016, at the White House.

Economic Inequalities

“An imbalance between rich and poor is the oldest and most fatal ailment of all republics” – Plutarch.

“Still, whether the numbers are strictly accurate, there are clearly immense wealth and income inequalities in the world. As a global population, we are wasting human resources, allowing suffering, and expecting large portions of the population to underwrite the lifestyles of a far wealthier minority.” – Erik Sherman, “Simple Redistribution from

Note again that these processes can operate without rigid forms of spatial segregation.” – Edward Soja, “The City and Spatial Justice,” JSSJ, January 2009.⁷

Political Drift

“Every so often—perhaps once or twice in a century – ideas move the unmovable. The weight of information and experience becomes so overwhelming that entrenched ways of doing things give way. Paradigms shift. Patterns of thought change and align with a new reality. In Eastern Europe, a political philosophy that shaped an empire evaporated almost overnight and brought down a dozen regimes with it.” – “Political Drift or Paradigm Shift?” A Mackinac Center for Public Policy Report, November 1994.

“Bureaucratic drift in American political science is a theory that seeks to explain the tendency for bureaucratic agencies to create policy that deviates from the original mandate. The difference between a bureaucracy’s enactment of a law and the legislature’s intent is called bureaucratic drift. Legislation is produced by elected officials, but is implemented by unelected bureaucrats, who sometimes act under their own preferences or interests. Bureaucratic drift is often treated as a principal-agent problem, with the House, Senate and Presidency acting as principals and bureaucracy acting as the agent. The government seeks to control bureaucratic drift in a number of ways, most notably congressional oversight and procedural controls.” – from Wikipedia article, “Bureaucratic drift,” August 26, 2019.

- ✓ Think this quote is in the wrong spot? Read it again.

the Wealthiest Won’t Fix Income Inequality,” Forbes Magazine, January 16, 2017.⁸

Bureaucratic Drift

“The Peter principle states that a person who is competent at their job will earn promotion to a more senior position which requires different skills. If the promoted person lacks the skills required for their new role, then they will be incompetent at their new level, and so they will not be promoted again. But if they are competent at their new role, then they will be promoted again, and they will continue to be promoted until they eventually reach a level at which they are incompetent. Being incompetent, they do not qualify to be promoted again, and so remain stuck at that final level for the rest of their career (termed ‘Final Placement’ or ‘Peter’s Plateau’). This outcome is inevitable, given enough time and assuming that there are enough positions in the hierarchy to which competent employees may be promoted.

The ‘Peter Principle’ is therefore expressed as: ‘In a hierarchy every employee tends to rise to his level of incompetence.’ This leads to Peter’s Corollary: ‘In time, every post tends to be occupied by an employee who is incompetent to carry out its duties.’” – from Wikipedia article, “Peter principle,” August 1, 2019.⁹

“Parkinson’s law is the adage that ‘work expands so as to fill the time available for its completion.’ It is sometimes applied to the growth of bureaucracy in an organization. ... Much of the essay is dedicated to a summary of purportedly scientific observations supporting the law, such as the increase in the number of employees at the Colonial Office while the British Empire declined (he shows that it had its greatest number of staff when it was folded into the Foreign Office because of a lack of colonies to administer). He explains this growth by two forces: (1) ‘An official wants to multiply subordinates, not rivals’ and (2) ‘Officials make work for each other.’ He notes that the number employed in a bureaucracy rose by 5-7% per year ‘irrespective of any variation in the amount of work (if any) to be done.’” – from Wikipedia article, “Parkinson’s Law,” August 1, 2019.

GGDM is designed to simulate civilizations and historical process at a generally macro-level, and without such Interventions by the Concierge at least, or even with a little cooperation from the players or among the players, GGDM's civilizations might seem rather mechanical, bland and banal. It is thus the task of the Concierge to understand generally the narrative and dynamics of the game, and to not be afraid to toss in the monkey wrench (e.g., Joan of Arc, Hong Xiuquan, Marisa Coulter) at opportune and dramatic times and locations during the game; the Concierge needs to not only be thinking with the game, but also, ahead of the game.

- ✓ People who subscribe to some conspiracy theories such as the ‘white genocide conspiracy theory’ are confusing historical process with conspiracy, or trying to use wide-ranging, far flung conspiracy to explain a historical process they dislike: Rage and alienation looking for a target. There are historical processes going all the time, it is quite likely that globalization (which is what they really dislike, paradoxically enough because the Europeans caused it) has set in motion some multi-century process of genetic and cultural homogenization of humanity. But unless you believe that there was some alien or divine intervention to cause the Great Migration and the collapse of the Roman Empire, there is no conspiracy; no one to target or blame.

Katie: Time is never a problem on the God level. Or space. Whatever needed to deceive you was provided. But no more than that. That is the conservative principle in art at the God level. While I can't do it, not being at that level, I have seen a lot of it done. A skillful Artist in shapes and appearances does no more than necessary to create His effect.

Lucifer: Listen carefully. I am about to take you in to see – no, for you to be seen by – an Entity who is to me, and to my brother, your god, Yahweh, as Yahweh is to you. Understand me? ... To this Entity your lord god Jehovah is equivalent to a child building sand castles at a beach, then destroying them in childish tantrums. To Him, I am a child, too. I look up to Him as you look up to your triple deity – father, son, and holy ghost. I don't worship this Entity as God; He does not demand, does not expect, does not want, that sort of bootlicking. Yahweh may be the only god who ever thought up that curious vice – at least I do not know of another planet or place in any universe where god-worship is practiced. But I am young and not much traveled.

– Robert Heinlein, *Job: A Comedy of Justice* (1984)

Cosmic Impracticality: In 2014, William Gadoury, a teenager from Quebec, won the school science prize for his project that showed that Mayan cities, settlements and constructions aligned with the star patterns of known Mayan constellations. He even discovered a possible previously unknown city based on a missing star from one of the constellations.

- ✓ “‘The Mayans were extremely good builders, but they often built in places that made little practical sense – far from rivers, far from fertile areas. It seemed strange for a civilization that was so intelligent,’ he told the Canadian Broadcasting System.” – Mary Bowman, “Canadian teen may have discovered ancient Mayan city,” USA Today, May 11, 2016.¹⁰

The Mayans apparently had significant impracticality built into their civilization. Impracticality among humans individually, and in human civilizations, is a result of a perception of abundance and wealth without apparent end or responsibility. In most civilizations, it is the wealthy who engage in the most impractical behaviors as a matter of status, to flaunt their wealth for political purposes and to demonstrate to the masses the wealth gap (as part of their status).¹¹ This exists in all civilizations, in all times, the level of pure impracticality in every civilization corresponds to that civilization's concept of its own wealth and place in the world.

- ✓ Merriam-Webster online dictionary at *impractical*: not practical: such as: a: not wise to put into or keep in practice or effect.

Now, we also know that the Mayans had a very cosmic religion and an unusually long view, as evinced by the famed Mayan long count calendar (which is a combination of the two). If you take a culture saturated with a powerful cosmic religion and add to it a built-in level of impracticality, the result or the combination explains the recently-revealed Mayan building patterns.

That is an interesting combination, not seen many times in this world that also points somewhat to their demise; because people only become practical and resourceful when pressed by scarcity or by outside forces. If the Mayans subsequently encountered famine and drought (which also destroyed the Mississippian culture about the same time) and a dwindling of resources, but continued their traditional civilization, the probable end result is easily evident.

- ✓ “On whim, to pass a slow half-hour, she can command more energy than the entire nation of Portugal can spend today, and use it to launch a weekend satellite or remold a crater on the Moon.” – Frederik Pohl, “Day Million,” (1966).¹²

What will interstellar civilizations do with nearly infinite – limited only by their own production, transportation and consumption abilities – energy and matter? What sort of impracticalities might they develop? Some classic sci-fi answers are that interstellar ancient civilizations build monuments and enigmas around the Galaxy, or go off in seemingly pointless and petty endeavors, such as sorting sand grains by size and color.

- ✓ **Alex:** I have never been a Millenarianist. I am aware how often the number one thousand appears in the Bible, especially in prophecy – but I have never believed that the Almighty was constrained to work in even millennia – or any other numbering patterns – just to please numerologists. – Robert Heinlein, Job: A Comedy of Justice (1984).

“In the second paragraph I declare without the slightest evidence or argument, that ‘physical reality’ (note the scare quotes)... is at bottom a social and linguistic construct. Not our theories of physical reality, mind you, but the reality itself. Fair enough. Anyone who believes that the laws of physics are mere social conventions is invited to try transgressing those conventions from the windows of my apartment. I live on the twenty-first floor.”

– Alan Sokal regarding the Sokal Hoax ^{13,14}

Endnotes.

¹ Commentary: What does this say about the “love of God”?

² Citation: “At a time when germs are growing more resistant to common antibiotics, many companies that are developing new versions of the drugs are hemorrhaging money and going out of business, gravely undermining efforts to contain the spread of deadly, drug-resistant bacteria. ...

Experts say the grim financial outlook for the few companies still committed to antibiotic research is driving away investors and threatening to strangle the development of new lifesaving drugs at a time when they are urgently needed.

‘This is a crisis that should alarm everyone,’ said Dr. Helen Boucher, an infectious disease specialist at Tufts Medical Center and a member of the Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria. ...

Drug-resistant infections now kill 35,000 people in the United States each year and sicken 2.8 million, according [to] a report from the Centers for Disease Control and Prevention released last month. Without new therapies, the United Nations says the global death toll could soar to 10 million by 2050.” – Andrew Jacobs, “Crisis Looms in Antibiotics as Drug Makers Go Bankrupt,” The New York Times, December 27, 2019.

- ✓ In early 2020, a news report said that it would take at least a year to develop drugs to treat and vaccines against the coronavirus. Do the math: Any outbreak that inflicts massive losses on humanity in less than a year – especially losses of trained medical professionals and researchers – would collapse civilization. According to the same news article, the coronavirus had infected 75,000 people and 2,100 had died as of February 2020, a low mortality rate and a contained example; it had not yet become a global pandemic.

³ Commentary: In late April 2020, it began to be reported that the COVID-19 (coronavirus) was found to adhere to particles of air pollution aiding its spread. That is, manmade industrial air pollution. Unforeseen collusions.

⁴ Citation: “Let’s imagine. If you glimpsed the future and were frightened by what you saw, what would you do with that information? You would go to... Who? Politicians? Captains of industry? And how would you convince them? With data? Facts? Good luck. The only facts they won’t challenge are the ones that keep the wheels greased and the dollars rolling in. But what if... What if there was a way of skipping the middleman and putting the critical news directly into everyone’s head? The probability of widespread annihilation kept going up. The only way to stop it was to show it. To scare people straight. Because what reasonable human being wouldn’t be galvanized by the potential destruction of everything they have ever known or loved? To save civilization, I would show its collapse.

But how do you think this vision was received? How do you think people responded to the prospect of imminent doom? They gobbled it up, like a chocolate éclair. They didn’t fear their demise, they repackaged it. It can be enjoyed as video games, as TV shows, books, movies. The entire world wholeheartedly embraced the apocalypse and sprinted towards it with gleeful abandon. Meanwhile, your Earth was crumbling all around you. You’ve got simultaneous epidemics of obesity and starvation. Explain that one. Bees and butterflies start to disappear. The glaciers melt. Algae blooms all around you. The coal mine canaries are dropping dead, and you won’t take the hint! In every moment, there is the possibility of a better future. But you people won’t believe it. And because you won’t believe it, you won’t do what is necessary to make it a reality. So you dwell on this terrible future, and you resign yourselves to it. For one reason, because that future doesn’t ask anything of you today. So, yes, we saw the iceberg, we warned the Titanic. But you all just steered for it anyway, full steam ahead. Why? Because you want to sink. You gave up. That’s not The Monitor’s fault. That’s yours. Put them through. Thanks for visiting, Frank. It was genuinely nice to see you again.” – Governor David Nix (speech), Tomorrowland (2015).

- ✓ ‘Bad guy’ *mens rea* monologue from Tomorrowland (2015). Mmmmm... chocolate éclairs! Director Brad Bird has been criticized broadly for being preachy, elitist, favoring gifted, superior people in his movies (gee... what a list of crimes against humanity, *Hostis humani generis* alrighty). But what if, as movie critic Matt Zoller Sitz asked in his review of Tomorrowland:
 - “*Is it a problem, story-wise and message-wise, that Frank’s chief antagonist ... makes more sense than the heroes who oppose him?*” (Italics in original).
- ✓ In case you have wondered ... GGDM would never be published without the internet, in the age before the internet, I would have needed to have copies printed and bound myself at my cost, to give away. I would have done that, without complaint. Back to the matter at hand, ideas aren’t worth anything unless business can find a way to make money from them, i.e. sell, cheat, steal. There is no value in GGDM and by extension, my time working on it, unlike an attorney, doctor, or other important person, is worthless.
- ✓ See Bad Guy discussion, 1 Entropy, p. 216, *supra*. There’s even a discussion on Reddit about this speech which people found relevant and timely and criticism of the critics who called it preachy and dark.

⁵ Commentary: One day, as the Lumpkin Revolutionary Army approached, the Wizard began experimenting with dull gray rocks and some other explosive stuff. That is why Emerald City no longer exists; but it still glows at night.

⁶ Commentary & Citation: The Great Vowel Shift was identified by Otto Jespersen; this subject that confused the h*** out of me in college, is addressed in fascinating video on The History Guy YouTube Channel (January 2020).

⁷ Commentary: The ultimate and true spatial injustice is that we have to live in this universe. Death is not a cure; assuming for sake of argument that there is an ‘afterlife,’ how can we be sure that the afterlife is not just a move from one part of the prison to another? The people who claim to know have no demonstrable evidence; the fevered mystical dreams of our ancient ancestors translated through multiple languages, are not proof.

⁸ Citation: According to a 2016 Oxfam study, the wealthiest 8 people in the world have as much as the poorest half of the world population (approximately 3 billion people). The 10 biggest corporations have revenue greater than the 180 poorest countries combined. “Study: 8 people have same wealth as the world’s poorest half.” – Kim Hjelmgard, USA Today, January 15, 2017.

- ✓ On Monday, January 22, 2018, Oxfam again reported that 82% of the wealth generated in 2017 went to the richest 1% of the world population, while on December 27, 2017, Bloomberg reported that the 500 richest people in the world gained \$1 trillion in wealth in 2017.
- ✓ “One brutal sentence sums up the dismal state of wealth disparity in the US. ‘The bottom half of Americans combined have a negative net worth,’ Ben Steverman wrote in a recent Bloomberg article. This statement is based on the research of economists Emmanuel Saez and Gabriel Zucman, who study wealth inequality. Zucman is a ‘wealth detective’ who spends hours combing through spreadsheets of tax tables, macroeconomic datasets, and international money flow calculations to find the secret money stashes of the world’s richest people. Saez and Zucman’s research on wealth inequality also found that 20% of American wealth is controlled by the top 0.1% of taxpayers – or about 170,000 families. The top 1% control about 39% of the country’s wealth, and the bottom 90% hold only 26%, despite years of economic growth in the US overall. ‘The pie has not become bigger’ in the US, Zucman told Bloomberg. ‘It’s just that a bigger slice is going to the top.’ These statistics are perhaps not surprising considering how many Americans are weighed down by substantial student debt. Millennials are saddled with more than \$1 trillion of student loan debt, Business Insider’s Callum Burroughs previously reported. And it’s not just millennials who are suffering. More than 3 million Americans aged 60 and older are still paying off their student loans, INSIDER’s Kelly McLaughlin recently reported. Credit card debt is also on the rise. More than 40% of US house-holds carry credit card debt, and the average debt balance is \$5,700, according to a 2018 report from ValuePenguin. And about one fifth of Americans don’t have any money saved up, according to a Bankrate survey.” – Katie Warren, “One brutal sentence captures what a disaster money in America has become,” Business Insider, May 24, 2019.

⁹ Commentary: In the U.S. Marines, if not the military generally, the Peter Plateau is usually called ‘terminal rank,’ usually referring to Lance Corporals, Sergeants, Lieutenants, Captains and full-bird Colonels.

¹⁰ Commentary: From 2016 to 2020, LIDAR surveys from the air have revealed tens of thousands of unknown Myan buildings in the jungle, plus a raised road network built similar to Roman roads, one road running 100 km, demonstrating a far more populous and sophisticated civilization than previously thought in one of the worst places to live.

- ✓ See “BREAKING NEWS – Hidden Mayan Road Network Uncovered in Yucatan Rainforest Using Laser Technology,” Pete Kelly YouTube Channel, April 19, 2020, for LIDAR images and information.

¹¹ Commentary: In the 1999 movie, *Hornblower: The Wrong War* (aka *The Frogs & the Lobster*), after the marquis evicted the revolutionary peasants from his home, he asked what happened to his art collection; the mayor replied, it seemed of little practical use, so they used it to start fires.

¹² Commentary: It’s a sunny warm Saturday in the spring. You decide to wash your car and vacuum out the interior. How much water do you command in an hour, how much electricity? What do you think a desert dweller would think of your semi-recreational car cleaning? Frederik Pohl, simply multiplied existing conditions.

¹³ Citation: John Gross, *The Oxford Book of Parodies* (2010).

¹⁴ Commentary & Citation: It is interesting and odd that in August 2015, nearly 20 years after the Sokal Hoax, the eminent contributors of Times High Education (THE) were holding a vigorous debate about whether to scupper the entire peer review system for journal articles and the Sokal affair is not mentioned (though it seems to have been the elephant in the room, that some of the contributors had in mind but would not call out by name). See, “The worst piece of peer review I’ve ever received,” Times Higher Education, August 6, 2015.

Excerpts from The Collapse of Complex Societies

By Joseph Tainter (1988)

Collapse, as viewed in the present work, is a political process. It may, and often does, have consequences in such areas as economics, art, and literature, but it is fundamentally a matter of the sociopolitical sphere. *A society has collapsed when it displays a rapid, significant loss of an established level of sociopolitical complexity.*¹ The term ‘established level’ is important. To qualify as an instance of collapse a society must have been at, or developing toward, a level of complexity for more than one or two generations. The demise of the Carolingian Empire, thus, is not a case of collapse – merely an unsuccessful attempt at empire building. The collapse, in turn, must be rapid - taking no more than a few decades - and must entail a substantial loss of sociopolitical structure. Losses that are less severe, or take longer to occur, are to be considered cases of weakness and decline.

Collapse is manifest in such things as:

- a lower degree of stratification and social differentiation;
- less economic and occupational specialization, of individuals, groups, and territories;
- less centralized control; that is, less regulation and integration of diverse economic and political groups by elites;
- less behavioral control and regimentation;
- less investment in the epiphenomena of complexity, those elements that define the concept of 'civilization': monumental architecture, artistic and literary achievements, and the like;
- less flow of information between individuals, between political and economic groups, and between a center and its periphery;
- less sharing, trading, and redistribution of resources;
- less overall coordination and organization of individuals and groups;
- a smaller territory integrated within a single political unit.

Not all collapsing societies, to be sure, will be equally characterized by each item on this list, and the list is by no means complete. Some societies that come under this definition have not possessed all of these features, and indeed one or two that will be introduced had few of them. This list, however, provides a fairly concise description of what happened in most of the better known cases of collapse.

Collapse is a general process that is not restricted to any type of society or level of complexity. Complexity in human societies ... is not an all-or-nothing proposition. Societies vary in complexity along a continuous scale, and any society that increases or decreases in complexity does so along the progression of this scale. There is no point on such a scale at which complexity can be said to emerge. Hunting bands and tribal cultivators experience changes in complexity, either increases or decreases, just as surely as do large nations. Collapse, involving as it does a sudden, major loss of an established level of complexity, must be considered relative to the size of the society in which it occurs. Simple societies can lose an established level of complexity just as do

¹ Emphasis in original.

great empires. Sedentary horticulturalists may become mobile foragers, and lose the sociopolitical trappings of village life. A region organized under central chiefly administration may lose this hierarchical umbrella and revert to independent, feuding villages. A group of foragers may be so distressed by environmental deterioration that sharing and societal organization are largely abandoned. These are cases of collapse, no less so than the end of Rome, and no less significant for their respective populations. To the extent, moreover, that the collapses of simpler societies can be understood by general principles, they are no less illuminating than the fall of nations and empires. Any explanation of collapse that purports to have general potential should help us to understand the full spectrum of its manifestations, from the simplest to the most complex. This, indeed, is one of the central points and goals of the work.

These points made, it should be cautioned that in fact defining collapse is no easy matter. The present discussion may serve to introduce the orientation, but the definition will have to be added to as the work progresses

Whether as cause or as consequence, there is typically a marked, rapid reduction in population size and density. Not only do urban populations substantially decline, but so also do the support populations of the countryside. Many settlements are concurrently abandoned. The level of population and settlement may decline to that of centuries or even millennia previously.

Some simpler collapsing societies, like the Ik, clearly do not possess these features of complexity. Collapse for them entails loss of the common elements of band or tribal social structure - lineages and clans, reciprocity and other kin obligations, village political structure, relations of respect and authority, and constraints on non-sociable behavior. For such people collapse has surely led to a survival-of-the-fittest situation, although as Turnbull (1978) emphasizes, this is but a logical adjustment to their desperate circumstances.

In a complex society that has collapsed, it would thus appear, the overarching structure that provides support services to the population loses capability or disappears entirely. No longer can the populace rely upon external defense and internal order, maintenance of public works, or delivery of food and material goods. Organization reduces to the lowest level that is economically sustainable, so that a variety of contending polities exist where there had been peace and unity. Remaining populations must become locally self-sufficient to a degree not seen for several generations. Groups that had formerly been economic and political partners now become strangers, even threatening competitors. The world as seen from any locality perceptibly shrinks, and over the horizon lies the unknown.

Given this pattern, it is a small wonder that collapse is feared by so many people today. Even among those who decry the excesses of industrial society, the possible end of that society must surely be seen as catastrophic. Whether collapse is universally a catastrophe, though, is an uncertain matter. This point will be raised again in the concluding chapter.

As the development of complexity is a continuous variable, so is its reverse. Collapse is a process of decline in complexity. Although collapse is usually thought of as something that afflicts states, in fact it is not limited to any 'type' of society or 'level' of complexity. It occurs any time established complexity rapidly, noticeably, and significantly declines. Collapse is not merely the fall of empires or the expiration of states. It is not limited either to such phenomena as the decentralizations of chiefdoms. Collapse may also manifest itself in a transformation from larger

to smaller states, from more to less complex chiefdoms, or in the abandonment of settled village life for mobile foraging (where this is accompanied by a drop in complexity).

The process of collapse, as discussed in the previous chapter, is a matter of rapid, substantial decline in an established level of complexity. A society that has collapsed is suddenly smaller, less differentiated and heterogeneous, and characterized by fewer specialized parts; it displays less social differentiation; and it is able to exercise less control over the behavior of its members. It is able at the same time to command smaller surpluses, to offer fewer benefits and inducements to membership; and it is less capable of providing subsistence and defensive security for a regional population. It may decompose to some of the constituent building blocks (e.g., states, ethnic groups, villages) out of which it was created.

The loss of complexity, like its emergence, is a continuous variable. Collapse may involve a drop between the major levels of complexity envisioned by many anthropologists (e. g., state to chiefdom), or it may equally well involve a drop within a level (larger to smaller, or Transitional to Typical or Inchoate states). Collapse offers an interesting perspective for the typological approach. It is a process of major, rapid change from one structurally stable level to another. This is the type of change that evolutionary typologies imply, but in the reverse direction.

The proposition introduced above may now be rephrased in the terminology that will be used throughout the remainder of this work. It is suggested that the increased costs of sociopolitical evolution frequently reach a point of diminishing marginal returns. ... After a certain point, increased investments in complexity fail to yield proportionately increasing returns. Marginal return decline and marginal costs rise. Complexity as a strategy becomes increasingly costly, and yields decreasing marginal benefits.

Four concepts discussed to this point can lead to an understanding of why complex societies collapse. These concepts are:

1. human societies are problem-solving organizations;
2. sociopolitical systems require energy for their maintenance;
3. increased complexity carries with it increased costs per capita; and
4. investment in sociopolitical complexity as a problem-solving response often reaches a point of declining marginal return.

But hasn't this increased investment in higher education brought at least equivalent, if not greater, returns? While the returns on investment in education are difficult to assess, most people would assume that the answer to that question must be yes. But there are ways of looking at the matter that suggest that this investment has not brought greater marginal returns. With increasing time spent in education and greater specialization, the learning that occurs yields decreased general benefits for greater costs. The greatest quantities of learning are accomplished in infancy; learning that occurs earlier in life tends to be more generalized. Later, specialized learning is dependent upon this earlier, generalized knowledge, so that the benefits of generalized learning include all derivative specialized knowledge. Axiomatically, therefore, generalized learning is of overall greater value than specialized.

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See Appendix IP – Interventions Reference Sheet

“How many valiant men, how many fair ladies, breakfast with their kinfolk and the same night supped with their ancestors in the next world! The condition of the people was pitiable to behold. They sickened by the thousands daily, and died unattended and without help. Many died in the open street, others dying in their houses, made it known by the stench of their rotting bodies. Consecrated churchyards did not suffice for the burial of the vast multitude of bodies, which were heaped by the hundreds in vast trenches, like goods in a ships hold and covered with a little earth.” – Giovanni Boccaccio

“Accounts from Europe indicate that the danse macabre took another form, inspired by the Black Death, rather like our children’s rhyme ‘Ring o’ Ring o’ Roses,’ which refers to the Great Plague. In 1374, a fanatical sect of dancers appeared in the Rhine, convinced that they could put an end to the epidemic by dancing for days and allowing other people to trample on their bodies. It is not recorded whether they recovered but, incredibly, they began to raise money from bystanders. By the time they reached Cologne they were 500 strong, dancing like demons, half-naked with flowers in their hair. Regarded as a menace by the authorities, these dancers macabre were threatened with excommunication.”

– Catharine Arnold, [Necropolis: London and Its Dead](#) (2006)

The Black Death: This odd occurrence of the Dancers Macabre predates the Ghost Dance by 500 years and 5,000 miles, but both have the same root in world-shattering social upheaval.

The Bubonic Plague’s arrival in Europe (the Second Pandemic) provides a profound example of societal collapse fitting the scale and scope of this simulation. The Plague entered Europe from the south in about 1346 and spread over the next ten years north, west and east, reaching Moscow in 1353. From 1348 to 1350, a series of ‘spontaneous’ but organized anti-Semitic riots, massacres and looting – retroactively called ‘pogroms,’ a word invented almost 500 years later – swept across the major cities of Europe in response to the Black Death. Two Papal Bulls issued in 1348 could not stop or correct centuries of legitimized, sanctioned, institutionalized, and politically exploited anti-Semitism. In many cases, the authorities agitated the urban rioting against the Ghettos, and the Holy Roman Emperor added incentive by making Jewish property forfeit.¹

It also spread through the Middle East, Egypt and North Africa with equally devastating consequences, the Black Death inflicted a huge toll on the Mongol Empire hastening its rapid decline.

The Church could not explain or stop the plague, the authorities had no answers, none understood the causes. The pandemic eroded faith in the Church and the secular authorities whose legitimacy was granted by the Church.² Since the Church also provided primary medical care and burial, a disproportionate amount of the lower clergy died of the Plague, such that the shortages were made up by admission of less qualified and less desirable people (and people with a different worldview due to the times, see 1 Constructural Elements, *supra*) to the clergy and staff.

- ✓ “Realizing what a deadly disaster had come to them, the people quickly drove the Italians from their city. However, the disease remained, and soon death was everywhere. Fathers abandoned their sick sons. Lawyers refused to come and make out wills for the dying. Friars and nuns were left to care for the sick, and monasteries and convents were soon deserted, as they were stricken, too. Bodies were left in empty houses, and there was no one to give them a Christian burial.” – author unknown.³
 - Pope Boniface VIII secularized medicine about 1300 A.D. by removing the requirements that medical doctors complete basic clergy training. The long-term importance of this small move – the secular medical science of the West – in the development of Western civilization cannot be understated.

Other factors, such as militarization of the peasantry (starting with the Crusades), the widespread use of gunpowder (‘the great equalizer’), dynastic ambitions, Church corruption from top to bottom,⁴ religious schisms, rise of wealthy merchant classes and a new middle-class, wealth influx from the New World and population drain from colonization, and the literal and figurative bankruptcy of the feudal system, enabled and accelerated the collapse of European feudal society.⁵

Significant infant and youth mortality rates in Europe is the most probable *practical* reason for the practice of infant baptism by the clergy. Likely, this practice intensified late in the period as a result of the Black Death and the incessant warfare, becoming a target (along with indulgences) of the increasingly radical and fracturing Protestant movement.

- ✓ “Manz, formerly one of Zwingli’s closest allies, held that there was no biblical warrant for infant baptism. Refusing to recant his views, he was tied up and drowned in the River Limmat.” – Alister E. McGrath, Christianity’s Dangerous Idea: The Protestant Revolution: A History from the Sixteenth Century to the Twenty-First (2008).
 - The theological arguments for or against infant baptism between Luther and the Anabaptists are both oddly interesting and irrelevant.

Drowning Anabaptists was colloquially referred to as “third baptism.” Anabaptists were the radical forefront supporting the German Peasant’s Revolt in 1524-1525 and suffered greatly for it.

The Black Death was not the sole cause of the collapse of feudal society or the Reformation and the Wars of Religion between the 15th through 17th Centuries, but it was the initial cause, undermined the existing authority, upended the social order (Danse Macabre, no one was safe from the Plague, *mors omnia aequalia* – all are equal in death), and contributed to an era of widespread paranoia, fear, militant religious fanaticism and persecution of minorities and social outsiders.

- ✓ The most shocking act of fanaticism I can recall in fantasy-fiction literature was the ending of Katherine Kurtz’ novel The Bishop’s Heir, when the bride’s brother leapt into the wedding ceremony and slashed her throat to prevent the joinder of the Royal Houses of Haldane and Meara in marriage. The Bishop’s Heir was published in 1984, twelve years before that gross monstrosity called A Game of Thrones (1996) was published. If I were a clever literary type and had far more education than I do on the subject, I might suggest that from the mid-1980s onward, top fantasy writers embraced fanaticism in epic fantasy, or perhaps it just crept into the fantasy conversation. Fanaticism is an issue that comes up in speculative-fiction tales of all sorts, see Fanatics Not from Phili, 4 Culture, p. 415, *infra*.

- Ante Bacterium: A possible or probable earlier version, the Plague of Justinian, had ravaged Constantinople, Greece, Italy and port cities around the Mediterranean starting in 542 A.D., killing 25 to 50 million people over two centuries. That is about 10-12% of the current U.S. population, but with lower population density, it was much more devastating to them. However, the fatality rate of the Black Death was very high over a much shorter period of time; modern estimates range from 45% to 60% of population in an urban locality may die of the disease over a four year time.

The predecessor bacteria that triggered the Bubonic Plague has been found in human remains from the Bronze Age, 4,800 years ago. However, it was different. It has recently been discovered that a genetic mutation occurred in the bacteria that allowed it to survive inside the flea, blocking the flea's insides so that the flea felt hungry and bit the hosts more frequently. Further mutations allowed the bacteria to survive inside human lungs and spread to other tissues. This is the first time that we have been able to identify specific mutations.⁶

- ✓ Continuing the Sands & Seas discussion from 1 Entropy, p. 231, *supra*, could any scientist on Earth now have thought of a better, simpler – more diabolical – mutation to make the Black Death? Because the results were so perfectly devastating, we have to wonder, it makes us wonder if there was some sort of deliberate agency behind it? In modern terms, we call it ‘the perfect storm’; the perfect storm is the term we use for what we insist is a natural coincidence that sure looks like intelligent manipulation, human or otherwise.
- ✓ “The secrets of evolution are time and death. Time for the slow accumulation of favorable mutations and death to make room for new species.” – Carl Sagan, *Cosmos*, Episode 2.
- History Lessons: The Plague reappeared regularly and swept through some regions of Europe every 15 to 30 years through the 15th and 16th centuries, and with diminishing intensity into the 17th and 18th centuries. Mortality rates were between 30% and 60% within a few months, especially in urban areas, and those who could, often fled to other places in human waves, spreading the disease farther. As late as 1771, there was a riot in Moscow that began as protests against extreme measures taken in the city to stop one of the last outbreaks of the Bubonic Plague. The archbishop was murdered by a mob and two monasteries were burnt.

The history lesson for the Bubonic Plague and Black Death usually amounts to a page in most public school history books. All memory of it disappears as soon as the chapters advance from the Renaissance to the discovery of the New World. Most school histories fail to discuss the Reformation or the Ottoman threat. Students are left with the impression that the plague was a one-off event, like a big stomach ache that went through Europe.⁷ None of this is an accident. The truth of the plague would alarm and the truth of the Reformation would reopen debates that we in the United States want to remain buried. This was collectively decided by our grandparent's civilization. History of the world courses in American public schools are really ‘American justification’ courses, ‘world history’ lessons usually end with the New World, which then becomes an ‘America in world history’ course.

Much of this may have to do with the Cold War. The Black Death scares the bejesus out of us even now (e.g., movies such as *Outbreak* (1995) and zombie apocalypse movies), it is possible that educators saw already the effects that the threat of global thermonuclear annihila-

tion had on our culture and decided to skip serious teaching about the Black Death. And during the Cold War, U.S. justification courses were deemed ideological necessity; more important than understanding the late Medieval period or the Reformation.

- **Post Apocalypse:** Effects markedly similar to the Black Death would occur after a nuclear holocaust. While most of the nuclear holocaust movies I watched as a teenager (Damnation Alley (1977), WWII (TV mini-series 1982), The Day After (1983), By Dawn's Early Light (1990)) were made primarily for shock and horror instead of post-apocalyptic profundity, the movies Threads (1984) and Testament (1983) stand out as stories about normal people caught up in the immediate aftereffects of a nuclear attack.

“It is no longer enough to see as a man sees – even to the ends of the universe. It is not enough to hold nuclear energy in one's hand like a spear, as a man would hold it, or to see the lightning, or times past, or time to come, as a man would see it. If we continue to do this, the great brain – the human brain – will be only a new version of the old trap, and nature is full of traps for the beast that cannot learn.” – Loren Eiseley, “The Hidden Teacher” (1969)

Forward Expectations: “Are you better off today than you were four years ago?” – Ronald Reagan, Presidential Debate, October 28, 1979. The underlying expectation of populations is the steady advance of their Native Population and colonization in Galactic Space, harvesting of resources from new planets, industrialization and urbanization of colony planets over time, advance of technology, sufficient food and reproductive activity, continuity of government, institutions and a way of life known to most of the population; rinse and repeat every generation.

It is perhaps serendipitous to say that forward expectation is tied to our experience (and limitations) with respect to time. However, even in a society that does not want to change, forward expectation still exists in the idea of changeless continuity to the next generation. That is, sameness is an expectation also subject to time passages.

Once reliable interstellar travel exists that leads to colonization and the widespread seeding of interstellar space, species survival is no longer strictly a zero-sum game (see 6 Diplomacy, p. 1171, *infra*). But our business and governmental organizations and species instincts will continue as though it is a zero-sum game.

- ✓ See also The Bargain, 5 Culture, p. 426 and Technosolution, 1 Patents, p. 726, *infra*.

“Every account of a higher power that I've seen described, of all religions that I've seen, include many statements with regard to the benevolence of that power. When I look at the universe and all the ways the universe wants to kill us, I find it hard to reconcile that with statements of beneficence.”

– Neil deGrasse Tyson, at the University at Buffalo, Q & A session, April 9, 2010, video is available on YouTube as of September 2018

A Disruption: A disruption is an “unplanned, negative deviation from the expected.”⁸ Disruption signals a departure from the norm. A disruption can be a continuing act of disorder. A Disruption Event is a game term for events that loosely and generally include:

1. Hostile aliens (oh my goodness!), especially the technologically advanced kind;

2. Population loss, colony loss or damage, Raids and Ground Combat on Colonies;
3. Voluntary or involuntary removal of colony populations and industry;
4. Loss of colony and trade ships;
5. Sieges;
6. Changes in Government;
7. Loss of institutions, including Colleges, MegaCorporations, Corporations;
8. Diplomatic isolation, economic isolation;
9. Wars and battles.

“The École Libre des Sciences Politiques (ELSP) was founded in 1872 by Émile Boutmy in response to the political and moral crisis in France in the aftermath of the 1870 Franco-Prussian War. It was intended to educate the new elite and generate modern knowledge for a new France.”

– from Sciences Po webpage, “History,” captured July 2, 2019

Hand Me the Hemlock: Ancient Athens can be said to have undergone what has been called a cultural identity crisis (or “moral crisis”⁹ or “religious crisis”¹⁰) after losing the Peloponnesian War and surrendering to Sparta in 404 B.C. After throwing off the eight-month catastrophic rule of the pro-Spartan oligarchy, the Thirty Tyrants in 403 B.C., Athens was questioning its politico-cultural commitment to democracy, a core element of its cultural identity. This is a Disruption Event for that civilization which led to the famous Trial of Socrates in 399 B.C.:

- ✓ “Socrates lived during the time of the transition from the height of the Athenian hegemony to its decline with the defeat by Sparta and its allies in the Peloponnesian War. At a time when Athens sought to stabilize and recover from its defeat, the Athenian public may have been entertaining doubts about democracy as an efficient form of government. Socrates appears to have been a critic of democracy, and some scholars interpret his trial as an expression of political infighting. Claiming loyalty to his city, Socrates clashed with the current course of Athenian politics and society. He praised Sparta, archrival to Athens....

One of Socrates’ purported offenses to the city was his position as a social and moral critic. Rather than upholding a *status quo* and accepting the development of what he perceived as immorality within his region, Socrates questioned the collective notion of ‘might makes right’ that he felt was common in Greece during this period. Plato refers to Socrates as the ‘gadfly’ of the state ... insofar as he irritated some people with considerations of justice and the pursuit of goodness. His attempts to improve the Athenians’ sense of justice may have been the cause of his execution.” – from Wikipedia article, “Socrates.”

- ✓ “By 399 B.C. the immediate political crisis had passed, but so had public euphoria at surviving the war, at dodging the bullet of endless civil war, and reuniting the polis under a reestablished code of law. The realization sunk in that reunification was only the beginning of a costly and uncertain rebuilding period, and that Athens remained fragile and vulnerable to its enemies. The Athenian willingness to tolerate peculiar behavior and apparently irresponsible public attitudes reached a low point. And so,

for Meletus the time was ripe: he could prosecute Socrates for impiety on relatively novel grounds with little concern of incurring the penalty for failing to gain a fifth of the votes. As it turned out, Socrates' idiosyncratic defense enabled Meletus to gain a guilty verdict. The Socratic tradition holds that [he] could not have give [sic] any other sort of defense and yet remain true to his own convictions, and recognized that it was unlikely to secure his acquittal." – Josiah Ober, "Socrates and democratic Athens: The story of the trial in its historical and legal contexts," Princeton/Stanford Working Papers in Classics, July 2006 (available free online).

Pechenegs: Wars and battles frequently led to loss of cultural identity and political autonomy during the Great Migrations. The Pechenegs invaded the Byzantine Empire and were defeated and their invasion force nearly annihilated in 1091. Then they were attacked by the Turkic Cumans in 1094 and much of the remainder were killed or captured and absorbed. Many of the survivors may have fled to Kiev, but were expelled in 1121. Thereafter, they invaded the Byzantine Empire again, crossing the Danube in 1122. On the second invasion, they were again defeated at the Battle of Beroia with many captured and absorbed into the Byzantine army.

All of these are the epitome of Disruption Events for the Pechneg polity and population. The Pechenegs polity effectively ceased to exist at that time, population pockets remained in Hungary, but generally they lost their cultural or ethnic identity and followed the path of the Samnites, Iberian Alans, Huns, Ostrogoths before them; the Cumans were in turn overrun by the Mongols in 1237, absorbed, or fled to Hungary, and Kiev was massacred.

Unlike their Pecheneg cousins who left little behind, the Cumans continued to have an effect even after they lost their cultural-political power in the Pontic and Russian Steppes; their language survived for some time afterward and was written down, some clans rose eventually to ruling dynasties in Eastern Europe, and they continued to provide powerful warbands that served the Byzantine Empire, the Second Bulgarian Empire, The Holy Roman Empire, the Fourth Crusade, and involved themselves in dozens of other kingdoms and states in Eastern Europe.

*“Double, double toil and trouble;
Fire burn and caldron bubble.
Cool it with a baboon’s blood,
Then the charm is firm and good.”*

– William Shakespeare, “Macbeth” (1623)

Axioms of Consequences: There must be consequences, or there will never be change, like Newton’s laws of physics. Situations and incidents that are allowed to go without consequences will be repeated.¹¹ Attacks and advances by adversaries that are unmet and unmatched, will continue.

Wars, battles, tactics, legal trials, business disputes, political fights, public media spats, and generally disputes are contests of consequences. The side that cannot impose consequences loses. Even the stars and galaxies are consequences of the physical laws, stars and galaxies change and produce the stuff that makes us.

The relationships of consequences can sometimes take odd turns or seem strange. For example, axioms by their nature must be irrefutable within their environment. The consequence of saying

no, of denying the axiom is an insoluble intellectual contradiction. *Thus the axiom is the strongest imposition of consequence among sophants.* In a struggle, the side that can present the most axiomatic-like position (framed in popular terminology if it is a matter of politics, social movements, or a lyrical song, e.g., “The only thing we have to fear is fear itself!”) is in the strongest position to impose intellectual consequences (i.e. cognitive dissonance¹²) on the opposition.¹³

➤ **Shortest Distance to Dumb:** The shortest distance between two points is a straight line. This axiom has been around for millennia, if it is not obvious at first glance that it is true, we can take measurements, create empirical data to prove it. It would be a fool’s errand to try to disprove it *on a flat surface*. If the contest occurs on a flat surface, you cannot lose, the consequence of denying this is a falsehood, a contradiction. But the world has many fools, some of them are science-fiction writers (e.g., folding space so that two points are closer than they would be by a straight line, imagine folding a piece of paper and poking a hole through the joined ends) or mathematicians:

- ✓ “The Pythagorean theorem only works on two-dimensional surfaces like football fields; mathematicians refer to such surfaces as Euclidean geometry (named for Euclid, the 3rd-century B.C. Greek mathematician). The theorem fails for non-Euclidean geometries, such as spheres and more complex geometries like saddles. Indeed, all the rules you learned in school, like parallel lines staying parallel, only refer to Euclidean geometry. In the non-Euclidean universe, parallel lines may actually diverge or converge. Although non-Euclidean geometry may seem exotic and unfamiliar, it is actually common in many fields of science – perhaps most notably, in Einstein’s general relativity theory, in which gravity can bend the shape of space and time.” – The Editors, “When Is a Straight Line Not the Shortest Distance between Two Points?” *Scientific American*, November 8, 2010 (available free online).

Thus, math demonstrates that axiomatic statements are peculiar to their environment and to defeat the consequence of an axiom or axiomatic-like statement, you have to change the game. *If you don’t like the plane, make a globe and you can cheat the axiom.* Imagine then in what environment the axiom of human action of praxeology becomes refutable?

“You know, I used to think it was awful that life was so unfair. Then I thought, wouldn’t it be much worse if life were fair, and all the terrible things that happen to us come because we actually deserve them? So, now I take great comfort in the general hostility and unfairness of the universe.”

– Marcus Cole, *Babylon 5*, “Late Deliveries from Avalon” (1996) ¹⁴

Disruptive Nature: Marcus Cole is one of the most unique and tragic characters in *Babylon 5* television series; he has been described as the master of funny-not funny and a British Batman.

Disruption is the term used in GGDM to represent the various aspects of societal collapse, systemic and government changes and population movement. “Disruption check” refers to specific game procedures to be followed in situations where disruption is triggered.

➤ **Stewed, Brewed, Boiled, Baked or Fried:** In specific game terms, a Disruption Event has two effects. First is an immediate ‘check’ to see if any Constructural Elements have been rendered inactive at the site of the disruption. Additionally, the event generates an Intervention

Potential Plus attached to the position that suffered the Disruption Event, which the Concierge may use later, hopefully in a creative exploration of the continuing effect of the disruption and its interactions with Fundamental Realities (see discussion 1 Entropy, p. 215, *supra*).

- ✓ Failed Power Activations cannot by themselves, for game logic reasons, be Disruption Events – that would create a vicious cycle (or negative feedback loop).
- Interventions Plus: Normally, one Intervention Potential is generated for each time Regular Turn Actions are processed and the Intervention Potential can be used for one Intervention Action (from the previous list) at a later time.
 - ✓ On any Regular Turn when a position has a Disruption Event (whether voluntary or involuntary), an Intervention Potential Plus (IP+) is generated instead.

The ‘plus’ means that the Intervention Potential *must be used* for two Intervention Actions at the same time (e.g., perhaps two Pokes, like the Three Stooges) directed to the position that generated it. Additionally, it follows that the Intervention Potential Plus (IP+) is forever tied to that position that generated it, and cannot be used to affect any other position directly.

- Double Your Troubles: Where possible, an Intervention Potential Plus (IP+) *should be used to generate two related Interventions* (which may also echo into other events such as Government Title disruption and diplomatic actions). Twenty-five hundred years of history – from the ancient world to living memory – provides plenty of fine examples:
 - ✓ “The Sparta earthquake of 464 BC destroyed much of Sparta, a city-state of ancient Greece. Historical sources suggest that the death toll may have been as high as 20,000, although modern scholars suggest that this figure is likely an exaggeration. The earthquake sparked a revolt of the helots, the slave class of Spartan society. Events surrounding this revolt led to an increase in tension between Sparta and their rival Athens and the cancellation of a treaty between them. After the troops of a relief expedition dispatched by conservative Athenians were sent back with cold thanks, Athenian democracy itself fell into the hands of reformers and moved toward a more populist and anti-Spartan policy. Therefore, this earthquake is cited by historical sources as one of the key events that led up to the First Peloponnesian War.” – from Wikipedia article, “464 BC Sparta earthquake,” captured July 4, 2019.
 - ✓ “It is nevertheless clear that in any case the revolt of 464 BC represented a major traumatic event for the Spartans. Plutarch indicates that the Crypteia and other poor treatments of the helots were instituted after this revolt. If there is any doubt in these affirmations, they at least underscore the immediate Spartan reaction: allies are gathered and war ensues with the same Athens that would be faced later in the Peloponnesian War.” – from Wikipedia article, “Helots,” captured July 4, 2019.

This brings together several threads: The helot revolt and the earthquake of 464 B.C. that prompted it, was a ‘traumatic event’ for Spartan civilization – their home was being rocked, their legs were being kicked out from under them (by the helot revolt, the helots being the source of their food and income) and their world was being tilted – all of these being useful descriptors of local Disruption Events in GGDM. Disruption events are things that make great history and good fiction (especially alien invasion movies), but a really bad day if they happen to you.

- ✓ The Black Death (the Bubonic Plague’s entry into Europe), *ut supra*, is thought to have begun at the Siege of Caffa (now Feodosia) in Crimea in 1346. While the plague had long ravaged central Asia along the Silk Road, the ‘modern’ introduction (setting aside questions of the Plague of Justinian) into Europe came when Genovese ships fled Caffa and returned to their home ports: The besiegers had catapulted the bodies of their dead over the walls into the city to infect the city.
 - In Stephen King’s 1978 novel The Stand, the U.S. military – once the accidental pandemic had begun – deliberately infected Cold War archrivals China and the Soviet Union to prevent them from ‘winning’ thus contributing greatly to the death of over 99% of global human population in a few months. In GGDM, such a thing could happen on a Balkanized planet with hostile colonist, without consulting the interstellar government...
 - In 12 Monkeys (1995), the culprit deliberately spread the plague by flying from major airport to major airport around the globe in 24 hours.
 - Interventions are inherently local events that happen without permission from the position players (i.e. the interstellar government).

In GGDM terms, while humans certainly did not ‘create’ the plague (as we might nowadays, and that’s another related issue, e.g., The Stand (1978)), it is the occurrence of multiple entropic events that might be reflected in a GGDM Intervention Potential Plus (IP+). It is considered the first case of intentional biological warfare, see Mark Wheelis, “Biological Warfare at the 1346 Siege of Caffa,” *Emerging Infectious Diseases Journal* (of the CDC), Vol. 8, No. 9, September 2002 (https://wwwnc.cdc.gov/eid/article/8/9/01-0536_article).

In living memory, the March 11, 2011 Fukushima Daiichi nuclear power plant disaster which combined an earthquake and tsunami, flooding important parts of the plant, followed by nuclear accidents (melt downs, hydrogen air explosions, high radiation spikes, water discharges), followed by recriminations of mismanagement, political back-patting, and bad engineering, and a spike in anti-nuclear attitudes – *crosses the full range of Intervention Potentials Plus and echo effects in GGDM*. From this incident arose the media portrayal of a more modern, scientifically-informed sort of conscious heroism, the Fukushima Fifty:

- ✓ “The workers and volunteers were assigned the mission of stabilizing the reactors. Their activities included assessing the damage and radiation levels caused by the explosions, cooling stricken reactors with seawater, and preventing any risk of fire. These workers remained on-site despite serious risks of radiation poisoning. Levels of radiation on site are far higher than in the 20 km (12 mi) exclusion zone and media outlets reported that the severity of the situation could have grave implications on their future health, with possibly fatal consequences for the workers. On 18 March, according to Prime Minister Naoto Kan the workers were ‘prepared for death’” – from Wikipedia article, “Fukushima 50,” captured July 8, 2019.
- ✓ “Referring to the original 50 workers, nuclear researcher Dr. Eric Hall opined that they were likely to be older, and unlikely to have further children, so the long-term effects of exposure to high-levels of ionizing radiation would be less likely to appear

before a natural death. Some younger workers were injured and young Osaka fire-fighters were operating at the site. A group of 250 skilled senior citizens volunteered to work in the radioactive environment, citing reduced harm to them.” *Id.*

Science-fiction imagination had early anticipated these types of events, e.g., Robert Heinlein’s “The Green Hills of Earth” (1947), requiring humans to consciously sacrifice themselves in an attempt to get a reactor under control (e.g., the famous K-19 Widowmaker accident in 1961). And of course, there was the ‘logical’ death of Spock in Star Trek II (1982) ... as a result of Kirk’s decisions in the “Space Seed” episode (ST:OS 1967) – and a whole lot of bad Earth future history and alien manipulation...

- ✓ Diligent and clever players probably can keep track of the Intervention Potentials Plus (IP+) tallied against their position and this may affect the play of the game if the players know there is a potential big hammer blow waiting over the Regular Turn horizon. It would require an extraordinary group effort however, to keep a tally of Intervention Potentials held by the Concierge at any point in the game.

Ambassador Kosh: *The avalanche has already started. It is too late for the pebbles to vote.* – Babylon 5, “Believers” (1994)

Too Late for the Pebbles to Vote: GGDM places a heavy burden on the Concierge, which the players can make lighter by keeping the game fun and interesting. Still, it is likely that the Concierge will not always have great freak’n ideas for Interventions (along with News Events, Reformations, Kairotic Moments, Patents, Writs, Special Operations, Special Planets, Fundamental Realities) and a significant number of unused Intervention Potentials may buildup – rather defeating the purpose of Interventions as part of GGDM. One possible solution is to have the computer assistant soak off some of the excess entropy by using automated lists of things that ‘happen’ and randomly applying them to player positions (with the side benefit that no position can claim they are being unfairly targeted). This will keep it interesting for the Concierge as well, because events – not originating with player actions – may happen beyond even the Concierge’s control, but the Concierge must always be able to Intervene and to have first chance to use Intervention Potentials to orderly advance the story and/or just to amuse themselves.

This system may coincidentally create a periodic avalanche of events affecting all positions in the game simultaneously, if built up Intervention Potentials are suddenly cleared – like waves of entropy. Like watching your delicious hot dinner dumping off the plate as gravity accelerates its fall to the floor. “On top of old smoky, all covered in cheese, I lost my poor meatball, when...”

- ✓ “The May 1968 events in France refers to the volatile period of civil unrest throughout France during May 1968 which was punctuated by demonstrations and major general strikes as well as the occupation of universities and factories across France. At its height, the events brought the economy of France almost to a halt. The protests reached such a point that political leaders feared civil war or revolution; the national government itself briefly ceased to function after President Charles de Gaulle secretly fled France for a few hours. The protests spurred an artistic movement, with songs, imaginative graffiti, posters, and slogans. The unrest began with a series of student occupation protests against capitalism, consumerism, American imperialism and tra-

ditional institutions, values and order. It then spread to factories with strikes involving 11 million workers, more than 22% of the total population of France at the time, for two continuous weeks.

The movement was characterized by its spontaneous and decentralized wildcat disposition; this created contrast and sometimes even conflict between itself and the establishment, trade unions and workers' parties. It was the largest general strike ever attempted in France, and the first nationwide wildcat general strike. The student occupations and wildcat general strikes initiated across France were met with forceful confrontation by university administrators and police. The de Gaulle administration's attempts to quell those strikes by police action only inflamed the situation further, leading to street battles with the police in the Latin Quarter, Paris, followed by the spread of general strikes and occupations throughout France. De Gaulle fled to a French military base in Germany, and after returning dissolved the National Assembly, and called for new parliamentary elections for 23 June 1968. Violence evaporated almost as quickly as it arose. Workers went back to their jobs, and when the elections were held in June, the Gaullist party emerged stronger than before." – from Wikipedia article, "May 1968 events in France."

- François Mitterrand (a graduate of Sciences Po) was in 1968, the leader of the 'democratic socialist left' and was ready to 'form a new government' without the communist with whom the socialist had allied (to their apparent detriment) in February 1968. *Id.* Monsieur Mitterrand was later President of France from 1981-1995 and died in 1996.¹⁵

"The idea that there's undetectable ... fraud is, of course, impossible to refute, in the same way that it's impossible to refute the idea that there are aliens who've visited Earth. There's no evidence of those close encounters, but some people believe that it happens. How can you dissuade them?"

– Philip Bump, *The Washington Post*, October 17, 2016

Endnotes.

¹ **Commentary & Citation:** Do you think anything has changed? Fast forward 600 years to Los Angeles, 1943:

- ✓ "During the next few days, thousands of servicemen and civilians joined the attacks, marching abreast down streets, entering bars and movie houses, and assaulting any young Mexican American males they encountered. In one incident, sailors dragged two zoot suiters on-stage as a film was being screened, stripped them in front of the audience, and then urinated on their suits. Although police accompanied the rioting servicemen and civilians, they had orders not to arrest any, and some of them joined in the rioting. After several days, more than 150 people had been injured, and the police had arrested more than 500 Latino civilians on charges ranging from 'rioting' to 'vagrancy.'

A witness to the attacks, journalist Carey McWilliams wrote,

Marching through the streets of downtown Los Angeles, a mob of several thousand soldiers, sailors, and civilians, proceeded to beat up every zoot suiter they could find. Pushing its way into the important motion picture theaters, the mob ordered the management to turn on the house lights and then ran up and down the aisles dragging Mexicans out of their seats. Streetcars were halted while Mexicans, and some Filipinos and Negroes, were jerked from their seats, pushed into the streets and beaten with a sadistic frenzy.

The local press lauded the attacks, describing them as having a ‘cleansing effect’ to rid Los Angeles of ‘miscreants’ and ‘hoodlums.’ As the riots progressed, the media reported the arrest of Amelia Venegas, a female zoot suiter charged with carrying a brass knuckleduster. While the revelation of female pachucos’ (pachucas) involvement in the riots led to frequent coverage of the activities of female pachuca gangs, the media suppressed any mention of the white mobs that were also involved.

The Los Angeles City Council approved a resolution criminalizing the wearing of ‘zoot suits with reat [sic] pleats within the city limits of LA.’ Councilman Norris Nelson had stated, ‘The zoot suit has become a badge of hoodlumism.’ No ordinance was approved by the City Council or signed into law by the Mayor, but the council encouraged the WPB to take steps ‘to curb illegal production of men’s clothing in violation of WPB limitation orders.’ While the servicemen and civilians had first targeted only pachucos, they also attacked African Americans in zoot suits who lived in the Central Avenue corridor area. The Navy and Marine Corps command staffs intervened on June 8 to reduce the attacks, confining sailors and Marines to barracks and ordering that Los Angeles be declared off-limits to all military personnel; this was enforced by Navy Shore Patrol personnel. Their official position was that their men were acting in self-defense.” – from Wikipedia article, “Zoot Suit Riots,” captured September 5, 2019.

² Commentary & Citation: The short movie *Dead Faith* (2018), among many possible interpretations, seems to be an allegory of the Black Death and medieval faith vs. renaissance humanism. The movie title is a double entendre, which is also used several times in the dialogue, in that the main character’s wife, Faith, is slowly being turned into a zombie. The zombies in the movie don’t seem overly dangerous except that they are infectious, while the real danger is the main character, a staunchly religious Bible-quoting end-of-the-world Christian living in an isolated backwoods home. His faith turns morbid, he dies of the results of his sins from smug self-righteousness – he shot the sheriff in the back and a deputy sitting in the vehicle after pretending to surrender. He had apparently come to the belief that the zombies were God’s chosen who would be redeemed and resurrected at the end of the world, and he allows his infected, turned zombie wife Faith, to fatally bite him.

³ Commentary & Citation: This account is found on internet sites without attributing an author. Searching, I found this same quote in three different books on Google Books: Howard B. Radest, *Bioethics: Catastrophic Events in a Time of Terror* (2009), p. 99, Paul F. Ploutz, *Global Warming: Handbook of Ecological Issues* (2012), p. 38, and Tom Davis, *Red Letters: Living a Faith That Bleeds* (2007), pp. 68-69.

- ✓ Howard B. Radest includes it in three paragraphs quoted from a CDC (Centers for Disease Control) FAQ from 2005 (Note 2). Tom Davis also has a citation, but the notes are not available on Google Books.
- ✓ The CDC issues many FAQs and media releases each year and I was unable to locate the referenced CDC FAQ via Google Search. However, the alleged eyewitness quote does not stand out as anything awry or unexpected in the context of all of the other knowledge and consensus regarding the Black Death’s effects.

⁴ Citation: “Buried under the froth is the fact, and the fact is that less than one half of one percent of policemen misfit that uniform, and that is a better average than you’d find among clergymen.” – Paul Harvey, “What is a Policeman?”

⁵ Commentary: The concept of “feudalism” and “feudal society” is a 19th Century invention – the first known use of “feudalism” occurs in 1818 according to Merriam-Webster online dictionary – applied retroactively to describe the society of the Middle Ages – another invented and retroactively applied term from the Renaissance. None of the terms we use now would have been known to or current to the people of the ‘Middle Ages.’ History is always a retroactive interpretation.

⁶ Citation: See, Brian Handwerk, “Plague was infecting humans 3,300 years earlier than thought,” *Smithsonian.com*, October 22, 2015.

⁷ Commentary & Citation: Perhaps this is a somewhat similar phenomenon:

- ✓ “But the motives behind and iterations of Nazi symbolism in Asian fashion, where [Laura] Kidd [Southern Illinois University at Carbondale] says Nazi chic is growing much faster than it is in Western markets, are different – there’s less cultural baggage attached to Hitler, and wearing a swastika around is less inherently shocking. ... One reason Hitler’s reputation might not be fully realized in this corner of the world is simply due to the geographical and emotional distance between South Asia and the atrocities of World War II. These were horrors in a distant land – most people in South Asia had no real connection with the Holocaust and other atrocities, giving it less cultural impact.” – Mark Hay, “Nazi Chic: The Asian Fashion Craze That Just Won’t Die,” *Vice*, February 12, 2015.

For example, in Southeast Asia, there is no Imperial Japanese Army chic fashion craze; there it might be found as offensive as we find Nazi chic. Thus, Nazi Germany is a big stomach-ache that Asia never experienced.

- ✓ “In other words, there’s an instinct not to throw baby Hitler out with the bathwater. Evil? Sure, but he lifted Germany into one of the world’s most powerful countries in just a decade. And it’s easier to narrow the focus onto Hitler’s leadership qualities when even school curriculums glaze over his role in World War II. ‘In our high schools, we learn about Hitler, but they don’t teach us about the Holocaust,’ said Pramod Jaiswal, a Nepali university student studying at Jawaharlal Nehru University in New Delhi. ‘Teachers only teach how he was a good leader for German development. I had a friend from Belgium and I told her Hitler was good for Germany and she started crying. I was really shocked.’” *Id.*

⁸ Citation: Wikipedia page on Disruptions citing Clause 2.13 BS 25999-1 Business continuity management (<http://shop.bsigroup.com/en/ProductDetail/?pid=00000000030157563>), British Standards Institute

⁹ Citation: Juin-Lung Huang, Doctoral Thesis, St. Andrews University, 2008 (available free online at St. Andrews Research Repository).

¹⁰ Citation: Josiah Ober, “Socrates and democratic Athens: The story of the trial in its historical and legal contexts,” Princeton/Stanford Working Papers in Classics, July 2006 (available free online).

¹¹ Commentary: Although this text was written some years ago, in early 2018, I left my employment of over twelve years in part because bad stuff was going on at work and nothing was going to change unless there were consequences. I also didn’t feel right about my job and it was affecting me; I needed to go do something else. After I resigned my employment, management was left with a big problem and I know some changes were made shortly.

¹² Commentary: In the spring of 2020, I discovered your YouTube a J-group called Babymetal. Babymetal’s performance is a cultural-cognitive dissonance for a Western male viewer. It is a mix of metal guitar with J-Pop Kawaii. It struck me as very strange, metal is not cute, metal music is born of angst and we like our dark angst very much!

¹³ Commentary & Citation: Bobby Darin’s “Mack the Knife” (1958) inflicts a cognitive dissonance on the attentive listener: It describes in fairly gruesome detail the exploits of a local murderous underworld thug sung in a happy upbeat big band swing style with big band background music. One feels like they are supposed to be cheering for this guy, happy that he is back! Dance everyone!

¹⁴ Commentary: If I ever need to be angry at the universe, I will play a game of Hashira, a most unfair Tetris-like falling tile game; I never end a game without feeling that I have just been ‘screwed’ by the computer and that it could not have been random chance. There is never a good ending in Hashira, and the program is designed to insure such, no matter what my final score, even if it makes the Hall of Fame, it is not a satisfactory end. Yet I continue to play? But on the other hand, if Hashira was a fair game, it would never end, and I would be stuck to my seat forever eliminating falling tiles. Still, is this a valid reason to make a computer game that blatantly cheats? Games can be made unfair without cheating by the computer; besides, if I play long enough, I will make a mistake, so the game would not go on forever anyway. It is all the more galling when the computer cheats too.

- ✓ Human video games are designed precisely for this purpose – in the beginning back in my youth, games were unfair to keep players pumping quarters into the machines (and I did much of that! Star Castle, Galaxian, Defender, Space Invaders, Missile Command...) – but they persist in the same design paradigm because it fits both our sense of life and the universe, and our sense of accomplishment. Are we as human players engaging in confirmation bias? Is the secret to immortality then the elimination of all of the unfairness in our lives; is death an unfairness? Would you want to be alive forever eliminating falling tile sets or running repeatedly through the corridors of a first-person shooter?

- ✓ See further discussion of Hashira in 1 Culture, EN 2, p. 359, and Diagonal Play, 2 Eras, p. 770, *infra*.

¹⁵ Commentary: Wow, this was a strange one. While reading the history page for Sciences Po, I saw a mention of the student strikes in May 1968. Later, while watching television, I was kind of bored and started playing around with the Google lookup on my phone. I decided to see how good it was, so I voiced “Paris student strike May 1968.” Google bombed on that one; I think I received a “sorry, something went terribly wrong” response a few minutes later. About two days later, when I had nearly forgotten about it and moved on from the Sciences Po subject, suddenly I received a message on my phone from Google in response, showing the Wikipedia article, “May 1968 events in France.” I, of course, do not remember those events, I was less than a year old then, nor have I heard very much about them in my half century in the United States. I am sure that France talks much about it internally – it is considered a crucial moment in French society – but doesn’t mention it often to the rest of the world.

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See Appendix DE&A – Disruption Events, Inactive Constructural Elements & Apostasy
See Appendix IP – Interventions Reference Sheet

“There cannot a greater judgment befall a country than such a dreadful spirit of division as rends a government into two distinct people, and makes them greater strangers and more averse to one another, than if they were actually two different nations. The effects of such a division are pernicious to the last degree, not only with regard to those advantages which they give the common enemy, but to those private evils which they produce in the heart of almost every particular person.

This influence is very fatal both to men’s morals and their understandings; it sinks the virtue of a nation, and not only so, but destroys even common sense. A furious party-spirit, when it rages in its full violence, exerts itself in civil war and bloodshed; and when it is under its greatest restraints, naturally breaks out in falsehood, detraction, calumny, and a partial administration of justice. In a word, it fills a nation with spleen and rancour, and extinguishes all the seeds of good-nature, compassion, and humanity.”

– Joseph Addison, “Mischief of Party Spirit” (1711)¹

Déjà vu News: If Addison seems prescient of the 21st Century, it is because ... um ... this has all happened before. And this has all happened before, and before...and again.

- ✓ “Unlike in the past, where we were unified and drew in allies, currently our own commons seems to be breaking apart. What concerns me most as a military man is not our external adversaries; it is our internal divisiveness. We are dividing into hostile tribes cheering against each other, fueled by emotion and a mutual disdain that jeopardizes our future, instead of rediscovering our common ground and finding solutions.” – Gen. Jim Mattis (USMC Ret.) op-ed, “Jim Mattis: Duty, Democracy and the Threat of Tribalism,” Wall Street Journal, August 28, 2019.

But since most people will not read non-fiction written before they were born – and perhaps that is the mark of a scholar, reading works written before the century in which you were born – it is up to entertainers, journalist and op-ed commentators to recast the observations of the past into current terms, usually without reference to past writers, so that the audience is *surreptitiously educated* by those who have read some works of the past or have greater knowledge of the subject, while seeming to receive timely and insightful commentary and opinion on current events.

- ✓ “To save endless time wading through the contemporary novels to see which ones are any good, I just read dead writers.” – Annie Dillard quoted by Lawrence Malcolm, “Lunch with Annie Dillard,” April 30, 1982 (free online).

“Turning and turning in the widening gyre; The falcon cannot hear the falconer; Things fall apart; the centre cannot hold; Mere anarchy is loosed upon the world, The blood-dimmed tide is loosed, and everywhere; The ceremony of innocence is drowned; The best lack all conviction, while the worst, Are full of passionate intensity.” – William Butler Yeats, “The Second Coming” (1919)²

When the Center Cannot Hold: There are four elements to societal or general systems collapse within the game:

1. Inability to generate Acts and/or Scenes due to failure of Government legitimacy.

2. Inability to form Fuzzy Groups due to inactive Constructural Elements.
3. Loss or disability of Colleges due to physical loss of Host Worlds, inability to replenish Endowments, and/or loss of Constructural Elements.
4. Disruption of resources – resources cannot be used (due to loss of shipyards for example, or in ability to activate vital powers), cannot be moved (loss of trade), or are not being produced (loss of population/industry and or inability to invoke Taxation).

Which translate as:

1. Failure/inability of the government to act,³ loss of acceptance of remote authority.
2. Lack of will and proficiency to operate civil institutions.
3. Loss or disability of the intelligentsia and/or loss of professionalism and scholarship.⁴
4. Inability to produce, obtain, use, protect, transport and/or manage resources.⁵

The interactive occurrence of these four events is the fall of a civilization. Arguably all civilizations, or at least the modern Western societies, are always in some state of low-level societal collapse; modern Western civilizations seem to be constantly churning.

- ✓ “When the Americans act that way, when the Americans start talking like that, it sends signals to everybody. *The center isn’t holding*. The Americans are expected to be better than this. We don’t talk this way, in the same way we don’t expect the South Koreans to talk the same way as the North Koreans do. We expect more from democracies, we expect more from liberal countries.” – Herman Wong, “Why Trump’s North Korea Warnings were unnecessary, scary and irresponsible,” Washington Post, August 9, 2017 (emphasis added).
- **Four Pillars:** Prosperity, technology, nationalism and acceptance of remote authority are the four pillars of the modern Western state that has allowed the development of nation-states of unprecedented size, power and complexity across the Northern Hemisphere in the 20th Century and beyond. *They will be even more important to interstellar states*. The lack of these four (even in small measure) would cause modern Western states to fragment into feuding regional powers in possession of an arsenal of lethal modern weapons (frequently as a result of global nuclear war or other catastrophe). The lack of these four, in the current world, has contributed to weak, corrupt, or non-existent central authority in the poorer states formed in the 20th Century from colonial empires, especially in areas where tribalism prevails.⁶
 - ✓ Acceptance of remote authority is the opposite of factionalism. This is key when dealing with tribes and with groups like the Taliban. The problem was on full display in 2019 when the U.S. had been secretly negotiating with the Taliban in Afghanistan. There were people on all sides who didn’t like the idea, the proposed peace outline, or the proposed withdrawal of U.S. troops. Many were shocked or offended that the Taliban leadership had been provisionally invited to Camp David, as if they were equals and had international standing. Those within the governments kept quiet because it was not their place to speak or act against the authority of their employers, but on the other side, someone set off a car bomb at a check point in Afghanistan that killed a U.S. soldier and civilians. This caused President Trump in his usual bombastic manner, to cancel the peace process; the practical reality is that we cannot be sure who is really in charge on the other side, and there appears to be no one who can impose their authority. The problem with the Taliban is that no matter what the central

‘leadership’ group thinks or tries to do, there are splinters, factions, and dissenters who cannot ‘turn it off,’ have unrealistic, uncompromising and radical ideals of what could constitute victory, and will not accept any end to the conflict regardless.

- This attitude throughout history is probably what prompted the saying, ‘live by the sword, die by the sword.’
- As has been demonstrated with the IRA (Irish Republican Army) and the troubles in Northern Ireland, these processes require multigenerational time to wear themselves out, lose momentum and appeal, and wind down to a point where dialogue might constructively solve the remaining issues.

➤ Civil Wars: When two or more antagonistic authorities exist within a state and each commands the remote obedience of a part of the *regular armed forces*, the elites, bureaucratic and police-security forces and/or the population, conditions are ripe for a civil war. A civil war cannot occur *without a major split in the regular armed forces of a country*; any other condition is a local uprising or insurgency, and usually labeled criminal activity by the authorities. Racial agitators on both sides claiming there is going to be a ‘civil war’ are thus ignorant or deluded, because such would require a split in the regular U.S. armed forces.⁷

✓ “Brothers killing brothers casts a spell that never ends.” – Dave Mathews, “The Road to Gettysburg,” *Shades of Blue & Gray*.⁸

- The largest number of military casualties in a single day suffered by the United States was self-inflicted at the Battle of Antietam (1862). The U.S. suffered more casualties in the Civil War than in WWII.

The English, American and Syrian Civil Wars were such splits. A civil war is more likely to be a symmetrical conflict whereas uprisings, revolts, insurgencies are asymmetrical conflicts.

✓ “As the war enters its fifth year, the barrel bomb has become the most notorious weapon in the regime’s arsenal. Two or three years ago, I saw the results of what must have been one in Douma, a suburb of Damascus that has been held by rebels since close to the beginning of the war. Mr. Assad insisted that the Syrian army would never use them in a place where people lived. ‘I know about the army. They use bullets, missiles and bombs. I haven’t heard of the army using barrels, or maybe, cooking pots.’ It was a flippant response; the mention of cooking pots was either callousness, an awkward attempt at humour, or a sign that Mr. Assad has become so disconnected from what is happening that he feels overwhelmed.” – “Assad says Syria is informed on anti-IS air campaign,” analysis by Jeremy Bowen, BBC Middle East Editor, BBC News, February 10, 2015.

Civil Wars come in different flavors, but share the same traits generally; Rome’s civil wars (of succession) were not of the same character as the American and English Civil Wars. The famed slave uprising led by Spartacus was revolt and not a civil war. As history records in infinite multitudes, civil strife (or succession-legitimacy disputes) combined with foreign invasion is the most potent of all brews:

✓ “The assassination [of John the Fearless, Duke of Burgundy at Montereau Bridge in 1419] marked the end of any attempt of a reconciliation between the two factions Armagnacs [House of Valois-Orleans] and Burgundians [House of Valois-Burgundy], thus playing into the hands of Henry V of England. ... [Note: These two factions had

long been in armed strife for control of the throne (1407-1435), John the Fearless had assassinated Louis, Duke of Orleans in Paris in 1407] ... At the death of [Charles VII's] father, Charles VI, the succession was cast into doubt. The Treaty of Troyes, signed by Charles VI in 1420, mandated that the throne pass to the infant King Henry VI of England, the son of the recently deceased Henry V and Catherine of Valois, daughter of Charles VI; however, Frenchmen loyal to the king of France regarded the treaty as invalid on grounds of coercion and Charles VI's diminished mental capacity. For those who did not recognize the treaty and believed the Dauphin Charles to be of legitimate birth [it was rumored that Louis, Duke of Orleans was his father], he was considered to be the rightful heir to the throne. For those who did not recognize his legitimacy, the rightful heir was recognized as Charles, Duke of Orléans, cousin of the Dauphin, who was in English captivity. Only the supporters of Henry VI and the Dauphin Charles were able to enlist sufficient military force to press effectively for their candidates. The English, already in control of northern France, were able to enforce the claim of their king in the regions of France that they occupied. Northern France, including Paris, was thus ruled by an English regent, Henry V's brother, John of Lancaster, 1st Duke of Bedford, based in Normandy.” – from Wikipedia article, “Charles VII of France,” captured October 21, 2019.⁹

And then the Concierge used an Intervention Potential and Joan of Arc arrived in Chinon.

- Inherent Failure: A question to ponder. Would we have survived the Cold War if the Soviet Union had not *collapsed*? Would we have survived the Cold War if Western strategists had not seen that the Soviet system would eventually fail (and as George Kennan pointed out, the Soviets were in no hurry as they believed their triumph inevitable) and designed a plan of containment of Soviet expansion until that time?
 - ✓ The Soviets began at a huge disadvantage. The allies controlled three of the four major industrial centers at the end of WWII: Japan, The United States, and Western Europe along with the oil in the Middle East and naval superiority along with probable air superiority. The Soviets spent more of their GDP supporting a huge army and supported a navy, air and missile forces sufficient to give NATO short term problems in case of war, but they were never able to convert that into gains. Over time, the industrial and technological disparity with the West more than offset their ground force.

How do you think the Cold War plays out if the Soviets had worked out a better system or if the West were not an economic-industrial-technological-military bulwark? Would the world have survived the Cold War if there were no Sino-Soviet split? It seems that we may have survived the Cold War *because of the failure and inequity of our systems* and the marginal foresight and restraint of our leaders. We survived the Cold War in spite of ourselves, not because of ourselves. This simple realization is the first step. It started with breaking the historical feedback cycle in October 1962.

- ✓ “Self-preservation is not a bad foundation for victory...” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 454.

“A society has collapsed when it displays a rapid, significant loss of an established level of sociopolitical complexity.”

– Joseph Tainter, *The Collapse of Complex Societies* (1988), p. 17

Diminishing Returns: Dr. Joseph Tainter is a professor at Utah State University and is the pioneer of General Systems Collapse Theory, of which societal complexity, problem solving, and diminishing returns for the energy expended are the main culprits of societal collapse. **GGDM may be Exhibit A for your inspection:** every aspect of civilization simulated, every problem or issue solved in the pursuit of simulation, plus the years of living and exposure to new ideas, has produced a macrosocial game that pushes the absolute bounds of complexity in simulations, and has probably reached the point of diminishing returns for both the designer and players.

- ✓ If GGDM were ever considered a social theory or even a set of social generalizations, Thorngate’s Postulate would have something similar to say about it: “It is impossible for a theory of social behaviour to be simultaneously general, simple or parsimonious, and accurate.” See also *Time After Time*, 2 Information, p. 1351, *infra*.

Why Not?: “Why not” is the most important question civilization must answer to keep order from top to bottom, from personal and informal relationships, etiquette to formal legal, government, and business proceedings. It is functionally equivalent to *Camus’ question about suicide*.

- ✓ For example, in 1867-1868, there was a widely disruptive, social/political movement in Japan called *ee ja nai ka* – which translates as “why not,” “what the hell,” or “who cares”? In a country then very strictly governed by defined social order, fatalistic codes of honor (e.g., 47 Ronin), oppressive etiquette, customs, from top to bottom, birth to death, and ruled by a failing xenophobic, isolationist, militaristic feudal government (shogunate), the youth asking *ee ja nai ka* of their elders was the ultimate protest. Reputedly, they danced, drank, sang, partied, had promiscuous sex, cross dressed, went naked in the streets, and eventually turned to mob violence, practically abandoning their former daily lives from the summer of 1867 to the spring of 1868. Eventually, the youth sort of discovered the answer to “why not” on their own, and order was restored by the new Meiji government. Does any of this sound familiar?

The answers to the Why Not question are what causes many people to feel imprisoned by civilization; e.g., why not do whatever I feel like, why not go back to sleep, why not get a college degree in Tudor Era Scottish Literature instead of Computer Programming, why not steal, why not murder, why not grow long hair, why not move to another country, why not insult whomever offends me, why not hit my mother if she says something I don’t like? Why Not? is the question of counterculture and political instability, the more repressed a culture, the more explosively it bursts forth into the daylight whenever there is a crack in The Wall. Fortunately, Why Not is a much easier question to answer than “why” (though it sometimes takes awhile); when Why Not? can be answered and the answer is accepted, there is order in civilization, when it cannot, there is counterculture and cultural-political anarchy.

- ✓ If you ask me why I am awake, I cannot say, my answer would probably address why I am not asleep. I can’t get to sleep, I have already slept, or I am not tired; all answers to why I am not asleep. The question works even less when you ask, why do I exist? Not why am I alive, but why do I exist. “Screams of no reply...” – Aerosmith.

The Why Not question significantly overlaps with what are called Ethics, whether they be Confucian or Greek or Judeo-Christian or Hindu – all are ancient and enduring – but I don't think of the Why Not question is being exactly the same, exactly on the same level. Perhaps it is the sociological equivalent of ethical questions?

- **Fed Up Friends:** The Why Not question is the force for change in social outlook and behaviors. To the extent that we feel that people now are less polite, rude, inconsiderate of others, uncouth, low-brow, impatient, shallow, materialistic, frustrated, obscene, etc. on social media or in life, it is because they have not answered the question Why Not be that way or have answered it differently than in times past. The answer evolves slightly this way or that, pushed along by experiences and changing attitudes. Consider the differences in mannerisms:
 - ✓ “[Jack] Barsky [alias, born Albrecht Dittrich] discovered that the people who trained him did not have an authentic understanding of Americans, and he struggled at first with his assignment. ... He also learned that while his English was excellent, he was very pushy and argumentative when dealing with people. He was shocked when he was confronted with this fact by a fed-up friend. He realized that he was essentially too East German to fit in.” – from Wikipedia article, “Jack Barsky,” June 29, 2019.

That was in 1978-1979, before the anonymity of the internet, before social media and a whole lot of other things that happened. Before the world got ‘connected.’ The question is, would the same be true today? In eastern Germany or in the United States? The Jack Barsky types, cloaked in anonymity, rule the internet and social media, but personal mannerisms, face to face are usually not the same – most people would get punched in the mouth if they acted the same in person as they do online.

*“There is unrest in the forest,
There is trouble with the trees,
For the maples want more sunlight,
And the oaks ignore their pleas ...
Now there's no more oak oppression,
For they passed a noble law,
And the trees are all kept equal,
By hatchet, axe, and saw.”*

– Rush, “The Trees” (1978)

Trouble in the Trees: When a Social or Estate Government Title fails all Conflict Checks, it has lost legitimacy (see Foreclosure of a Dream, 3 Government Titles, p. 615, *infra*). The Government Title then becomes disrupted and no longer functions for the position. Failure of Legitimacy is considered a Disruption Event that will cost the position an Intervention Potential Plus.

- ✓ “Traditionally, presidencies see declining levels of talent as they age. The most talented appointees burn out (and cash in) and are replaced by the B team. But the administration started in a worse place than many of its predecessors. Many Republicans who would normally have been eager to serve under a Republican president hung back when Trump took office. Nothing that has happened since Trump has been in office has made people more willing to serve. More Republicans are sorry they accepted an opportunity to work for Trump than are sorry they turned one

down.” – Ramesh Ponnuru, “Trump’s Vow to Hire the ‘Best People’ Isn’t Panning Out,” Bloomberg, February 14, 2018.

- **Changing of the Gardner:** Each Regular Turn that a Social or Estate Title is disrupted generates an Intervention Potential Plus attached to that position. Further, each turn in which a voluntary or involuntary change of Government Titles occurs or is in process, an Intervention Potential Plus attaches to that position. Participants *may choose* to limit this to one per turn.

“When in the course of human Events, it becomes necessary for one People to dissolve the Political Bands which have connected them with another, and to assume among the Powers of the Earth, the separate and equal Station to which the Laws of Nature and of Nature’s God entitle them, a decent Respect to the Opinions of Mankind requires that they should declare the causes which impel them to the Separation.”

– United States Declaration of Independence, July 4, 1776

Religious Recitals: Lessons such as the story of Abraham or the preamble to the Declaration of Independence (recited like a religious passage¹⁰) become bland and lose meaning by repetition generation after generation (see CHILDREN’S GOD, 4 Fallen to Earth, p. 1562, *infra*); there is an insult hidden in the Declaration (i.e. the entire second paragraph) which is missed because it is taught without intellectual context (see self-evident discussion, 1 Beginnings, p. 24, *supra*).

And herein lies the conundrum of modern primary education; that is, that facts are shoved into preadolescent minds and that the measure of educational value at that level is the ability to test well on memorization of facts (e.g., think of the tests you took in school for history class, etc.) rather than understanding (understanding has an emotional element in terms of engagement with the subject). What makes this the Gordian knot is that a basis of facts are required for later understanding, and that preadolescent minds are best at facts and slow to understand. It is thus that each generation must have new writings and new expressions of their own understandings, citing in part to works of previous generations.

What is old is no longer new, enculturation makes ideas, words and phrases like year-old bread. Great success quickly wears away the sharp wit of the new, this is not limited to words alone, consider the following:

- ✓ “All the talentless impersonators and appalling black velvet paintings on display can make him seem little more than a perverse and distant memory. But before Elvis was camp, he was its opposite: a genuine cultural force.... Elvis’s breakthroughs are underappreciated because in this rock-and-roll age, his hard-rocking music and sultry style have triumphed so completely.” – New York Times Archives, “Long Live the King,” August 16, 2002 (article is now hidden behind a subscription wall).

Rousing the Rabble: Unsurprisingly, the main source of Disruption Events is population. Disruption Events in GGDM are only normally caused by or applied population on colonies (and Government Titles). A Disruption Event occurs:

- ✓ Whenever population is removed from or added to an existing colony (either voluntarily or involuntarily, excluding the initial Landing of Colony Ships to establish the colony, see Sardine Tins, 3 Expansion, p. 911, *et. seq., infra*) or colonized planet,

- ✓ Whenever population is alarmed or in fear for their lives,
- ✓ Whenever population is lost by any destructive or non-destructive means (for example, population lost due to exceeding the Maximum Habitability of the colony planet, see Dayworld, 3 Taxation & Census, p. 315, *infra*), and/or
- ✓ Whenever a colony or colony ships are captured or destroyed (see Planet Narn, 3 Taxation & Census, p. 316, and Combat generally, *infra*).

Any of these Disruption Events may result in inactivation of Constructural Elements (that is, it is considered a Disruption Event regardless of whether any Constructural Elements are inactivated as a result), plus secondary effects, and generation of a single Intervention Potential Plus (IP+) for the event. Each Disruption Event can only occur at each colony once per Turn Cycle (see definition in Buzzing Lightyears, 4 The Streams of Time, p. 101, *supra*); that is, the time from the owner's last Regular Turn to the end of the owner's current Regular Turn.

- ✓ For the effects of inactivation of Constructural Elements, see 2 Constructural Elements, pp. 190, 193, *supra*.

A Besieged Colony's Constructural Elements cannot be effected by the blockading warships during a Turn Cycle where the colony began besieged (see Besieged Colonies, 3 The Sidereal Stage, p. 124, *supra*), however, the besieged colony can suffer a *Disruption Event* as a result of the loss of a Ship to Ship combat on the same Regular Turn it becomes besieged; additionally, a colony that begins the Turn Cycle besieged may be affected by *other Disruption Events* resulting in the loss of population, industry and such from Raids/Strikes (see World in Flames, 4 Carriers & Fighters, pp. 1083-1088, *infra*), Special Operations Black-ops (see 2 Special Operations, p. 1297, *infra*) and so forth. A colony that has a current, ongoing Ground Combat situation is not a besieged colony. A Besieged Colony can also be affected by Concierge use of Interventions (in fact, that's half the fun of it!☺).

- Interesting Times: Whenever a Disruption Event occurs at a colony, at the moment of the Disruption, one check is made for each active Epistemological, Symbolic and Ideological Constructural Element (Temporal Constructural Elements are not checked). The check is always made in the form of a percentage chance that each *active* Constructural Element will become *inactive* at the site of the Disruption Event (sorry, it never works the other way!).
 - ✓ The percentage is calculated as a base percentage ('chance'), which varies by situation, plus 3% per Government Title over three (that is, plus 3% for four Titles and plus 6% for five Titles) regardless of the Title's current status.
 - ✓ Additionally, 5% is added per currently disrupted Government Title.
 - ✓ Finally, 2% is added if the position had any Disruption Event the previous Turn Cycle and 8% is added if the same colony had a Disruption Event the previous Turn Cycle.

Constructural Elements may also be inactivated by adverse News Events, *which is not a Disruption Event*. This is, as mentioned previously in Keep the Sand in the Sandbox, 2 Dreamtime, p. 147, *supra*, self-policing, in that if positions constantly target Constructural Elements as the effects of adverse News Events, the game will grind to a halt or will suffer creeping paralysis, lurching and stopping, because of Power Activation failures and positions spending their actions and resources Cohering (see 5 Culture, p. 421, *infra*) every Regular Turn.

- Highschool Friends: On any Regular Turn in which at least one population factor is Loaded from a colony to Colony Ships (see Sardine Tins, 3 Expansion, p. 911, *infra*), the base

chance of disruption is 2%. This applies no matter how much population are Loaded to Colony Ships. Additionally, population Loaded to Colony Ships carry with them the current activated Constructural Elements of their origin world.

- The New Neighbors: On any Regular Turn in which population is Unloaded onto an existing colony of the same Native Population Type (see Opening the Can Of..., 3 Expansion, p. 914, *infra*), the base chance of disruption is 5%. This check is made only for the largest population group, which is either the population of the existing colony before the Unloading or the population of the Colony Ships. The final active Constructural Elements of the largest population group will become the active Constructural Elements of the final combined colony population.
 - ✓ For historical discussion, see The Great Drama, 1 Expansion, p. 880, *infra*.
- Forced Balkanization: Any time population is Landed from Colony Ships onto a planet which has an existing colony of a different Native Population Type (see Balkanized Colony Planets, 2 Order, p. 541 and Survival & Ethical Dilemmas, 4 Expansion, p. 923, *infra*), no matter who owns the preexisting colony(s), a check must be made for each colony on the planet and for the newly-landed colony.
 - ✓ The Diaspora, The Exodus to Palestine, the English Protestant colonization of Northern Ireland are some historical examples of the many hundreds of forced colonizations and forced or unforced mass emigrations (such as the arrival of the Huns in Western Europe). All have led to ‘troubles’ for decades or centuries afterward.
 - See The Great Drama, 1 Expansion, p., 880, *infra*, for additional discussion of the Hunnic migration.

This becomes a Disruption Event for all positions that own colonies on the planet (thus forcing IP+ assessments against others). If the other positions gave permission for the Landing beforehand (this should have been communicated to the Concierge previous to the Landing), the base chance of disruption is 4%; if the Landing is *hostile* (like your dad when you ‘barrow’ his car without asking) the base chance of disruption is 8%. Afterward, the separate colonies *do not share or combine* active Constructural Elements; to each his own grumbles.

Forced Balkanization only applies to Landing colony ships on the surface of the planet; moving alien population from into Orbital Cities does not trigger a Disruption Event.

- Peaches for Mad Molly: On any turn in which a Census occurs and population growth is lost at a sovereign colony *on the planet surface* as a result of the population exceeding the colony planet’s current Maximum Habitability, the base chance of disruption is 3%.
 - ✓ In any instance in which population on the surface colony is lost due to reduction in the planet’s Maximum Habitability *without* a reduction in Habitability Class, the base chance of disruption is 5%.
 - ✓ In any instance in which a reduction of Habitability Class occurred *with or without* a reduction in Maximum Habitability, the base chance of disruption is 8%.
 - ✓ If both occurred at same time, the base chance is 15%.

The cause of the Disruption Event here is irrelevant, but *multiple Disruption Event checks of different kinds can occur* if the reduction was a result of hostile actions.

- ✓ “Peaches for Mad Molly” is the classic 1988 sci-fi story of global overpopulation by Steve Gould.
- ✓ “Relatively few observers pinpointed the inherent dangers of dramatic population growth until English economist and social critic Thomas Malthus (1766-1834) published his *Essay on Populations* in 1798. Malthus was among the first to make a mathematical correlation between food supply and demographic expansion.... Nineteenth century so-called progressive theoreticians built their own implications on to Malthus’ findings. They believed that the best way to avoid future universal calamity was by keeping the poor at subsistence levels. Let nature take its course and seize the weak. Between 1715 and 1789, however, a few west-European regions seem to have taken voluntary steps to avoid the Malthusian peril. The Dutch Netherlands were commercially rich and urban; Denmark was agriculturally rich and rural....

Within larger states, certain well-to-do provinces grew less rapidly than others. The reasons were neither high mortality nor fears of catastrophe. These regions had no agricultural frontier and were not industrializing rapidly. While opportunities were limited, residents lived well enough. They appear to have instituted family planning in order to keep things that way.” – Raymond Birn, *Crisis, Absolutism, Revolution: Europe 1648 to 1789* (2nd Ed., 1992), p. 205.

- Vesta and Tellus: In each instance in which populations perish due to the destruction of Colony Ships by any means (excluding Landing), a Disruption Check is made at the colony from whence the population *originated*. ‘Instance’ is always at the judgment of the Concierge...
 - ✓ The base chance of disruption is 2% if the cause of the destruction is unknown at the time of the Disruption Event, or 4% if the colonist are known to have been destroyed by aliens (the Concierge may have to make a determination on this).
 - ✓ Additionally, if an Orbital City or Orbital Shipyard is destroyed, each colony on the planet below must make a Disruption Check with a base chance of 3% if the population type of the Orbital Platform was not the same as the population type of the colony, or 10% if the population type was the same as the population type of the colony on the planet below. Shipyards have the population type of their owner.
- Mars Bombing Run: Each time surface population of a colony is killed /destroyed by hostile action (including Special Operations Black-ops and Looting), a Disruption Check must be made on that colony. In Orbital Bombardment one check is made for each ship.
 - ✓ The base chance of disruption is 15% or the percentage of the colony’s total population (as of the start of the turn) that was destroyed that instance, whichever is greater. If ten population factors were killed out of a starting population of 20, the base chance of disruption of each active Constructural Element would be 50% (collapse).

This scenario could easily generate multiple Disruption Events on a single colony in a situation if, for example, the colony planet also lost Habitability Class as well.

In situations where the entire colony is in Orbital Cities, or where the population in Orbital Cities greatly exceeds the population on the surface, the Concierge may find this a more appropriate disruption check for loss of orbital population than the one detailed in the Vesta and Tellus section, *ut supra*.

- ✓ [Calvin screaming] “Ahhhhhhhhhhhh!” [then calmly] “This has been a test of the Emergency Broadcast System. Had this been an actual emergency, we would have fled in terror and you would not have been informed.” – Calvin & Hobbs (comic).
- The Burning Sky: The base chance of disruption of Constructural Elements in any instance in which the owner of the colony retreated from or was eliminated in Ship Combat (including non-warships, except Scouts) in the system where the colony is located, is 10%.
 - ✓ If all colony Defense Bases were eliminated in Colony Combat or if alien warships arrived recently and the colony has no Defense Bases, the base chance of inactivation of each Constructural Element is 20%.
 - ✓ If the Ship or Colony Combat was a First Contact (see Bump in the Night, 1 Diplomacy, p. 1099, *infra*), 5% is added to the base.

In either situation, the enemy is left in control – whether or not they remain present – of the system space and/or orbital space around the colony. It is possible that a single colony may be subjected to both sorts of Disruption Events if the owner lost both a Ship Combat and Colony Combat in the same Turn Cycle (see Panic Bells, It’s Red Alert, 2 Combat, p. 960, *infra*). Additionally, other Disruption events may affect the colony if Ground Combat was fought, populations were killed or industry destroyed in the same Turn Cycle.

- ✓ Probing defense does not count as a Ship Combat, regardless of results, and thus cannot cause a Disruption Event at the target colony (see Alien Probes, 2 Information, p. 1346, *infra*).
- Downfall: The base chance for inactivation of each Constructural Element *at the end of* any Regular Turn in which there is an ongoing Ground Combat at the colony, is 20%.
 - ✓ If at the end of the turn processing, the enemy/invader force is larger than the defending ground forces (i.e. ‘we’re losing’), 5% is added to each chance of disruption.
 - ✓ If the total RP value of the invading forces (including fighters) exceeds one-third of the RPs that the colony would generate in Taxation as of the end of the turn, an additional 8% modifier is added to the base chance; both modifiers could apply to the same check in the same Regular Turn.
 - ✓ If any industry or a technological device was destroyed during the Ground Combat since the previous Regular Turn, add 10% to the base chance of disruption.
 - ✓ If the defending ground force is larger than the invaders and/or if the owner of the colony controls the orbital space (i.e. no attacking warships present, or is besieged), 2% is subtracted from the chance of inactivation for each Constructural Element.
 - ✓ If the Ground Combat is solely between two population types that previously held colonies on a Balkanized planet and/or if other alien ground forces are assisting the defenders, 3% is subtracted from the overall chance of inactivation.¹¹
 - “The downfall of any powerful nation is a tragic spectacle but few observers were moved to pity for Germany.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 956.¹²
- Extinguishing the Light: Constructural Element inactivation rolls relating to Colleges or Corporate/MegaCorporate Headquarters are only made for the Host Colony, but are made for at the end of the Regular Turn after the event plus two to four turns afterward.

- ✓ The base chance of inactivation of Constructural Elements on a colony Hosting a College following the destruction, removal or dissolution of the College is 10%.
 - ✓ On each turn in which the College has no Endowment, the base chance is 5%.
 - ✓ In the event of a removal, dissolution or destruction of a Corporate or MegaCorporate Headquarters, the Host colony's deactivation rolls are at 5%.
- Barrowing the Future: On any Regular Turn in which Taxation of the colony takes more than is allowed by the base rules (that is, dipping into the domestic subsistence of the colony), there is a 10% chance of deactivation of each Constructural Element at the colony. Generally speaking this should not be allowed to be abrogated by the Writ authorizing the excessive taxation of the colony (but this is left to the judgment of the Concierge).
- ✓ “The deal would, indeed, do some good. And Senate leaders deserve credit for talking to one another and dealing in good faith, a model the House and the White House have resisted. Too bad it all had to come at the cost of more debt, confirming yet again that the only time Washington's leaders appear able to shake hands on big deals is when both sides agree to run up the national tab....
- All of these things are good. Congress should have agreed on them months ago. But they are what used to be considered the easy part. Instead of raising revenue or reforming big entitlement programs – or, ideally, both – to pay fully for government operations, senators would add billions more to the debt. Though they would offset some of the proposal's cost, they would not come close to covering all of it....
- The deal reconfirms that there is a lot of agreement about what the government should be doing and, therefore, roughly how large it will remain. Lawmakers differ only in their degrees of denial about how much it costs to provide the services Americans expect. One month, Republicans pass a massive tax cut that will add more than \$1 trillion to the debt; next, Democrats join them on a budget plan that hikes spending. The result is a big, unsustainable gap between revenue and outlays – just as the nation should be husbanding its resources for the next economic crisis and preparing to pay for the baby boomers' retirement.” – Editorial Board, “McConnell and Schumer celebrate a budget deal that denies reality,” Washington Post, February 7, 2018.
- 'Til We Meet Again: Any Constructural Element inactivation rolls applying to a colony at the time it is captured (or reverted) are applied *before* transfer of sovereignty. The Constructural Elements of a Conquered Colony are aligned with those of either their former owner or of the position representing their Native Population Type (this is a judgment call for the Concierge), and thus, the Conquered or Converted Colony doesn't automatically assume the ideology, symbolism or epistemology of the new owners; even if captured (or liberated) by the previous owners or the position representing their Native Population type, the colonist outlook will be different, especially if a long period has passed since the last capture and/or the colony has been significantly altered.
- The Way of the Dodo: A colony whose population *is completely destroyed* by hostile action or environmental (habitability class) failure still generates an Intervention Potential Plus (IP+) attached to the former colony's owner and the position representing the Native Population Type (one IP+ if same), but obviously loses all of its Constructural Elements, including the Temporal Constructural Element and thus there is no necessity for deactivation rolls.

There is some potential hair splitting that invites the interventional judgment of the Concierge. For example, if populations remain in Orbital Cities, but the surface population has been eliminated by hostile act or environmental failure, has the colony been destroyed or do the Orbital Populations suffer the Disruption Checks? What difference is there if the Orbital Populations are not the same Native Population Type as the surface populations, or whether they are Naturalized Populations or not? This is a situation that is probably more appropriately resolved by use of Intervention Potentials by the Concierge to ‘shape’ the situation rather than by dicey rolls.

“Taking the socio-spatial dialectic seriously means that we recognize that the geographies in which we live can have negative as well as positive consequences on practically everything we do. Foucault captured this by showing how the intersection of space, knowledge, and power can be both oppressive and enabling.”

– Edward Soja, “The City and Spatial Justice,” JSSJ, January 2009

Immoral History: Before getting wrapped around a moral axle about Forced Balkanization (which is addressed several times throughout GGDM), participants should realize that ‘resettlement’ has been *the* driving force of human history. Sometimes it is a result of catastrophic depopulation due to disease, famine or war, sometimes it is the result of seemingly spontaneous mass migration, and more often than not, it is a result of coercion (e.g., ethnic cleansing).

- ✓ It is very difficult to morally repudiate with seriousness the history that put you here. For example, if Philip of Macedon’s guard captain had been doing his job at the royal wedding, we would not have Kickstarter campaigns in 2019 for board games such as Successors or Cleopatra and the Society of Architects!☺

The Germans were much maligned for their plan to resettle German population into eastern areas that they conquered (subordinating, eliminating or displacing the existing non-Germanic occupants), but the Roman and ancient Chinese empires got there first, and Germany’s own ancestors followed suit in the twilight of the Western Roman Empire. The Romans were particularly diligent at resettling Italian populations into Noricum, Pannonia, North Africa, Gaul, Britain, and Romanizing or Hellenizing existing indigenous population through contact.

The spread of humans across the Earth is a result of resettlement after resettlement (e.g., drought and migration causing the Hittite-Egyptian Late Bronze Age collapse) and the same concept is inherent in space science-fiction and much post-apocalyptic science fiction trope regardless of whether alien races are involved or not. No one is defending immoral conduct, I would not stand up and defend the displacement of the Native Americans (where the very same process was at work before the arrival of the Europeans, e.g., the history of the Mexica), but it is history and it would be difficult for us to repudiate the processes and results that led to you reading this now.

- ✓ There are historical processes in humanity (and in all lifeforms) that both predates and trumps the concept of morality in most respects, and the development of morality is just another one of those competing historical processes of sapience. Morality is not usually a concept applied to gravity or to a lynx catching a field mouse in the snow (a scene in Carnuntum – Metropolis in the Land of the Barbarians (documentary, 2006) though I strongly suspected the scene was a setup and not chance nature filming, was it immoral?).

Expatriation: Below are special circumstances that adds to the Base Percentage of or triggers additional Disruption Event for those populations. For Naturalized Population, this acts as an additional Disruption Event to whatever other events may affect them. One Intervention Potential is assessed against the current ‘owner’ (sovereign) of the populations *and* one Intervention Potential Plus against the position representing the Native Population type.

- Eviction Notice: On any Regular Turn in which population is removed from a Conquered or Converted Colony, the base chance of disruption of current active Constructural Elements is increased by 5% (see Highschool Friends, *ut supra*, p. 272). This applies no matter how much population is Loaded to Colony Ships. Additionally, population Loaded to Colony Ships carry with them the current activated Constructural Elements of their source world.
- Hagar’s Faucet: On any Regular Turn in which a Conquered Colony is Looted (see 3 Commerce, p. 1210, *infra*), there is a 25% chance of deactivation of any remaining active Constructural Elements at the colony on that Regular Turn, in addition to all other checks.
 - ✓ In one of my favorite cartoons, Hagar the Horrible returns from raiding Paris with a present for his wife, a faucet he looted in Paris. The faucet doesn’t work – absent the plumbing it was attached to, and he says, ‘I don’t understand, it worked in Paris!’
- Trail of Tears: In the case of Minor Races, the Concierge may make a judgment call regarding assessing the IP+ against any position. Example, if a Major Position has placed the Minor Race under its protection; an Intervention Potential Plus may be assessed against that position due to loss of prestige from allowing the Minor Race to be forcibly removed from their Homeworld. In other situations, if the removal is repugnant to the position making the eviction, an IP+ might be assessed against that position. In many cases, where the Minor Race has no relationship to anyone, the Concierge may instead generate Intervention Potentials.
 - ✓ A strong sense of collective guilt and remorse regarding the Native Americans swept over America after the Wounded Knee Massacre and the closing of the Western Frontier in 1896, which played into the early 20th Century Temperance and Pacifist Movements; renewed and amplified by the revealed horrors of the Jewish Holocaust and the atomic bombing of Japan, became an important element of the counterculture, modern Feminist, Civil Rights, and anti-Vietnam protests and movements (e.g., Paul Revere & The Raiders’ song “Indian Reservation” (1971)), eventually fading away in the afterglow of the end of the Cold War in 1989-1992.

*“There’s something happening here
What it is ain’t exactly clear
There’s a man with a gun over there
Telling me I got to beware*

*Paranoia strikes deep
Into your life it will creep
It starts when you’re always afraid
You step out of line, the man come and take you away”*

– Buffalo Springfield, “For What It’s Worth”

Endnotes.

¹ Citation: “‘People thought in ’09, ’10, ’11, that the country couldn’t be divided more. And you go back to Obama’s campaign in 2008, you know, he was talking about the divide and healing the country and all of that. And some would argue on the right that he did more to divide the country than to unite it. I kind of reject that notion.’ Why is that? ‘Because it wasn’t him!’ Boehner replies. ‘It was modern-day media, and social media, that kept pushing people further right and further left. People started to figure out ... they could choose where to get their news. And so what do people do? They choose places they agree with, reinforcing the divide.’” – Tina Nguyen, “‘Idiots,’ ‘Anarchists,’ and ‘Assholes’: John Boehner Unloads on Republicans in Post-Retirement Interview,” *Vanity Fair*, October 30, 2017.

² Commentary & Citation: Compare the last line to the less apocalyptic feature quote by Bertrand Russel in *2 Constitutional Elements*, p. 195, *supra*.

³ Commentary: Loss of sovereignty does not automatically equate to or trigger complete societal collapse. It can be a factor, a disruption and certainly erodes the subjugated society, for example, any occupied country during WWII.

⁴ Commentary: For example, the Khmer Rouge, in the pursuit of ideological goals (an extension of the xenophobic, anti-Western fervor of Maoism), caused the partial collapse of Cambodian society in only four years, killing or driving into exile nearly 1/3 of the population and decapitating the intelligentsia, collapsing the economy, and creating a local disaster. I recommend watching *The Killing Fields* (1985). Invasion by Vietnam ended the nightmare in 1978.

⁵ Citation: “An intriguing variation on this last theme has been developed by Phillips (1979). In a statement reminiscent of Gibbon’s views on the Roman Empire, Phillips suggests that ‘In a sense, the problem is not that states collapse (for this happens constantly), but rather that some states last so long...’ (1979: 138). Phillips’ argument is that it takes time for a newly dominant state to use all its resources efficiently, which he defines as ‘...high output or return per unit investment’ (1979: 140). Efficiency ... though, leads to inflexibility in resource allocation. The mechanism is this: a newly dominant state controls a large territorial base, but has not yet developed (or come to depend on) complex institutions that will derive a significant return for this resource base. In such situations, a large proportion of the new resources will always be used in non-critical or low return ways (such as monumental architecture).

This has the consequence of creating a hidden resource reserve that can be used for emergencies, for such non-critical activities are suspendable in a crisis. But through time social and political institutions emerge that use this resource base more fully (in Phillips’ terminology, ‘efficiently’). Eventually, most resources are allocated to support of ‘efficient’ institutions (political offices and the like), leaving no reserves or flexibility in resource allocation. The dominant center is then left susceptible to disruptions, so that ‘...historical accident alone is sufficient to touch off major failures’ (Phillips 1979: 142). A crisis like a revolt, which a newly dominant state would easily control, becomes an insurmountable problem for a more ‘efficient’ society that lacks reserves. Although formulated in regard to Mesoamerica, this argument has applicability elsewhere. The later Roman Empire, for example, succumbed to catastrophes the like of which had been overcome by the early Republic.” – Joseph Tainter, *The Collapse of Complex Societies* (1988), p. 55.

⁶ Commentary: In my senior year of undergrad at Point Park College, I proposed a research term paper on the Congo for the first three to six months following independence from Belgium. As I worked, it was clear that the project I had set out was too big for the term paper (I am sure books have been written on the subject). My term paper ended up focusing on the first three weeks following independence, with some events extending to three months. It was during this time that I first conceived and understood the concept of ‘remote acceptance of authority’ which became a major part of the paper. The name of the term paper was “Little Orphan Congo.” I do not have it now; it was an undergrad college paper and not particularly important. “We didn’t start the fire...” (Billy Joel (1989)).

⁷ Citation & Commentary: “The Civil War, there’s a great compromise as it’s called. It consists of Southerners admitting freely it’s probably best that the Union wasn’t divided. And the North admits, rather freely, that the South fought bravely for a cause in which it believed. That is a great compromise, we live with that, and that works for us.” – Shelby Foote interview, Book TV C-Span 2, July 26, 1994 (video on YouTube).

⁸ Commentary: The DVD has a copyright of 2003, but I have the VCR tape which I found in a bargain bin at K-Mart in the late 1980s. This song is on both, so it was recorded sometime in the 1980s, and though the VCR tape and DVD have the same title, the songs on the DVD are different as is the reenactment footage. It seems that they tried to soften the DVD which has less military songs but adds a live performance by Susan Jackson and an instrumental piece by Mike Lynch that were not on the VCR tape. The CD which is much longer contains the missing songs from the original VCR tape that were not included on the DVD, but not all the songs that are on the DVD!

⁹ **Commentary:** Charles VI really screwed the pooch – from the French point of view – by signing or even entertaining the Treaty of Troyes. It’s hard to imagine such a ‘blunder’ from a mentally competent ruler, even in the aftermath of the disastrous French losses at Agincourt in 1415. There certainly were other incidents which called into question the sanity of Charles VI, so it was easy to make the argument that mental incompetence voided the treaty.

- ✓ On the other side of the coin, the Burgundians had always been cool about the whole dispute, except when it came to the Armagnacs. The Burgundians contributed marginal military forces when called upon by the King of France to defend against the English; the Burgundians controlled Flanders which depended on imports of English wool. So the Burgundians tried to play both sides, until Louis, Duke of Orleans was assassinated in Paris in 1407, at which time, the Burgundians went over to the English side because the Armagnacs controlled the French court. The Burgundians handed Joan of Arc over to the English in 1430.
- ✓ “The war’s causes were rooted in the reign of Charles VI of France (Charles V’s eldest son and successor) and a confrontation between two different economic, social and religious systems. On the one hand was France, very strong in agriculture, with a strong feudal and religious system, and on the other was England, a country whose rainy climate favoured pasture and sheep farming and where artisans, the middle classes and cities were important. The Burgundians were in favour of the English model (the more so since the County of Flanders, whose cloth merchants were the main market for English wool, belonged to the Duke of Burgundy), while the Armagnacs defended the French model. In the same way, the Western Schism induced the election of an Armagnac-backed antipope based at Avignon, Pope Clement VII, opposed by the English-backed pope of Rome, Pope Urban VI.” – from Wikipedia article, “Armagnac–Burgundian Civil War,” captured October 21, 2019.

Neither of the faction leaders were direct heirs to the French throne (though both were closely related to the King), so this was not initially a succession dispute. But it became a succession dispute when Charles VI disinherited his son and signed the Treaty of Troyes in 1420 transferring the crown to the English through his daughter’s marriage to and issue by Henry V of England. Then it became really complicated, especially with the horrendous loss of knights suffered by France in two generations of war with English invaders (e.g., Crecy, Poitiers, Agincourt).

- ✓ It took an event like Joan of Arc to essentially cancel the Treaty of Troyes and resolve the succession dispute, while turning the tide against the invaders.

Oh, and there was also the Black Death still raging through Europe while all this was happening, see 1 Disruption, p. 252, *supra*. And completely beyond anything imagined by the participants at that time, the Reformation started on the other side of the border in Germany of the Holy Roman Empire, less than a century after the English victory at Agincourt, and eventually spread west along the *fault lines already established by the Hundred Years War*.

¹⁰ **Commentary & Citation:** This was used to great (if corny) effect in the Star Trek OS episode, “Omega Glory,” where the post-apocalyptic savage natives venerated the American flag and Constitution as objects of religious worship, and recited the Pledge of Allegiance and the Preamble to the Constitution in distorted, garbled, stylized Latinate, holy words without meaning, like a prayer or invocation. Despite implausibility, this remains a classic.

¹¹ **Commentary:** Alien ground invasion stories have been a staple of mostly bad science-fiction literature for the last century, anyone who has seen Independence Day, Pacific Rim, Ender’s Game, Edge of Tomorrow, Battle for Los Angeles, Skyline, or any of thousands of other movies, video games, and television series can picture the devastation and shock – Hollywood is very good at that part – of an alien ground invasion (especially a certain minor race – Humanity). But it all started with The War of the Worlds in 1898; imagine for a moment how novel, how genius, and how telling was the concept of an extraterrestrial invasion of Earth, in 1898? Since most people at that time had heard of and believed that there were enormous artificially constructed canals on Mars, it followed naturally that said canals must have been built by a possibly desperate, but sapient and technologically advanced extraterrestrial (by definition) species. Mr. Wells simply imputed European colonialism onto extraterrestrial sapients. The ending was a clever extension of the havoc wrought by diseases as a result of African colonization and Columbian Exchange.

¹² **Commentary:** “Downfall” is one of those curious terms in our language; it suggests something slightly more epic than “falling down”.... you know, like when you skinned your knee falling off your bike in first grade, you thought it was an epic event at that moment. It’s something slight more than that!☺

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See Appendix DE&A – Disruption Events, Inactive Constructural Elements & Apostasy

“The study of the powers that shape, maintain and alter the state is the basis of all political insight and leads to the understanding that the law of power governs the world of states just as the law of gravity governs the physical world.”

– Ludwig von Rochau

Schwarze Kapelle: There is always that ten percent ... as we used to say in the Marines. While colonies can suffer Disruption Events that can cause Constructural Elements at the colony to become *inactive* (see Power Off, 2 Constructural Elements, p. 193, *supra*), Ship Constructural Elements are affected mainly by two sources: Combat losses in crew and psychological fatigue (i.e. attrition) and by contact with colony populations (both friendly and alien). Colony populations can be further affected by losses in Ground Combat (e.g., the WWI generation is called the Lost Generation in Britain¹).

- ✓ Schwarze Kapelle means ‘black orchestra’ which was the Gestapo’s term for conspirators in the German military and government. The term was re-popularized by the 2004 Germano-Austrian TV movie Stauffenberg, the 2008 movie Valkyrie, and the 2016 Kickstarted board game Black Orchestra. In GGDM terms, they represented groups with ‘inactive’ Constructural Elements (i.e. they tried to kill Hitler).
- **The B-Team:** Suppose that crew replacements for starships were kept frozen or in stasis, to be revived when needed. If you were a crew replacement, and were revived, it would be because whomever you are replacing in the crew has been lost. You would not ask what happened to the one you are replacing, the answer would be obvious, and it would be equally obvious that the replacements are not the ‘A-Team’ or they would not be replacements. They might be the A minus team, but not the best or most experienced, as that would be the original crew.² This has been true of replacements in any competitive endeavor throughout history.

That said, however, the Pittsburgh Pirates broadcasters Joe Block and John Wehner, on June 16, 2019, pointed out that sometimes the ‘replacements’ that are called up can be better than expected; the Pirates were forced to call up minor league prospects early due to injury and they won the everyday job by their performance. But generally, there is a reason why the replacements are not the starters... a team can generally expect to lose a little edge with replacements (the ‘Wins Over Replacement’ stat had better be positive or the player will be replaced by their replacement!); bullpen pitchers are not starters for a reason. So, there is room in replacements for an occasional Intervention... or maybe it’s just reflected in some lucky die rolls (or the use of Enlightenment).

- ✓ Whenever a ship survives a combat – that is, the combat ends with the destruction of all enemy units and/or a complete retreat of one side – there is a 15% chance that each Constructural Element on the surviving ships (except the Temporal Constructural Element) will become inactive. This is not the same as The Burning Sky, 2 Disruption, p. 275, *supra*, which applies only to any sovereign colonies left behind.
- ✓ At the end of any Ground Combat in which the defending colony was victorious, there is a 15% chance of each Constructural Element becoming inactive (*ut supra*) at the colony.

- ✓ At the end of any Colony Combat in which the defending colony was victorious, a 5% chance that each Constructural Element becomes inactive at the colony.
- ✓ These latter two are in addition to any preceding or subsequent Disruption Events that may have occurred as a result.
 - “The real miracle of the Marne, in fact, had been the hardihood of French conscripts so recently snatched from home life. They astonished even their own commanders during those first chaotic weeks by enduring casualties, arid privations which might have broken regulars. And therein lies the tragedy of the World War, for it did not take the generals long to adopt a spendthrift attitude toward their living matériel. Losses once regarded as appalling were soon thought inevitable, and the years of attrition saw human lives being ‘traded’ like the pawns of a chess game played by inept opponents.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), pp. 728-729.³

“Your methods, so far as this court can discern, show what we shall cautiously term an excess of zeal. We cannot condemn zeal. We cannot rebuke an officer who has administered discipline according to the articles of war but the articles are fallible, as any articles are bound to be. No code can cover all contingencies. We cannot put justice aboard our ships in books. Justice and decency are carried in the heart of the captain, or they be not aboard. It is for this reason that the Admiralty has always sought to appoint its officers from the ranks of gentlemen. The court regrets to note that the appointment of Captain William Bligh was, in that respect, a failure.”

– Court Martial Judge, *Mutiny on the Bounty* (movie, 1962) ⁴

Mutiny on the Bounty: A newly constructed ship has the same Constructural Elements status as the origin colony, the population from whence the original crew is drawn (“naturellement” as Void Captain Genro Kane Gupta would say⁵).

- ✓ A ship located in-system with a Friendly, Naturalized or Converted sovereign colony at the end of any Regular Turn whose inactive Constructural Elements are opposed by matching active Constructural Elements on the colony has a 5% chance that the inactive Constructural Element will change to *active* status.
- ✓ A ship located in a system with a Friendly or Naturalized sovereign colony at the end of any Regular Turn whose active Constructural Elements are opposed by matching inactive Constructural Elements on the colony has a 8% chance that the active Constructural Element will change to *inactive* status.
- ✓ A ship located in a system with a Converted sovereign colony at the end of any Regular Turn whose active Constructural Elements are opposed by matching inactive Constructural Elements on the colony has a 10% chance that the active Constructural Element will change to *inactive* status.
- ✓ In some sense, positions may feel their ships are infected with a ‘mornovirus.’

- ✓ Multiple checks may be made if multiple colonies are in the system (resulting in a flickering of Constructural Elements on ships) even if they are the same planet (e.g., a planet with both a Friendly colony and a sovereign Converted **alien colony**).
 - ✓ Note that the widespread ‘cure’ for inactive Constructural Elements is by activation of the Culture Power for the purpose of Cohering and that the only means of ship Constructural Elements becoming inactive are combat and exposure to (i.e. ‘infection by’) being located at colonies that have inactive Constructural Elements, with the chance that the process could work the other way as well.
- **Gilligan Won’t Go Home:** It is only the opposition of Constructural Elements that causes change, and the changes here only apply to ships, not the colonies; matching Constructural Elements statuses do not invoke these rules. If a ship remains in a system long enough, there likely is a point at which the status of the Constructural Elements of the ship and colony will come to match; I have not the mathematical mind to figure it out (but someone will). Cohering successes can cause a ripple effect to ships at colonies in addition to the possibility that the ships may be directly ‘corrected,’ ‘reeducated,’ by the Cohering Culture Power activation.
- ✓ Are Gilligan and crew really trying to get off the island? Do they actually want to be rescued? Does John Carter want to leave Mars? Does Locke in Lost (2004-2010) really want to be rescued and go back to his wheelchair? Was being stranded in Blue Lagoon awful?
 - “Bligh was impatient to be away, but as Richard Hough observes in his account, he ‘failed to anticipate how his company would react to the severity and austerity of life at sea ... after five dissolute, hedonistic months at Tahiti’” – from Wikipedia article, “Mutiny on the Bounty,” citing to Richard Hough, Captain Bligh and Mr Christian: The Men and the Mutiny (1972).

Captain Bligh: But in Tahiti, the insult lies in the omission of those lewd intentions. Manners that would offend a dock-side harlot seem to be the only acceptable behaviour to King Hitihiti. – Mutiny on the Bounty (movie, 1962) ⁶

Alieney Apostasy: Any *ship* that Unloads, Loads or Transfers Cargo, Population, *Supplies* or any Enhancements (including Looting and Trucking) to or from a non-sovereign **alien colony** planet (including Orbital Cities – regardless of whether the colony is owned by the position that controls its Native Population Type or whether there is also a sovereign colony on the planet – or *ship or Ground Unit* that participates in Pacification Combat on a Conquered Colony or Orbital Bombardment of any colony, has a chance at the end of the Regular Turn of having one or more active Constructural Elements become *inactive*, regardless of the status of Constructural Elements on the **alien colony**.

- ✓ This effect cannot occur if the Power Activation failed due to inactive Constructural Elements because the acts never occurred. Sometimes bad luck is a good thing.

Landing Colony Ships (see 4 Expansion, p. 920, *et seq., infra*) on a planet that has an existing non-sovereign **alien colony** (i.e. ‘forced Balkanization’) does not fall within the categories listed

above. Additionally, the Colony Ship no longer exists after the Landing (unless participants have modified the basic technology).

Alien colonies for this purpose include both Minor Races (see Mathó Thípila, 4 Diplomacy, p. 1140, *infra*) and even colonies of Native Population Types related to the position as a Lost Colonist Primal State (see 6 Beginnings, p. 63, *supra*) and Conquered Colonies being Looted.

- ✓ The chance of each *active* Constructural Element (except the Temporal Constructural Element) becoming *inactive* on the participating ship(s) is 10%.
 - ✓ Checks for non-sovereign **alien colonies** are made before checks for sovereign colonies that may be in the same system or on the same planet. As above, multiple checks may be made if there are numerous qualifying colonies in the system.
- **The *Apostasy***: Constructural Elements converted to *inactive* by contact with a non-sovereign **alien colony** or a Looted Conquered Colony may not be changed to active status by any means until a Census Power activation has occurred for the owning position (probably should be marked in **red** or **glowing green**). ☠ As the ship Constructural Element checks do not occur until the end of the Regular Turn, activation of the Census Power on the same Regular Turn as contact with the **alien colony** is ineffective.⁷
- ✓ “[Trump] even criticized Romney for invoking his faith in making his decision on impeachment. If the whole effort was meant to punish Romney for his apostasy or dissuade him from further acts of disobedience, it doesn’t appear to have worked terribly well. Trump has had great success in keeping the GOP troops in line, but not so much with Romney.” – Aaron Blake, “Analysis: Romney may vote against Trump again – this time with some bite,” Washington Post, March 5, 2020.
- **Don’t Hand Me No Lines & Keep Your Hands to Yourself!**: There are costs to activation of the Census Power beyond Acts, Scenes and use of a Power Activation; some proficiencies may also be lost and some colonies near Maximum Habitability could suffer Disruption Events, see Peaches for Mad Molly, 2 Disruption, p. 273, *supra*, And the Cradle Will Rock, 3 Culture, p. 382, *infra*. Activation of the Census Power represents a turnover of generations in the civilization.
- ✓ Quite frankly, throughout history, sexual and romantic attraction (not saying this will happen between aliens...⁸) have much to do with any form of apostasy, no matter how strictly the term is applied. In GGDM, the term is used and meant in a much wider sense than defined in the dictionary, e.g., Julius Caesar did not ‘lose’ any Constructural Elements over Cleopatra, but Marc Anthony ‘went native’ seduced by both her charms and the potential of grasping a military force to oppose Octavian Caesar. She had children by both men, though Julius Caesar refused to acknowledge his son, Caesarion, and the fate of her sons by Mark Anthony, Alexander Helios and Ptolemy Philadelphus, is disputed, but several Roman writers suggested that Octavian Caesar had Alexander killed before he reached maturity. Cleopatra’s daughter by Mark Anthony married the deposed king of Numidia and co-ruled a Roman territory with him. Her other son, Ptolemy Philadelphus disappeared from history.
 - “But each time we talk, I get the same old thing; Always, ‘No huggee, no kissee until I get a wedding ring!’ My honey, my baby, don’t put my love

upon no shelf; She said, ‘Don’t hand me no lines and keep your hands to yourself’” – Georgia Satellites, “Keep Your Hands to Yourself” (1986).

➤ **Jagged Points:** There is tremendous story potential in this process; apostasy is at the jagged point of rebellion and the Why Not question.⁹ GGDM however, does not normally track the Native Population Types of the crew of each ship, but does assume generally that the crews of each ship share the same environment and are compatible (even if alien) and/or that the majority of crews are probably of the owning position’s Native Population Type or from Naturalized populations. See also Valarie and the Fleet of a Thousand Worlds, 1 Carriers & Fighters, p. 1052, *infra*.

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✓ **The scene:** A smugly self-satisfied medieval-looking Friar on a starship approaches a planet with a primitive indigenous humanoid population with the intent of converting them.

- **Warrior:** Look blind one, a huge bird [that’s really funny!]
- **Blind Elder:** It is not a bird, my son, but a ship of base metal, and the man inside ... of baser mettle still.

The story does not end well when the gun-toting Friar demonstrates his ‘technological superiority’ to enlighten the natives (that is, in Pittsburgh speak, he was a total jag-off). From Ernie Colón (art & story), “Convert,” p. 62, Epic Illustrated, Vol. 1, No. 1, Spring 1980.

“... I often hear the question: How can the United States of America help us today? My reply is as paradoxical as the whole of my life has been: You can help us most of all if you help the Soviet Union on its irreversible, but immensely complicated road to democracy. ... [T]he sooner, the more quickly, and the more peacefully the Soviet Union begins to move along the road toward genuine political pluralism, respect for the rights of nations to their own integrity and to a working – that is a market – economy, the better it will be, not just for Czechs and Slovaks, but for the whole world.”

– Václav Havel, address at a joint session of the U.S. Congress,
February 21, 1990

Youth Bulge: Unsurprisingly, one of the main causes of social disruption is the ‘youth bulge’ – and I am not talking about *that* kind of youth bulge, but it is kind of related... which occurs, generally, when the number of youth in a society *greatly exceeds* the opportunities available for employment, advancement, housing, marriage, wealth, and/or inheritances, i.e. failing economies.’

The bulge, even if temporary in the long view, pushes against the existing order, classically resulting in war, looting, crime, revolutions, extremism, insurgencies/terrorism, genocide, migrations, expansions, exploitation, and sometimes, inventions or improvements in technique. These things, of course, always exist in civilizations – in part because there is always youth, always a new generation pushing up and all economies are failing in some respect– but the pronounced youth bulge in a society is an enhancing factor. The movements have historically become entangled with religion, nationalism, ambition, and colonialism.

The current version of youth bulge results from demographic situations where fertility rate remains high while death and infant mortality rates drop. It also occurs in societies where a significant percentage of the youth are college educated, but stagnated for a number of years, unable to advance in life (a relative term to be sure, but one defined by their learned social expectations). In modern terms, ‘waithood’ or ‘adulthood.’

Mechanization is also considered a contributing cause, at least as to unemployment. In modern developed nations, the population is aging and the working population works into their later years, leaving fewer job openings for youth, but providing, as a tradeoff, a greater overall intellectual, technical expertise and understanding, and experience level.

Within the framework of GGDM (assuming human-like demographics), there are numerous situations where the Concierge may determine that a youth bulge has occurred locally or globally.

- ✓ For example, on a planet Hosting a College, or multiple Colleges, or heavily urbanized, a college educated youth bulge might occur. Also, on a colony where significant population was recently unloaded, it might reasonably be assumed that the new population is younger rather than older, changing the population pyramid significantly. Planets experiencing rapid industrial and urban development should expect population displacement and/or a bulge, especially on Optimal and Hospitable Class planets.

Globally, an activation of the Census Power that is not followed in close temporal proximity by an activation of the Expansion Power might cause a problem.

Be creative. Attempting to avoid ‘youth bulge’ and population pyramid problems by not activating the Census Power or by use of Writs, will surely lead to other sorts of problems.

- Viking Horns: The dense complexity of these factors are demonstrated by the Viking Age, where the Nordic expansion and raiding is attributed variously to a potent combination of:
 - ✓ A Nordic/Scandinavian youth bulge,
 - ✓ The spread of Christianity into Scandinavia,
 - ✓ Improved seafaring skills and ship technology,
 - ✓ The violent overthrow of the Saxons by Charlemagne and suppression of pagans,
 - ✓ Collapse of Eurasian trade routes following the fall of the Roman Empire,
 - ✓ Climate changes (i.e. the Medieval Warm Period to the Little Ice Age),
 - ✓ Lack of arable land in Scandinavia, and
 - ✓ A lack, generally, of organized defenses and central government in Europe after the Roman disintegration.¹⁰
 - No historical evidence exists that Vikings wore horned helmets. Consensus is that it is a late 19th Century romanticization that began with Wagner’s operas. But I was able to use it in the title here because it instantly suggests a commonly-held image that is symbolic of what we think the Vikings were... ‘Viking Horns’ could just as easily represent the two major prongs of Scandinavian expansion in the Middle Ages: Southeast into the

Ukraine (Kiev, Pontic Basin to the Caucasus) and southwest into post-Roman Europe (Frankia, Britain).

- Wossamotta U: According to the U.S. Census Bureau, approximately one-third of the U.S. population aged 25 or older has completed a Bachelors' Degree or higher. According to various sources, if you add those with academic Associates Degrees, the numbers go up to 10% higher. Every major election in the U.S., some politician trots out a promise to make college education free to all or more accessible, groans about the cost of college education, promises to reform student loans or issue forgiveness (much of which has already been done to some degree). But we all know it is not as simple as it sounds, there are already documented social problems with just an increase of 5% over the previous 28% ten years ago.

College-educated youth bulge may lead to a number of collateral social issues such as:

- ✓ *Credentialism*: increasing formal education and certification requirements for jobs without an increase in basic task, knowledge and skill requirements for those jobs,
- ✓ *Education Inflation*: an overall increase in people holding college degrees competing for the same jobs and/or for jobs that previously required lower or no degree or certification,
- ✓ *Grade Inflation or Creep*: upward creep of academic grading, higher grades for the same work that previously was given lower grades, driven by competition between institutions, education inflation and credential creep,
- ✓ *Fake degrees and diploma mills*.

All of which can possibly result in social and economic discrimination against less economically privileged groups and minorities (See this excellent law review article, Johnson, Creola (2006) "Credentialism and the Proliferation of Fake Degrees: The Employer Pretends to Need a Degree; The Employee Pretends to Have One," *Hofstra Labor and Employment Law Journal*: Vol. 23: Is. 2, Article 1. Available at: <http://scholarlycommons.law.hofstra.edu/hlelj/vol23/iss2/1>).

- ✓ See related discussion of the issue of 'publish or perish' pressure and plagiarism, research fraud, proliferation of journals, Paper Bubble, 2 Technology, p. 709, and 1 Information, EN 6, pp. 1337-1338, *infra*.

Thus to sustain higher college education rates, actual employment skills and employment concepts would have to change on a scale equaling the changes that have already occurred in the last century due to increasing basic literacy from mandatory public education: Is there any job you can get now without being able to count, read or write to at least a 7th or 8th grade level? Most cannot even imagine what it is like to be illiterate now. What happens when you cannot get a job without a college degree?

- Catch-22: When I was young – a teen and into my adulthood – I read the classified job adverts in the newspaper daily (before the internet). Nearly every advert states that applicants need X number of years of experience or don't apply. I shortly realized it was a Catch 22 – if you don't have the experience, you cannot get the job, and if you cannot get the job, you can't get the experience. All of the employers wanted experienced, trained workers, no

one wanted to train; they essentially want to poach each other's workers (literally, this happened at my mother's workplace). I took the third option, I went to college, incurred the debt, struggled, and somehow came out well.

In the summer of 2019, nearly 30 years later, my neighbor, a mother of two seeking to return to the workforce, complained to me about the very same problem. And her plan was similar, she wanted to get trained and licensed in something (quickly) so that she could get a job, even if it required a long daily commute.

“The great achievement of the enlightenment, in Rochau's view, had been to undermine the notion that might equals right in politics. The mistakes that liberals had made however, was to assume that this meant the law of the strong had suddenly evaporated overnight just because it was unjust. When it became a matter of trying to bring down the walls of Jericho, Rochau wrote, ‘The real Realpolitiker thinks that lacking better tools, the most simple pick ax is more effective than the sound of the most powerful trumpets.’”

– John Brew, “Real Realpolitik: A History,” lecture at the John Kluge Center, Library of Congress, April 10, 2014 (available free online) ¹¹

“The Prince was written by Machiavelli for the Haves on how to hold power. Rules for Radicals is written for the Have-Nots on how to take it away.”

– Saul Alinsky, about his 1972 book on community organizing ¹²

How Isaac Met Hari: Suppose that in the first century A.D., the leadership of the Roman Empire were provided with an outline of the remaining history of the Western Roman Empire and the causes of its downfall, written by someone with two millennia of hindsight? Would the Roman Empire have ‘survived’ (ignoring the obvious temporal paradox) with this knowledge?

- ✓ “What Mr. [Arnold] Toynbee is referring to is much akin to building on a cracked foundation. Or painting over layers of wallpaper. Or physicians prescribing one pill to counter the side effects of another. It just doesn't make sense. It's not rational thinking. It's expensive in the long run. And it doesn't work. The United States of America ... found that out the hard way. Yes, it took many hundreds of years for the foundation to crack, but it still cracked. And they built on top of it over and over again. And what they built is no longer standing.” – J.A. Willoughby, “The Promised Land,” This Side of Center (2014), p. 150 (describing a future history of the United States).

This essentially describes the transition from the Roman Republic to the Roman Empire; the Roman Republic had cracks, the Roman Empire simply painted over them, without changes.

Survival of the late Roman Empire would have required extraordinary and multi-generational united political will, fundamental cultural, political and social changes, technological developments, and enlightened leadership to hold back the oncoming waves of humanity, plagues and famines, economic failures, civil wars and interior deterioration of Roman society. In short,

while some continuous singular political entity might have survived and held most of the territories – avoiding the catastrophic social collapse of classic antiquity – that entity would not be the Roman Empire; the Romans would have to un-become Romans, abandoning many of the characteristics of what we know of as the Roman way. This simply would not have happened; this is a feat that we cannot accomplish even now. And this is how Isaac Asimov met Hari Seldon.

- ✓ Emperor Diocletian in 293 C.E. attempted to fix the political, dynastic and succession problems that troubled the empire every generation and to reverse the trend of military losses at the frontiers. The Tetrarchy lasted only a generation before the cycle of civil war and dynastic ambitions again pushed the Empire to its fall.
- ✓ The Edict of Milan 313 C.E. and the conversion of Constantine the Great to Christianity did not prolong or save the Roman Empire; he in fact destroyed the Tetrarchy of Diocletian (similar to the way a hereditary or dynastic Presidency would destroy our Constitutional Republic) and created the future capital of the empire by renaming Byzantium to Constantinople. It is vaguely possible that in converting to Christianity, the desperate late Roman leadership was *seeking some kind of mystical infusion of the uncompromising, extremist Jewish ethno-nationalism* that had given the Roman Empire serious indigestion for two centuries. It was not to be; the world had changed and Christianity had evolved away from being a Jewish sect (if it ever was). The administrative, currency and military reforms of Constantine I did possibly extend the empire by up to 100 years, until the crossing of the frozen Rhine River by barbarians in December 406 C.E. doomed the Western Roman Empire.
 - “We will never know for sure what Constantine’s true motives were in converting to Christianity. What is certain, however, is that from the moment he had sole power in the West, he ruled as a Christian. He restored Christian property seized during the Great Persecution and enacted legislation that favoured Christians. When he became sole ruler of the empire in 324, he extended similarly pro-Christian policies to the eastern empire, where he not only favoured Christians, but actively discriminated against non-Christians, restricting their ability to worship or fund their temples.” – Prof. Michael Kulikowski (Pennsylvania State University), “Christians were Strangers: How an obscure oriental cult in a corner of Roman Palestine grew to become the dominant religion of the Western world,” Aeon, January 30, 2017.
 - The complex, learned Emperor Julian (aka Julian the Philosopher) briefly reasserted traditional Greco-Roman religion from 355-363 and ordered the rebuilding of the Temple in Jerusalem. Julian was a Platonic philosopher and may have reasoned that if the Christians say their strength comes from belief, then Rome could recover by *believing again* in the Greco-Roman religion of the great ancestors. He was the last pagan emperor, and didn’t live long enough to reverse the tide.
- Terminal Patients: At some point, the Roman Empire was in terminal decline, the patient too far gone to have been saved. I doubt there is a historian who would spend a single thought disputing the foregoing. That point may have come as early as 195 A.D. when Emperor Septimius Severus – the victor of the Year of the Five Emperors who put an end to the ‘I’ll-let-

you-be-my-friend-if-you-give-me-your-lunch’ 65-day reign of Didius Julianus – had the Roman Senate deify the insane Emperor Commodus whose assassination started the Year of the Five Emperors, and whom the Senate had previously declared a non-person, public enemy following his death. *In A.D. 195, the Roman Senate deified insanity.* Because, Why Not?

- ✓ This the Church learned from the Romans: Beatification and canonization has always been political. Fifty-four of the first fifty-eight Popes were canonized, plus two anti-Popes, before the practice finally petered out in the mid-6th Century. The first thirty-five Popes were all canonized. Has the Church ever canonized insanity? Take a closer look at the lives of the Saints (e.g., Saint Ignatius of Loyola, The Ecstasy of Saint Francis of Assisi).¹³ Since there can only be one God, they had to invent Saints.

Diocletian’s attempt at radical reform in 293 A.D., the Tetrarchy, fell apart in 20 years as the Roman Empire reverted to normal form. The Edicts of Milan (313 A.D.) and Thessalonica (380 A.D.) did not provide enough moral nutrition to make the ailing Empire fight like Pop-eye on a spinach high.

- ✓ Similarly, Washington D.C. voters in 1994 elected the controversial, philandering and compromised, legally troubled, crack cocaine smoking felon Marion Berry to a fourth term as Mayor after he served his federal prison sentence. The nation was shocked.

The United States is proud to have survived nearly 250 years and made a lasting mark on human civilization. The value of that, we shall leave to judgment of future historians. But the United States is still a young country compared to the Roman Republic/Empire-Byzantine Empire together, occupying over 1,800 continuous years of history and other entities of antiquity. The United States of America will not last forever either, and will be the subject of historical and archeological analysis for millennia afterward, as long as there is still someone who remembers us and as long as it still matters.

How does it end? What sort of *historical accident* will tilt the system beyond recovery? Does it end in violent invasion, catastrophic societal collapse, division into regional successor states, or will the United States morph gently into some other entity? Will we simply run out of resources. Or will the concept of sovereign states slowly vanish until none care?¹⁴

“Friday (Christmas Day). We are having the most extraordinary Christmas Day imaginable. A sort of unarranged and quite unauthorized but perfectly understood and scrupulously observed truce exists between us and our friends in front. The funny thing is it only seems to exist in this part of the battle line – on our right and left we can all hear them firing away as cheerfully as ever. The thing started last night – a bitter cold night, with white frost – soon after dusk when the Germans started shouting ‘Merry Christmas, Englishmen’ to us.

Of course our fellows shouted back and presently large numbers of both sides had left their trenches, unarmed, and met in the debatable, shot-riddled, no man’s land between the lines. Here the agreement – all on their own – came to be made that we should not fire at each other until after midnight tonight. The men were all fraternizing in the middle (we naturally did not allow them too close to our line) and swapped cigarettes and lies in the utmost good fellowship. Not a shot was fired all night.”

– Capt. Robert Patrick Miles (King’s Shropshire Light Infantry), Christmas Day, 1914
(d. December 30, 1914)

Christmas Truce 1914: There is an ‘alternate history’ video on YouTube whose title asked “What if WWI had ended at the Christmas Truce” referring to the 1914 Christmas Truce on the Western Front. The Christmas Truce is the subject of the 2005 French film *Joyeux Noel*. I have not watched the alternate history video, but without doing so, I thought this is an example of dynamics that are beyond human comprehension.

- ✓ “Dear Mother, I am writing from the trenches. It is 11 o’clock in the morning. Beside me is a coke fire, opposite me a ‘dug-out’ (wet) with straw in it. The ground is sloppy in the actual trench, but frozen elsewhere. In my mouth is a pipe presented by the Princess Mary. In the pipe is tobacco. Of course, you say. But wait. In the pipe is German tobacco. Haha, you say, from a prisoner or found in a captured trench. Oh dear, no! From a German soldier. Yes a live German soldier from his own trench. Yesterday the British & Germans met & shook hands in the Ground between the trenches, & exchanged souvenirs, & shook hands. Yes, all day Xmas day, & as I write. Marvellous, isn’t it?” – Henry Williamson (London Rifle Brigade), Christmas Day, 1914.

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Let’s call this the ‘un-Disruption’...

To begin, if WWI ended at the Christmas Truce of 1914, we can subtract the millions of casualties incurred in the following years. This means no Lost Generation and the cultural aftereffects of the war; this also means, if you follow some historians, that the French would have had 400,000 more troops in 1940. But never mind that, because a peace in 1914 or January 1915, would have been a much different result than the peace obtained in 1918-1919. The Emperor of Germany would probably have survived, and thus no Weimer Republic, and agitators like the Fascist would have been squashed. If the peace included Russia, then the Tsar survives and the Communist revolutionaries are squashed.

There may have been a WWII, but it would not have been propelled by Fascist and Communist ideologies, it might have been another nationalist-dynastic European conflict. As a result, hegemony does not shift away from Europe and there is no Cold War. Cycling back to the much abbreviated casualty list, those extra men have extra babies, and European population grows that much more overall, not just on the French side. Further, the intellectual and industrial power of those extra population must change things in ways we cannot imagine. The combinations of just these factors quickly spins out of comprehension.

This is not to say that the monarchies would have survived, but the end would have been much different and they probably would have lasted another couple of generations or 50 years as a result of an armistice in January 1915. The British Empire may have collapsed anyway, the Imperial Chinese may have been overthrown anyway, and none of this accounts for Japanese aggression, except that the European monarchies may have put forth more unified, resolute resistance. The United States would not have become involved in European Wars, at least not until much later, would have been more focused on Japan, and technology and concepts would have developed more slowly, as war is frequently the cause of technological acceleration. It is also likely that someone would have invented the atomic bomb anyway as the physics was there around 1920, but the outcome would have been different.

[Over dinner, new Babylon 5 “political officer” Julie Musante asks Sheridan about “lurkers.”]

John Sheridan: *It’s our version of the homeless. In many ways, we have the same problem Earth does.*

Julie Musante: *Mmm. Earth doesn’t have homeless.*

Sheridan: *Excuse me?*

Musante: *We don’t have the problem. Yes, there are some “displaced” people, here and there, but, uh... they’ve chosen to be in that position. They’re either lazy, or they’re criminal, or they’re mentally unstable.*

Sheridan: *They can’t get a job!*

Musante: *EarthGov has promised a job to anyone that wants one. So, if someone doesn’t have a job, they must not want one.*

[Musante runs down a list of all the social problems EarthGov has suddenly solved.]

Sheridan: *And, uh w-when exactly did all this happen?*

Musante: *When we rewrote the dictionary.*

Sheridan: *You can’t deal with the problems by pretending they don’t exist.*

– Babylon 5, “Voices of Authority” (1996)¹⁵

Endnotes.

¹ Commentary & Citation: Lost Generation is interesting as a term in that it first referred to the horrendous loss of the young male population during WWI, loss of the promise of the future of England (and France, Germany, Italy, etc.) but later came to apply to the disorientation, unmooring of youth in the post-World War years (both the veterans and those at home) and finally settled specifically upon a clique of expatriate authors, artists and intellectuals who settled in Paris or went to the United States. The Lost Generation term wonderfully covers the spectrum.

✓ From Wikipedia article, “Lost Generation,” January 23, 2019.

² Commentary: I am coming in a bit fuzzy here, but I remember seeing a documentary about a first black vs. white basketball game or a basketball game that was widely seen as a racial showdown between all-white and all-black basketball teams. I am sure it was a college game, it probably was not the Secret Game in 1944, probably not the Lakers-Globtrotters game in 1947 (because of strict segregation); it may have also been later in the 1950s. What I remember most, and cannot now find on the internet searches, is an interview with the coach of the all black team, who said (paraphrasing) everyone saw it as a basketball showdown between white and black teams, I wasn’t really thinking about that, I just wanted to put my five best players on the court and they were all black as it happened. I think it must not have been either of the games mentioned previously because it seems the coach had a choice and somewhat accidentally, through player selection, made an ‘all black’ team.

³ Commentary: As I mentioned to the designer of Verdun: Steel Inferno (2018), Mr. Montross may have been thinking of Charles Mangin “the butcher” when he wrote this text.

⁴ Commentary & Citation: The 1984 retelling of the story, The Bounty, pays handsome tribute to Captain Bligh’s open boat voyage of 4,000 miles after he was set adrift with a group of loyalist (I’ve been on the deep Pacific, and I cannot even imagine it), but whitewashes the rest of the story and doesn’t show the deception by which the mutineers kidnapped Tahitian men and women for the voyage. The movie also cuts out before the internecine fighting, ambushes, Tahitian revolt, and homemade alcohol wiped out the men on the island. But you can do the math: The end of the movie indicates (correctly) that when they were found 18 years later, there were 9 women, 23 children and *one surviving man*, John Adams, from the nine mutineers, six Tahitian men and fourteen Tahitian women.

⁵ Citation: Norman Spinrad, The Void Captain's Tale (1982), the term occurs 25 times in the book, according to a Kindle Edition search.

⁶ Commentary: Likely the use of “King Hitihiti” here is intended to lump the indigenous people of Tahiti under one term and is used derisively, like ‘Jim Crow’ in the old south. Hitihiti, the historical person, was not a king, but a Tahitian “linked to the Puni chiefly line of Bora Bora,” (Jenny Newell) one of three Tahitian men (the others are Tupaia and Taiato) who joined Captain Cook’s second voyage in 1773 and travelled with him for two years stopping at Tonga, Easter Island, and the Marquesas before returning to Tahiti. He remained in Tahiti as a huge celebrity and dined with Captain Bligh of the HMS *Bounty* in 1788 (Bligh had been with Captain Cook previously in Tahiti); Captain Cook also visited him with gifts in 1777. Hitihiti left with the HMS *Pandora*, dispatched in 1790 to apprehend the *Bounty* mutineers, and spent three months in the summer of 1791 searching various islands. The HMS *Pandora* wrecked on the Great Barrier Reef in August 1791, ten mutineers captured by the *Pandora* in Tahiti were returned to England in 1792 and court-martialed. Hitihiti may have gone to rescue the Tahitian men and women kidnapped by trickery (using Captain Cook’s name) by the mutineers in June 1789. Hitihiti’s fate is unknown after that point but he was likely on the HMS *Pandora* when it wrecked.

- ✓ Information from various Wikipedia articles, e.g., “HMS *Pandora*,” “Mutiny on the Bounty,” and “James Cook,” but the most excellent, helpful and direct article on the subject is by Jenny Newell, “Pacific Travelers: The islanders who voyaged with Cook,” *Common Place*, Vol. 5, No. 2, January 2005 (available for free at <http://common-place.org/book/pacific-travelers-the-islanders-who-voyaged-with-cook/>). “Jenny Newell is a curator (Polynesia) in the Department of Africa, Oceania, and the Americas, British Museum. She is writing a doctoral thesis on cross-cultural exchanges and ecology in eighteenth-century Tahiti.” *Id.*

⁷ Commentary: There are perhaps a half dozen countries in the world where religious apostasy can officially result in execution; and a few others where it is dealt with informally by religious enforcers and vigilante groups while the government looks the other way. You know which countries those might be already. *It’s a losing argument* and that is why even in countries where it is officially a crime, it rarely results in execution: You are not going to change the apostate’s mind by execution, you are only going to make him dead, *and others wonder why?*

- ✓ There are also secular countries in the world where questioning the supreme leader or placing any authority above that of the supreme leader (or by extension, the government) is a form of secular apostasy that can result in execution or labor camp ‘reeducation.’ You know which countries those might be already. The supreme leader is usually the center of a cult of personality and so far removed from the people as to be godlike and attributed divine grace.

It is the classic question: If you are so confident in your message, what are you afraid of? While apostasy execution is an extreme ideological measure not countenanced in the West, the same question reared its ugly head again in the religious boycott of the 2007 film, *The Golden Compass*. So much so, that the sequels have not been made for fear of religious nitwits.

- ✓ “Why don’t we trust readers? Why don’t we trust filmgoers? Oh, it causes me to shake my head with sorrow that such nitwits could be loose in the world.” – Philip Pullman commenting on the boycott of *The Golden Compass*, David Byers, “Philip Pullman: Catholic boycotters are ‘nitwits,’” *The Times* (London), November 27, 2007.

⁸ Commentary: Unless those aliens are fairy-like creatures with ample bosom and buttocks. That always works in comic books.

- ✓ “Yeah fairies wear boots, and you gotta believe me, Yeah, I saw it, I saw it I tell you no lies, Yeah Fairies wear boots and you gotta believe me, I saw it I saw it with my own two eyes...” – Black Sabbath, “Fairies Wear Boots” (1970).

⁹ Commentary & Citation: The Why Not question is discussed in 2 Disruption, p. 269, *supra*. The HMS *Bounty* mutineers were asking the Why Not question after five months in Tahiti.

- ✓ **Christian Fletcher**: I have done no more than any natural man would do. **Capt. Bligh**: No. You have done no more than any wild animal would do. It always makes me laugh, but when men lose their self-restraint they say they’re natural. They are more natural than men who have nothing to restrain. ... You will report to the ship immediately. Do you understand me? And you will stay on ship. There will be no more mixing with the degenerate natives of these islands. By any of my officers. Or by any of my crew. You comprehend my meaning, sir? Good. – from *The Bounty* (1984).

- The screenplay writer probably got the idea for this dialogue, which forms the crux of the conflict, from listening to the rationalizations of men accused of rape, sexual harassment or philandering.
- ✓ “In 1998, in advance of a BBC documentary film aimed at Bligh’s rehabilitation, the respective descendants of the captain and Christian feuded over their contrary versions of the truth. Dea Birkett, the programme’s presenter, suggested that ‘Christian versus Bligh has come to represent rebellion versus authoritarianism, a life constrained versus a life of freedom, sexual repression versus sexual licence.’” – from Wikipedia article, “Mutiny on the Bounty,” January 25, 2019, citing to Tim Minogue, “Blighs v. Christians, the 209-year feud,” *The Independent*, March 22, 1998 (article is available free online).
- ✓ “Whatever the truth, this 209-year-old story will run and run. As Kate McAll, the producer of Wednesday’s programme, said: ‘It’s got everything – sex, drugs and flogging. What more could anyone want?’” – *Id.*

¹⁰ Commentary: The greatest Viking who never lived was not Hagar the Horrible, but Charles the Viking, who defeated Harold the Saxon and then a week later repelled William of Normandy, thus securing England as a future Nordic country.

¹¹ Citation: “But just as a matter of cold realpolitik, I cannot grasp why so many people think it’s a good idea to stand by a man who, if elected, will serve as a negative campaign ad made flesh.” – Jonah Goldberg, *The National Review*, as quoted in the *Washington Post*, November 10, 2017.

¹² Commentary: It is sad and bemusing that in the early days of Magic: The Gathering, people were surprised and annoyed when the rabidly popular game based on collectible cards turned into a reflection of our world: The Haves and the Have Nots. In any competitive exercise, it will come down to the Haves and the Have-Nots, in whatever quality is required to win. In Magic: The Gathering, it was possession of single powerful cards that could make an otherwise average deck design work much better, where the object of the game was the fun and glory of winning regularly and aspirations to the pro-tour. Thus, the single price of those cards skyrocketed and players were dismayed that a single card that cost less than a penny to manufacture sold for hundreds of dollars, they were dismayed to find that the cost of serious play of Magic: The Gathering favored the Haves in our world. Like GGDM, the early days of Magic: The Gathering were educational, unlike GGDM, the education was neither intentional nor free.

¹³ Commentary: Had the Axis won WWII, would Hitler (despite his anti-Christian beliefs) have been canonized? Certainly the state would have fully taken over religion, as a necessity of control and legitimization; the Vatican has been criticized for not doing much during WWII, but consider where they are located. If not during Hitler’s lifetime, shortly afterward, it would have been necessary to legitimize the ‘de-Semitismization’ of Europe by claiming it as a triumph of the ‘Christian’ Third Reich; Italy would be eager to maintain its ‘special relationship’ with Germany, and the Vatican would be pressured as would the Patriarch. Hitler would also have been awarded various orders of knighthood (despite his anti-monarchist ideology) to both glorify and placate the Third Reich.

¹⁴ Commentary: Aside from looming global warming, drug resistant microbes and the technological singularity – there are worrying internal signs for those of us attuned to proximate and ultimate causes of history that suggests that the United States is on the downside of its historical cycle, that it has started along a well-trodden path of history – entitlements, oligarchy, increasing security and erosion of rights, apathy, distraction, erosion of power to the Federal Government, tribalism and political theatre, national debt, erosion of military advantage and diplomatic prestige, etc. I am not predicting the imminent demise of the United States, but I think I will not want to live in this country in a century from now; it will not be the place I swore to defend. I probably have lived in the best time.

¹⁵ Citation: Or in the famous Orwell Nineteen Eighty Four quote that has recently become popular again: “The past was erased, the erasure was forgotten, the lie became the truth.” How much history does this describe? A friend said to me, “Orwell always feels timely. Unfortunately.”

- ✓ One of the two forms of a tautology is *a statement that is true by necessity or by virtue of its logical form*. For example, “all bachelors are unmarried,” or “all triangles have three corners” are statements that cannot be disproven or made untrue by anything short of changing the definition of bachelors and triangles (or the prefix tri-, but then what about tripods? triumvirate? tri-centennial?). In the nature of language, of course, you are free to change definitions at any time – the problem is, getting others to accept new definitions and for them to become common in use (and the implications thereof). Sometimes it happens, but it’s a glacial process, not a matter of momentary political convenience.

SHARD: III. Around the Campfire

The Owl and the Birds

AN OWL, in her wisdom, counseled the Birds that when the acorn first began to sprout, to pull it all up out of the ground and not allow it to grow. She said acorns would produce mistletoe, from which an irremediable poison, the bird-lime, would be extracted and by which they would be captured. The Owl next advised them to pluck up the seed of the flax, which men had sown, as it was a plant which boded no good to them. And, lastly, the Owl, seeing an archer approach, predicted that this man, being on foot, would contrive darts armed with feathers which would fly faster than the wings of the Birds themselves. The Birds gave no credence to these warning words, but considered the Owl to be beside herself and said that she was mad. But afterwards, finding her words were true, they wondered at her knowledge and deemed her to be the wisest of birds. Hence it is that when she appears they look to her as knowing all things, while she no longer gives them advice, but in solitude laments their past folly.

Translated by George Fyler Townsend. Aesop's Fables (p. 69). Amazon Digital Services, Inc.

Excerpt of Justice Jackson’s Concurring Opinion
***Youngstown Sheet & Tube Company v. Sawyer*, 343 U.S. 579 (1952)**

Loose and irresponsible use of adjectives colors all nonlegal and much legal discussion of presidential powers. [343 U.S. 579, 647] “Inherent” powers, “implied” powers, “incidental” powers, “plenary” powers, “war” powers and “emergency” powers are used, often interchangeably and without fixed or ascertainable meanings.

The vagueness and generality of the clauses that set forth presidential powers afford a plausible basis for pressures within and without an administration for presidential action beyond that supported by those whose responsibility it is to defend his actions in court. The claim of inherent and unrestricted presidential powers has long been a persuasive dialectical weapon in political controversy. While it is not surprising that counsel should grasp support from such unadjudicated claims of power, a judge cannot accept self-serving press statements of the attorney for one of the interested parties as authority in answering a constitutional question, even if the advocate was himself. But prudence has counseled that actual reliance on such nebulous claims stop short of provoking a judicial test. [343 U.S. 579, 648]

The Solicitor General, acknowledging that Congress has never authorized the seizure here, says practice of prior Presidents has authorized it. He seeks color of legality from claimed executive precedents, chief of which is President Roosevelt’s seizure on June 9, 1941, of the California plant of the North American Aviation Company. Its superficial similarities with the present case, upon analysis, yield to distinctions so decisive that it [343 U.S. 579, 649] cannot be regarded as even a precedent, much less an authority for the present seizure.

The appeal, however, that we declare the existence of inherent powers ex necessitate to meet an emergency asks us to do what many think would be wise, although [343 U.S. 579, 650] it is something the forefathers omitted. They knew what emergencies were, knew the pressures they engender for authoritative action, knew, too, how they afford a ready pretext for usurpation. We may also suspect that they suspected that emergency powers would tend to kindle emergencies. Aside from suspension of the privilege of the writ of habeas corpus in time of rebellion or invasion, when the public safety may require it, they made no express provision for exercise of extraordinary authority because of a crisis. I do not think we rightfully may so amend their work, and, if we could, I am not convinced it would be wise to do so, although many modern nations have forthrightly recognized that war and economic crises may upset the normal balance between liberty and authority. [343 U.S. 579, 651] Their experience with emergency powers may not be irrelevant to the argument here that we should say that the Executive, of his own volition, can invest himself with undefined emergency powers.

Germany, after the First World War, framed the Weimar Constitution, designed to secure her liberties in the Western tradition. However, the President of the Republic, without concurrence of the Reichstag, was empowered temporarily to suspend any or all individual rights if public safety and order were seriously disturbed or endangered. This proved a temptation to every government, whatever its shade of opinion, and in 13 years suspension of rights was invoked on more than 250 occasions. Finally, Hitler persuaded President Von Hindenberg to suspend all such rights, and they were never restored.

The French Republic provided for a very different kind of emergency government known as the “state of siege.” It differed from the German emergency dictatorship, particularly in that emer-

gency powers could not be assumed at will by the Executive but could only be granted as a parliamentary measure. And it did not, as in Germany, result in a suspension or abrogation of law but was a legal institution governed by special legal rules and terminable by parliamentary authority.

Great Britain also has fought both World Wars under a sort of temporary dictatorship created by legislation. As Parliament is not bound by written constitutional limitations, it established a crisis government simply by [343 U.S. 579, 652] delegation to its Ministers of a larger measure than usual of its own unlimited power, which is exercised under its supervision by Ministers whom it may dismiss. This has been called the “high-water mark in the voluntary surrender of liberty,” but, as Churchill put it, “Parliament stands custodian of these surrendered liberties, and its most sacred duty will be to restore them in their fullness when victory has crowned our exertions and our perseverance.” Thus, parliamentary control made emergency powers compatible with freedom.

This contemporary foreign experience may be inconclusive as to the wisdom of lodging emergency powers somewhere in a modern government. But it suggests that emergency powers are consistent with free government only when their control is lodged elsewhere than in the Executive who exercises them. That is the safeguard that would be nullified by our adoption of the “inherent powers” formula. Nothing in my experience convinces me that such risks are warranted by any real necessity, although such powers would, of course, be an executive convenience.

In the practical working of our Government we already have evolved a technique within the framework of the Constitution by which normal executive powers may be considerably expanded to meet an emergency. Congress may and has granted extraordinary authorities which lie dormant in normal times but may be called into play by the Executive in war or upon proclamation of a national emergency. In 1939, upon congressional request, the Attorney General listed ninety-nine such separate statutory grants by Congress of emergency or wartime executive powers. They were invoked from time to time as need appeared. Under this procedure we retain Government [343 U.S. 579, 653] by law – special, temporary law, perhaps, but law nonetheless. The public may know the extent and limitations of the powers than can be asserted, and persons affected may be informed from the statute of their rights and duties.

In view of the ease, expedition and safety with which Congress can grant and has granted large emergency powers, certainly ample to embrace this crisis, I am quite unimpressed with the argument that we should affirm possession of them without statute. Such power either has no beginning or it has no end. If it exists, it need submit to no legal restraint. I am not alarmed that it would plunge us straightway into dictatorship, but it is at least a step in that wrong direction.

As to whether there is imperative necessity for such powers, it is relevant to note the gap that exists between the President’s paper powers and his real powers. The Constitution does not disclose the measure of the actual controls wielded by the modern presidential office. That instrument must be understood as an Eighteenth-Century sketch of a government hoped for, not as a blueprint of the Government that is. Vast accretions of federal power, eroded from that reserved by the States, have magnified the scope of presidential activity. Subtle shifts take place in the centers of real power that do not show on the face of the Constitution.

Executive power has the advantage of concentration in a single head in whose choice the whole Nation has a part, making him the focus of public hopes and expectations. In drama, magnitude

and finality his decisions so far overshadow any others that almost alone he fills the public eye and ear. No other personality in public life can begin to compete with him in access to the public mind through modern methods of communications. By his prestige as head of state and his influence upon public opinion he exerts a leverage upon those who are supposed [343 U.S. 579, 654] to check and balance his power which often cancels their effectiveness.

Moreover, rise of the party system has made a significant extraconstitutional supplement to real executive power. No appraisal of his necessities is realistic which overlooks that he heads a political system as well as a legal system. Party loyalties and interests, sometimes more binding than law, extend his effective control into branches of government other than his own and he often may win, as a political leader, what he cannot command under the Constitution. Indeed, Woodrow Wilson, commenting on the President as leader both of his party and of the Nation, observed, “If he rightly interpret the national thought and boldly insist upon it, he is irresistible His office is anything he has the sagacity and force to make it.” I cannot be brought to believe that this country will suffer if the Court refuses further to aggrandize the presidential office, already so potent and so relatively immune from judicial review, at the expense of Congress.

But I have no illusion that any decision by this Court can keep power in the hands of Congress if it is not wise and timely in meeting its problems. A crisis that challenges the President equally, or perhaps primarily, challenges Congress. If not good law, there was worldly wisdom in the maxim attributed to Napoleon that “The tools belong to the man who can use them.” We may say that power to legislate for emergencies belongs in the hands of Congress, but only Congress itself can prevent power from slipping through its fingers.

The essence of our free Government is “leave to live by no man’s leave, underneath the law” – to be governed by those impersonal forces which we call law. Our Government [343 U.S. 579, 655] is fashioned to fulfill this concept so far as humanly possible. The Executive, except for recommendation and veto, has no legislative power. The executive action we have here originates in the individual will of the President and represents an exercise of authority without law. No one, perhaps not even the President, knows the limits of the power he may seek to exert in this instance and the parties affected cannot learn the limit of their rights. We do not know today what powers over labor or property would be claimed to flow from Government possession if we should legalize it, what rights to compensation would be claimed or recognized, or on what contingency it would end. With all its defects, delays and inconveniences, men have discovered no technique for long preserving free government except that the Executive be under the law, and that the law be made by parliamentary deliberations.

Such institutions may be destined to pass away. But it is the duty of the Court to be last, not first, to give them up.

Sixth mass extinction: The era of ‘biological annihilation’

Excerpts from article by John D. Sutter, CNN, July 11, 2017

Many scientists say it’s abundantly clear that Earth is entering its sixth mass-extinction event, meaning three-quarters of all species could disappear in the coming centuries.

That’s terrifying, especially since humans are contributing to this shift.

But that’s not even the full picture of the “biological annihilation” people are inflicting on the natural world, according to a study published Monday in the Proceedings of the National Academy of Sciences. Gerardo Ceballos, an ecology professor at the Universidad Nacional Autónoma de México, and his co-authors, including well-known Stanford University biologist Paul Ehrlich, cite striking new evidence that populations of species we thought were common are suffering in unseen ways.

“What is at stake is really the state of humanity,” Ceballos told CNN.

Their key findings: Nearly one-third of the 27,600 land-based mammal, bird, amphibian and reptile species studied are shrinking in terms of their numbers and territorial range. The researchers called that an “extremely high degree of population decay.”

The scientists also looked at a well-studied group of 177 mammal species and found that all of them had lost at least 30% of their territory between 1900 and 2015; more than 40% of those species “experienced severe population declines,” meaning they lost at least 80% of their geographic range during that time.

Looking at the extinction crisis not only in terms of species that are on the brink but also those whose populations and ranges are shrinking helps show that “Earth’s sixth mass extinction is more severe” than previously thought, the authors write. They say a major extinction event is “ongoing.”

“It’s the most comprehensive study of this sort to date that I’m aware of,” said Anthony Barnosky, executive director of the Jasper Ridge Biological Preserve at Stanford University, who was not involved in the study. Its value, Barnosky said, is that it makes visible a phenomenon typically unseen by scientists and the public: that even populations of relatively common species are crashing.

“We’ve got this stuff going on that we can’t really see because we’re not constantly counting numbers of individuals,” he said. “But when you realize that we’ve wiped out 50% of the Earth’s wildlife in the last 40 years, it doesn’t take complicated math to figure out that, if we keep cutting by half every 40 years, pretty soon there’s going to be nothing left.”

Stuart Pimm, chair of conservation ecology at Duke University in North Carolina, summed up the the concept this way: “When I look out over the woods that constitute my view from my window here, I know we no longer have wolves or panthers or black bears wandering around. We have eliminated a lot of species from a lot of areas. So we no longer have a functional set of species across large parts of the planet.”

This is an important point to emphasize, Pimm said. But the new paper’s analysis risks overstating the degree to which extinction events already are occurring, he said, and the research methodology does not have the level of granularity needed to be particularly useful for conservationists.

“What good mapping does is to tell you where you need to act,” Pimm said. “The value of the Ceballos paper is a sense of the problem. But given there’s a problem, what the bloody hell are we going to do about it?”

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“By 1958 (Causes of World War III), [C Wright.] Mills seemed much more concerned with the rise of militarism among the elites than with the hypothesis that many elites were military men. According to Mills, the rise of the military state serves the interests of the elite of industrial societies.

For the politician the projection of military power serves as a cover for their lack of vision and innovative leadership. For corporate elites the preparations for war and the projection of military power underwrites their research and development as well as provides a guarantee of stable profits through corporate subsidies. This militarism is inculcated in the population through school room and pulpit patriotism, through manipulation and control of the news, through the cultivation of opinion leaders and unofficial ideology.”

– Frank Elwell, “C. Wright Mills on the Power Elite” (2013) ¹

Interstellar Politics: “Rhetoric is the art of ruling the minds of men” – Plato. One useful definition of politics is ‘the process by which we decide the allocation of resources, who gets what, when and where.’² From this process flows all things commonly identified with politics, for example, political power (the authority to decide or the ability to disproportionately influence the debate over resources), ideology (the philosophy upon which the decision to allocate resources might be based), rhetoric (now a derogatory term, but once an important and respected part of Western Civilization and classical learning), popular voting (the novel idea that the people paying the taxes and producing resources should at least have the illusion that they have a say in the allocation of those resources) and of course, conflict and war.

Civilizations live and die on resources. The Late Bronze Age Collapse, Greek Dark Ages, the collapse of Mississippian culture and of Mayan culture, the fall of the Akkadian and Khmer Empires, are all attributable in large part to failure of resources and competition from in-fighting and outside invaders fighting over dwindling resources.

What would make interstellar politics particularly different are the dichotomy of the limited resources of each world, each a unique island in the vast emptiness, and on the other hand, the potentially unlimited resources and expansion and living space available in Galactic Space, if we can just get there. Some have suggested, indeed, that once cultures reach galactic space, there will be no need for war over resources, or living spaces, as it would be easier to go out and get your own resources and living spaces than to war with another and take it from them by force. War would, theoretically, become obsolete and prohibitively expensive; that was the hopeful theme of the New Wave science-fiction movement of the 1960s.

Yet – curiously – most of the interstellar science-fiction trope from the late 1960s onward – in television, movies, and computer games (visual media) features almost endless interstellar warfare fought against the backdrop of great philosophical debates, moral issues, and even reforms. Because without literary content, it would be just senseless warfare and adventure.

- ✓ “While these are agonizing, career-defining decisions for lawmakers, they are also at heart based on cold political calculus. And that must not be lost in the conversation. Most politicians respond more to political incentives than principles. That’s the single most important insight to understanding how Washington really works.” – James Hohmann, “The Daily 202,” The Washington Post, August 9, 2016.³

“Humans relate to nature through production of goods as well as the reproduction of the species. It is through the production process that humans transform nature (the ‘inorganic body’) into products for human use. The reproduction process both assures the continuation of society as well as regulates the amount of resources required from the natural environment. These processes are therefore central in understanding how humans relate to the environment, that is, in understanding human ecology.

‘The first premise of all human existence and, therefore, of all history,’ Foster cites Marx and Engels, ‘is that men must be in a position to live in order to be able to ‘make history.’ But life involves before everything else eating and drinking, housing, clothing, and various other things. The first historical act is thus the production of the means to satisfy these needs, the production of material life itself. And indeed this is an historical act, a fundamental condition of all history, which today, as thousands of years ago, must daily and hourly be fulfilled merely in order to sustain human life... the production of life, both of one’s own in labour and of fresh life in procreation... appears as a twofold relation: on the one hand as a natural, on the other hand as a social relation (116).’”

– Frank Elwell, Macro Social Theory (2009), Kindle Edition, p. 81, quoting John Belamy Foster

Life, Taxes, Death, and Taxes: Professor Elwell’s summary succinctly links human production and reproduction as two prongs of nature and social relationships: Taxation & Census in GGDM. Activation of the Taxation Power allows a player to collect resources from *all* eligible colonies on the turn of the activation. Activation of the Census Power allows the position’s native and naturalized populations to ‘grow’ on *all* eligible colonies on the turn of the activation. Actually, taxation and population growth occur constantly/continuously, thus activation of the Taxation and Census Powers in the game only represent the act of ‘looking’ to realize and quantify the production of resources and the growth of populations. The Taxation and Census Powers may each only be activated once per turn, but both could be activated in the same Regular Turn (Census Power processes before Taxation ... if you are feeling greedy).

- ✓ Taxation and Census are very much linked in the world, in many nations one receives a tax benefit for having children. Benefits encourage certain linked behaviors or discourage bad results, such as children in poverty. Cold War Romania remains one of the most extreme examples of taxation used to drive explosive population growth.

Activation of the Census Power requires two Acts and no Scenes, while activation of the Taxation Power requires either three Acts, or two Acts and a Scene placed on the Capital.⁴ Additionally, activation of the Census Power likely will cause the loss of Proficiencies on the Public Space (see *And the Cradle Will Rock*, 3 Culture, p. 382, *infra*) as a new generation turns over, thus activation of the Census Power also has a wider effect on the Public Space. The Taxation Power is the second most expensive Power activation, and will usually be processed last in the sequence (see *Clockwork Universe*, *The Streams of Time*, p. 90, *supra*) *except* when the Culture Power is activated to Found a College (see *Foundation*, 1 Colleges, p. 457, *infra*). The ability to either use three Acts or two Acts and a Scene on the Capital Colony provides flexibility.

- ✓ “People should realize that sons no longer send money to their fathers. They are using it as they choose. The government has done well to tax young men.” – King Dinuzulu kaCetshwayo, from *Bhambatha: War Of The Heads* (documentary, 2009).

- **Tax Revolt or Revolting Taxes:** Taxation and Census Power Activations are not targeted to specific colonies or do not affect just a single colony (unless the position has only one colony). Activation of the Taxation and Census Powers, unlike many other Power Activations, is a global event that affects *all eligible* sovereign colonies of the position, even if they cannot grow or contribute (eligibility will be discussed in 2 & 4 Taxation & Census, *infra*). Each colony is checked during Taxation to see whether it obeys the Taxation Power activation (i.e. due to inactive Constructural Elements, see Power Off, 2 Constructural Elements, p. 193, *supra*), some colonies might not pay their taxes. Failure of the Taxation Power activation at any colony does not count as a Power Activation failure for Government Title Conflict Checks (see 3 Government Titles, pp. 613, 615, *infra*) *unless* all eligible sovereign colonies fail Taxation (this could be really bad if you only have one colony...). However, *the Census Power is immune to inactive Constructural Elements* and thus requires no checks at each colony (they will never fail to reproduce) but may result in loss of Proficiencies (*ut supra*). Population on Colony Ships do not grow during the Census Power activation.
- ✓ Although science-fiction trope has posited situations in which an entire species either refuses to or cannot reproduce (e.g., Children of Men (2006) or the Asgard in Stargate SG-1), there are no historical examples that I am aware of where it has actually happened, unlike the millions of instances of refusal to pay taxes or annual tribute:
 - “The passion between the sexes has appeared in every age to be so nearly the same that it may always be considered, in algebraic language, as a given quantity. The great law of necessity which prevents population from increasing in any country beyond the food which it can either produce or acquire, is a law so open to our view...that we cannot for a moment doubt it. The different modes which nature takes to prevent or repress a redundant population do not appear, indeed, to us so certain and regular, but though we cannot always predict the mode we may with certainty predict the fact.” – Thomas Malthus, An Essay on the Principle of Population (1798).
 - *A priori* vs. statistical entropy.

“There’s a building in the Cayman Islands that supposedly houses 12,000 U.S. corporations, which means it is either the largest building in the world or the biggest tax ripoff in the world, and I think we know which one it is.”

– Sen. Barack Obama, 2007

Tax Shelter: There is a history of considerable interplay between taxation, business, culture, and the direction of a civilization. Some of it is vaguely addressed in GGDM’s mechanics, but there is room for some variance. Mad Max director George Miller provides a possible example:

- ✓ “Then it changed. We kind of became flavour of the week or flavour of the month in the United States; Australian directors tended to become popular there to some degree, and the government saw that we’re a good way of advertising Australia. And so they started to introduce the tax legislation which brought in tax shelter, which brought in a whole lot of people who were skilled at financing but not skilled as film makers. So the industry took on a degree of cynicism, it matured in one sense but also got cynical.

And so we had a lot of bad films, tax shelter [films]. We reproduced the Canadian system, as much as we tried to avoid it, we reproduced that system. And then people got sick of seeing the historical films, or we ran out of subjects, started to move into more contemporary stories which just didn't [work as well], because our society isn't significantly different enough to American society to really make our stories stand out as contemporary stories. The budgets were so high by now with the tax legislation that you can't make indigenous films for sixty-eight million people, what we call 'parish pump,' more intimate local colloquial stories.

So a lot of that work then went into TV, so in a sense we reproduced what's happened in England. So now as we see it, we have a small population with a degree of maturity in the industry, with a lot of the advantages that come with that and a lot of the disadvantages, but a fairly high degree of cynicism unfortunately, which I think is the death of any industry. And with a lot of the talent going into television, so who knows where we're going to go. A lot of the Australian directors are tending to work in Hollywood, mainly because the budgets are bigger there, and they have a wider range of stories that they can tell." – George Miller as quoted by Anne Billson, "George Miller Talks about Mad Max, Heroes & Tina Turner: The 1985 Interview," previously unpublished interview published on Multiglom: The Anne Billson Blog, May 12, 2015.

The main difficulty in simulating this in GGDM is the macro-level at which civilization is played in the game. It may be that participants decide that RPs taken from the Treasury for various activations or funding represents tax shelters, tax variances, or tax concessions, participants need to decide what is being represented by one or the other option and why they are different.

"The problem with the census kerfuffle is that it, well, involves the census. The second problem is that it involves gerrymandering and complex calculations that most people inside political circles in Washington don't fully understand. You layer those two things, and it's a recipe for people's eyes glazing over. But, the inclusion of a citizenship question is the kind of thing that could be used to cement the GOP's already very strong advantage when it comes to the composition of the districts we use to elect our representatives. And that's a system the GOP has already gamed to great effect.

Given the GOP's existing advantages, some have wagered that the Democrats would never be able to win back the House until they can win power in key states and redraw some of the maps. Those suggestions proved wrong in 2018, but Democrats' hold on the House is and will be tenuous, at best, for the foreseeable future. What adding a citizenship question would potentially do for Republicans is twofold: 1) It could dissuade undocumented immigrants from responding (for fear of disclosing their status to the government), which would dilute their representation and transfer it to areas that are more likely to be Republican-leaning. And 2) It would give Republicans a potential game-changing tool to rejigger maps in the future. The GOP would very much like to draw maps according to citizen voting-age population, rather than total population, because that benefits more rural areas. That's questionable from a constitutional standpoint, but without a citizenship question to give it the data it would need, Republicans can't even really attempt it." – Aaron Blake, "The census is a sleeping giant of a potential Trump administration scandal," Washington Post, June 12, 2019

Krypton Kerfuffle: We are accustomed to think that what we see in the game information is absolutely true; e.g., when we look while playing a board game, and see the location and information on our own game pieces, locations, and properties.

And unless the game has decoys and mechanisms that allow players to hide movement or disguise the composition of their forces, we also assume that what we see of enemy or opposing game pieces on the board is also absolutely true, e.g., the white bishop is really there, in that space, projecting those lines of force both ways across the board and there is no chance that it might really be in one space to either side.

While it is likely that information reported to a position about its own civilization, ships and so forth is absolutely true (correct, factual, verifiable), Census and Taxation Power Activations provide special opportunities for provision of less-than-accurate information to players about their own position, e.g., political gain, gerrymandering, local puffery, corruption, avoiding or causing failure of Conflict Checks. Other possible opportunities for Interventions to provide not-quite-true information to position players about their own positions might be research results, ship locations, and even Ground Units (e.g., in 2014, Iraq was paying tens of thousands of non-existent soldiers, local commanders were able to create non-existent soldiers and pocket their pay).

- ✓ “In addition, pursuit was made more difficult, according to Soviet Air Force Captain Aleksandr Zuyev, who defected to the West in 1989, because ten days before Arctic gales had knocked out the key warning radar on the Kamchatka Peninsula. *Furthermore he stated that local officials responsible for repairing the radar lied to Moscow, falsely reporting that they had successfully fixed the radar.* Had this radar been operational, it would have enabled an intercept of the stray airliner roughly two hours earlier with plenty of time for proper identification as a civilian aircraft.” – from Wikipedia article, “Korean Airlines Flight 007,” citing to CBS 60 Minutes program interview which is available on YouTube (emphasis added).

The participants will need to decide as in-game policy whether or not internal position information is absolutely true at all times; in cases where the Concierge has Intervened to present incorrect information to the position players, even if they know it is obviously not correct, they cannot be certain of what is the actual truth or perhaps that what they thought was true previously might not have been (e.g., a sudden drop in population factors in a new Census without external explanation, or ships *en route* arriving at a different destination than expected).

- Customer Service: So many things in our civilization are the opposite of what they are purported to be, the *opposite* of what they are labeled and represented as being. Modern customer support is plagued, *by design*, with know-nothingness and do-nothingness; rather, the agent’s task is to deflect and placate the upset customer and pass the buck up the corporate chain. This makes it easier and attractive to outsource to foreign or low-paid call centers.

Many customer service and government phone numbers are walls to avoid providing service. Some numbers have layers of menus and no way to talk to a person. Recordings, circular menus, recordings; *they don’t actually want to speak to you.* They assume you will eventually hang up. Modern ‘customer service’ is Talk to the Hand because we aren’t listening.

- ✓ Technical support is a joke.... they hire people who know nothing at all, put them in front of a computer and have them work through diagnostic tree menus. Most of them don’t listen to what you say, they are too busy trying to fit square pegs into round holes because they have no technical knowledge or broader understanding.

At a law firm that I worked for, they had an ‘origination fees award committee’ who reviewed new client acquisitions for assignment of origination fees to the attorney who brought

in the new business. In reality, the function of the committee was the opposite of their supposed purpose; they always had an excuse to not award origination fees, for example, they would claim that the new client called due to phonebook advertising by the firm or that they never received the forms. Their job was delay and obstruction, like good defense attorneys, except it was employed against their own producers in satellite offices. The system was not working as intended or was working exactly as intended, depending on your view.

There are opportunities where Concierge Intervention or creative storytelling by the participants may show that Colleges, Institutes, Corporations, and such, are not as claimed.

“I’ve been watching the recent libertarian conundrum – concerning the morality of using taxes to prevent a killer asteroid from wiping out humanity – with great fascination. For anyone not privy to the whole saga... Essentially, some (uber) libertarians have made it plain that they would rather die with their principles than see some thievin’ gub’mint send up a Bruce Willis-type into space to blow up any asteroid on the back of stolen tax money. ...

*Lest it be unclear, I am firmly in the camp that proclaims such positions as absurd. Further, it appears that many self-proclaimed libertarians count themselves in the same boat. I’d be worried if they didn’t; it would elevate a **cut-off your-nose-to-spite-your-face** mentality to an astronomical level, so to speak. Now, there have since been some more nuanced defences along the lines of: ‘I would contribute; I just don’t think you can force other people into contributing.’ However, from my perspective these positions still overlook the free-rider problem and ultimately equate to little more than a form of culpable homicide.”*

– Grant McDermott, “Mises’s action ‘axiom’ or false dichotomy?” grantmcdermott.com (blog), February 24, 2011 (emphasis in original)

Endnotes.

¹ Citation: Retrieved from faculty.rsu.edu. Dozens of macrosocial essays on various theorists written by Professor Elwell can be found here for free.

² Citation: “Someone once said that politics is the second-oldest profession. I’m beginning to think it bears resemblance to the first.” – Ronald Reagan.

³ Citation: James Hohmann seems to echo Walter Lippman; cf. “With exceptions so rare they are regarded as miracles of nature, successful democratic politicians are insecure and intimidated men. They advance politically only as they placate, appease, bribe, seduce, bamboozle, or otherwise manage to manipulate the demanding and threatening elements in their constituencies. The decisive consideration is not whether the proposition is good but whether it is popular – not whether it will work well and prove itself but whether the active talking constituents like it immediately. Politicians rationalize this servitude by saying that in a democracy public men are the servants of the people.” – Walter Lippmann, Essays in the Public Philosophy (1955).

- ✓ Monarchs, by engaging in 19th and 20th Century politics were reduced to being modern politicians, stripped of the last visages of their ancient majesty and mystique; engaging in politics also negates the concept of absolute authority, you don’t politic when you have arbitrary, unilateral, unaccountable authority. Emperor Napoleon III had to placate and compromise with religious and secular factions, and appeal to the masses in referendums, and it backfired on him. Modern monarchs are mostly titular only, many are either forbidden from engaging in politics or are of severely-limited constitutional power, leaving as their main means of influence their personal and media appeal to the populace, like, but less than, any modern politician – the modern royals have in most cases, no veto, no budget control, little or no power of appointment and no backroom access. They are living ghosts; retained for national-culture identity and spiritual connection.

⁴ Commentary: This choice is given to the position players, there are many cases where the Scene on the Capital Colony may be needed for other tasks, such as Construction, Culture or Commerce Power Activations.

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See Appendix AGE – Aging Out
See Appendix EPATI – The Existential Patents
See Appendix EPAT2 – Existential Patents Quick Summary
See Appendix T&C – Taxation & Census Example

*“Ocean’s dying, plankton’s dying... it’s people. *Soylent Green is made out of people.* They’re making our food out of people. Next thing they’ll be breeding us like cattle for food. You’ve gotta tell them. You’ve gotta tell them!”*

– Soylent Green (1973)

There’s a Signpost Up Ahead: Consider that very few in our population can now hunt or fish effectively, few would know how to butcher and clean the meat properly, and many don’t even know how to cook. Many would be inept at making fire and shelter. And the part of our population that farms for a living is shockingly small and much of the arable land has disappeared in the last 50 years, turned into malls and suburbs (and probably unrecoverable as arable land). In a catastrophic and long term disruption of the food production, processing and distribution systems, there is not enough wildlife left to meaningfully support the population and canned, processed or frozen foods would be gone within six months to a year. A Malthusian catastrophe of sorts would soon reduce the population to a fraction of the current levels.

Resources: It is assumed that all colonies are basically self-sufficient, being as they are, isolated islands separated by vast interstellar space.¹ But all colonies also desire goods and services from other places and will work to make a profit.

- ✓ If you are importing all or most of your food, you’d better have an export that everyone else cannot do without – and a strong navy to insure the food shipments arrive.

Nascent interstellar politico-economics are projected to be similar to those of feudal Europe: Each community centered around a stronghold, castle, or town was essentially self-sufficient in terms of food, survival, essentials – they had fields, serfs or peasants, skilled tradesmen, cattle, oxen, a mill, housing or huts, a member of the clergy who doubled as a medical doctor many times, burial places – with some traffic along rivers, old Roman roads, or rutted dirt tracks and bridges depending on location, providing outside goods, culture and communication.

It is also assumed that colonies must look first to their own infrastructure, civil safety and order, and domestic subsistence, therefore, the amount received in taxation from the colony or any resources carried away in trade activities represents the *excess* production of the colony, ***above and beyond current culturally accepted levels of comfortable living***² that is available for the building of an interstellar civilization.³

- ✓ “Diet helped determine peasant status as well. Most likely the peasant and his family ate less nourishing and less varied food than his grandparents had. Certainly the family ate less meat, and the caloric content of its porridge and bread was below sixteenth century standards. However, variations were great from country to country and region to region. English renters ate better than French sharecroppers, and a Polish serf or Sicilian day laborer would have considered the diet of a Dutch truck farmer as positively princely.” – Raymond Birn, Crisis, Absolutism, Revolution: Europe 1648 to 1789 (2nd Ed., 1992), p. 26, discussing domestic subsistence in 17th Century France.
 - Small Beer or Table Beer is believed to have been developed for and provided an important nutritional supplement to lower class diets from the Middle Ages onward to the 18th Century; it was consumed with meals by males and females of all ages due to the low alcohol content.

- ✓ “... doubtless some societies would be willing to receive inputs of goods without reciprocating through exportation, but this is obviously difficult to achieve in a world of shortages. Probably the contemporary society that comes closest to this is North Korea, as it lacks a market economy, and can afford comparatively few exports, as the goods of the sort it produces are generally needed at home.” – Kenneth D. Bailey, “Boundary Maintenance in Living Systems Theory and Social Entropy Theory,” *Systems Research and Behavioral Science*, Vol. 25, Is. 5, pp. 587-597, January 7, 2009.

- Inescapable Logic: The resources available to a civilization are always a cash flow type problem: Production → Processing (+ initial distribution/transport) → Secondary Distribution/Transport to markets → Consumption/Demand. A society can never consume more than it produces, has and/or brings to market at any given moment (through production, storage and/or importation); that is just inescapable logic. Thus, if aliens peacefully conquered the Earth and prohibited all forms of human transport and travel of more than ten miles, humanity would be limited to what they can produce locally and our systems would collapse.

It is also likely that some resources must be produced regardless of the cost and time, thus great efforts might be spent transporting over long distances or on high end processing for a small return. GGDM does not look at the star system/colony resource process; the game only looks to see what is available to the interstellar government from each planet/colony under its control without questioning the processes – whether equitable/inequitable, wasteful/efficient, polluting/clean, nor the politics or necessity (there is much room here for the Concierge to operate). The distribution, transportation and importation of resources on the interstellar level is addressed in the Commerce section generally, *infra*.

- ✓ “The art of taxation consists in so plucking the goose as to obtain the largest [number] of feathers with the least possible amount of hissing.” – Jean-Baptiste Colbert, Comptroller General of Finances, First Minister of State under Louis XIV of France.
 - Other shortened versions of this include “pluck the goose with a minimum of screeching”; Colbert may have got this idea from Albrecht von Wallenstein, an imperial mercenary commander in the service of Ferdinand I of Austria-Hungary who devised a new system of funding the war by levying ‘war taxes’ on subjugated populations.
- What You Got, When You Get: The ‘money’ of the game, the resources immediately available for the use of the interstellar government, are measured in the form of Resource Points, hereafter, “RPs.” While RPs do share many of the same functions as money in the real world, it would be a mistake to think of RPs as simply ‘money’ in the traditional sense. RPs represent instead, all of the kinds of resources available, from raw materials to intellect to time and the faith of the population. RPs represent some things that cannot be obtained with money (such as intellect and population) while ‘money’ only represents the holder’s potential to obtain the resources available at that time in his society, and a rough relative measure of the value of one resource against another. Resources are whatever a culture needs to do a job. Resource Points without people is a pile of rocks in the middle of a field of ragweed. For game convenience, RPs are always measured, added, subtracted, and used in whole units, any fractional units are lost. **RPs must always either be in the Treasury or on a Cargo Ship** (or in some cases, reserved for a specific purpose, but still technically in the Treasury).

- ✓ Fans of Star Trek: TNG refer to the 24th century as a ‘resource based economy’ in a meaning that is likely very similar to GGDM’s concept. This discussion was played out in the conversations between Captain Picard (who doesn’t actually use the term) and Ralph Offenhouse, a 20th Century money-obsessed human who had been awakened from cryogenic sleep in the episode “The Neutral Zone” (1988). In any event, ST:TNG was always very anti-capitalist in reaction to the 70s and 80s ‘material me money first’ Western culture, and seemed to try to suggest other ways of living and working; Star Trek fans should like GGDM’s resource economy concepts.
 - For many, of course, this borders on socialist-communist messaging; and there is no doubt that the future represented by Star Trek: TNG near the end of the Cold War was implicitly socialist in nature. Unlike many ideologues and pundits, I don’t see any great conspiracy in that suggestion, but I can see why the right has always painted Hollywood as left leaning.
 - Though I watched Star Trek TNG in the early 1990s, I cannot say for certain that it was the inspiration for GGDM’s resource economy. The original Stellar Conquest board game (1975) had Industrial Points (IPs), which I changed to RPs sometime after 2000. I don’t remember why I changed it, but I am sure that Intervention Potentials (IPs) were not added until after 2015, so that was not the reason. Once I changed them to RPs, I naturally began forming the resource-economy arguments to define its meaning in the game. Thanks to Amazon Prime and YouTube, in 2019, I became re-familiarized with Star Trek’s arguments long after I had already formed the resource economy arguments for GGDM.
- Treasury: RPs collected during Taxation are kept in an *imaginary* floating pool of resources called the Treasury. The Treasury is purely fictional, it has *no actual location* and it can’t be captured, looted, or robbed (unlike Ft. Knox).
 - ✓ I used to play a computer game called Lords of Conquest back around 1989-1990. Each position had a Treasury that had a location on the board, if your Treasury was captured, it was looted and added to the conqueror’s Treasury. I am not a big PC gamer, but I think that is the only game I have seen with that mechanic.
 - See also, Avar Ring discussion, 1 Resolution, p. 1466, *infra*. The concept of the Treasury in GGDM is the opposite of the legendary Avar Ring.

The Treasury represents the flow of the economy, the ability to trade information on developments and technologies, the work ethic of the population, and the ability of goods and services to flow along a developed infrastructure in the way that makes a nation and a civilization. Resources from the Treasury are used for activities when Powers are activated, such as for cultural traits pieces, endowing Colleges, researching technologies, and planetary development. However, there are limits to which the resources from the Treasury can be channeled to any particular colony due to the local limitations of time, manpower, and the arrival of materials. Thus, a colony cannot build 500 RPs of ships in a single Regular Turn because your position has 500 RPs in your Treasury! Time and planning are necessary to this game.

- ✓ As a general guide, positions must have RPs in the Treasury before most Power Activations that require RPs because most actions are processed before Taxation in the normal Regular Turn Actions processing sequence.

- ✓ Unlike in the real world, ‘taxes’ in GGDM are paid in resources. You cannot pay the U.S. government taxes in resources; only U.S. currency is accepted for payment of taxes, and this is one way in which the government enforces use of currency (not that it really needs to, the system is self-perpetuating now). Note however, this was not always the case; until a century or two ago (before paper money), even in systems that had metal coin currency, taxes could be paid with goods and services, e.g., it was common through most of history for farmers to pay their lord with part of their crop.⁴
 - Commodities futures allegedly began when Samurai sold future harvests at reduced value for money in the present to cover costs and exigencies.
- ✓ [Interview] “The poll tax was a means of getting the young Zulu men to go and find employment in the mines or construction. Because the Zulus were actually farmers, they didn’t need money, so there was no point in them going to work because they had everything they needed, and also, there were other taxes as well, there was a hut tax, there was a dog tax you can imagine and there was also taxes to man which was actually out of proportion.” – Aurelian Mndaweni (Research & Education Officer), Fort Eshowe Museum, Zululand, from Bhambatha: War Of The Heads (documentary, 2009).
- Aging Resources: Resources don’t last forever; you have 50 apples today, a month from now you will have 50 rotten apples crawling with bugs. While resources are accumulated as ‘points’ in an imaginary pool called the Treasury, at the end of each Regular Turn (or Turn Cycle if Regular Turn Actions are not submitted or processed), between 10% and 30% of RPs *in the Treasury* will be automatically lost due to various general entropic effects (this is not a Concierge Intervention).⁵ Five percent will be added to the loss for each disrupted Government Title at the end of the Regular Turn. Even ‘money’ while it arguably lasts forever, will eventually decrease in value due to natural inflation. It may be wise and necessary to accumulate some resources, but the universe is a waiting pool of *nearly infinite resources* – so no need to hoard or go to war – and if we ever get out there, that will be why we go.
 - ✓ RPs on Cargo Ships do not ‘age-out’ so it is possible to end-run the aging process by storing RPs on Cargo Ships. Presumably, they represent hard RPs, not soft RPs, however, RPs loaded onto Cargo Ships become immediately less useful (e.g., you cannot use them to fund Technological Research or recruit Special Operations Missions). If this becomes an abuse in the game (and players should never seek to abuse the mechanics of the game), there are ways of dealing with it in-game, e.g., Interventions.

As automatic entropic effects are already built into the game system through aging of resources, the Concierge should act cautiously in applying Interventions against position Treasuries (e.g., to simulate corruption). Additionally, direct loss of RPs from the Treasury should probably not be allowed as effects in adverse News Events, for the reasons cited above, plus that it is problematical based on the abstract concept of the Treasury. This does not mean that catastrophes cannot happen to good planets, locally affecting RPs.

- ✓ Unlike money, resources are not redeemable or transferrable for anything; you must have the correct resources in the right place at the perfect time. GGDM is intentionally rather blurry on that subject, using a very expansive definition of RPs and generally assuming that the resource conditions are correct when RPs are used for Power

Activations. Thus, RPs seem like money in the game, but there is room for interpretation and Interventions. Additionally, RPs in GGDM age, whereas money never does generally (it isn't around long enough!).

*“Economists, however, have a language all their own when it comes to money. They define it as something that serves as a **medium of exchange**, a **unit of accounting**, and a **store of value**.... In other words, economists largely define money by the functions that it serves. It need not be green and made of paper, and it need not be little metallic discs – money is anything that fills those three essential functions. Now, the best money is also highly convenient – it is light, easy to carry, and can be broken into smaller units for easy exchange.... But most important, it must serve as a medium of exchange, a unit of accounting, and a store of value.”*

– from “Money: The Economic Definition,” retrieved from shmoop.com, November 24, 2017 (emphasis in original text)

Hrimata Eleison!: Although resources are and must be the basic economic standard of the game rules, players are free to develop whatever interstellar currency exchange systems they choose, and to bring to the game or develop, whenever practical and workable (and such that value is added to the game, without bogging it down in financial minutia), any of the complex financial systems of the real world. It may also be assumed (unless otherwise specified) that cultures beginning the game have developed and are comfortable with their own monetary systems, which are used to measure and transfer monetary value internally.

- ✓ “Lysander amassed a huge fortune from his victories against the Athenians and brought the riches home to Sparta. For centuries the possession of money was illegal in Lacedaemonia, but the newly minted navy required funds and Persia could not be trusted to maintain financial support. Roman historian Plutarch [Life of Lysander] strongly condemns Lysander’s introduction of money; despite being publicly held, he argues its mere presence corrupted rank-and-file Spartans who witnessed their government’s newfound value for it. Corruption quickly followed; while general Gylippus ferried treasure home, he embezzled a great amount and was condemned to death in absentia.” – from Wikipedia article, “Lysander,” captured July 3, 2019.

There are a number of moving parts to the Spartan situation:

- ✓ It implies that coins were being minted and in wide circulation around Greece (and likely most of the Mediterranean) by 404 B.C. and that the practice was known in Sparta but prohibited for some unknown reasons, perhaps to avoid accumulation of wealth by helots and lesser Spartan families or to avoid Spartan wealth being carried away by *perioikoi* (free traders) and foreigners. Or to avoid naked wealth disparity.
- ✓ The victory in the Peloponnesian War was a cultural-economic kairotic moment in Spartan society; their newfound wealth was mainly expressible in coinage and precious metalware (jewelry, etc.) they took from Athens, food and crafts and labor tribute from Athens allies would come to Sparta instead, easing their food shortages, shifting their economy.
- ✓ Out of political-military, cultural and economic necessity, Sparta was changed by their victory over the Athenians. This is possibly Plutarch’s way of expressing the ‘evils of war’ if he considered Sparta to be an ideal model of civilization.

In the end, what is money, but a number that we use to assign relative economic value to goods and services? An unfortunate side effect is that it is frequently used to assign value to people. Money cannot be used to make anything, other than paper airplanes or to start a fire. Money cannot buy resources that are not there. Money cannot be used to obtain resources that the owner is not willing or able to part with for any amount (though you may well use money to convince others to forcibly take the resources for you). Money cannot be used where the concept doesn't exist. Only resources count, money is just the ability of individuals, governments and groups to command and acquire the resources and goods available in a place and time; their relative 'share' of the pool of available resources. Some pools and shares are bigger than others though.

- ✓ The discussion of money, trade, and interstellar currencies continues in 2 Commerce p. 1205, *infra*. For all game purposes, RPs are used.
- ✓ “Everyday a new sensation, While a million creatures, See their soil turning to dust, *Hrimata Eleison!*” – Xandria, “Nightfall” (2014).

“But [French-born Simon de Brion, Pope] Martin [IV] underestimated the Sicilians’ hatred of the French, and especially of Charles [I of Anjou, King of Sicily, Prince of Achea, Senator of Rome], who ruled from Naples rather than Palermo, where he could have seen the suffering caused by his officials. Charles’ island officials were far removed from his oversight; he did not see the avarice, the rape, theft and murder, nor did he see the high taxes levied against the meager possessions of the peasants, which kept them impoverished, but made no improvement in their lives.”

– from Wikipedia article, “Sicilian Vespers,” captured November 21, 2018 ⁶

The Taxman Cometh: Taxation is the process of ‘making’ the colonies produce RPs for the Treasury for use in other activities (or collecting RPs from colonies for use in other activities).

- **Resources from Population:** All population factors (native or alien) on all colonies owned by the taxing player, *except* for **Conquered Colonies** (see Colony Politics, *et seq.*, 2 Order, pp. 538-539, *infra*), produce 1 RP for every five factors of population on colonies. Resources from population factors generally represents ‘man hours’ and non-material mental resources rather than the kind produced by hard core Industry, but for the purposes of the game, they all go into one undistinguished pool of resources. Income from populations are calculated per colony (colonies cannot combine); odd or leftover factors are dropped (truncated) and produce nothing. Therefore, a planet with 62 population factors would produce 12 RPs, which then go to the Treasury.
- **Resources from Industry:** The production of Industry is based on the state of the position’s industrial technology (measured in RPs produced per Industrial installation) as of the end of the last Regular Turn (that is, a position may not use improvements in industrial technology in the *current turn* to boost industrial output during Taxation).

Unlike population, all of the Industry of the position (excluding Conquered Colonies) is totaled and then multiplied by the production value per Industry and that amount is added to the Treasury in RPs. So, if a position’s current Industry Patent (with COTs that improve industrial production, see Continuous Operational Technology, 2 Patents, p. 740, *infra*) allows Industry to produce .5 RPs per Industry installation, and that position has 30 industry, then

the position receives 15 RPs from Industry during Taxation. Industrial production depends entirely on development of technology and the industrialization of colony worlds.

- Resources from Special Planets: Colonies on Special Planets produce more RPs because there is something special about their planet that allows them to produce something unique and vital to the interstellar civilization. On a Special Planet, production of RPs is increased by 30 to 50%. As players will note, Special Planets are often Hostile Planets and/or are difficult or dangerous to colonize, thus they may require development of Controlled Environment Technology (see Colony Cans and Building Up, 1 Expansion, pp. 879-880, *infra*). The Concierge may impose other requirements.
 - ✓ Special Planets should not be confused with Specialized Colonies, which are described in 4 Expansion, p. 925, *infra*. It is possible though that Special Planets may be the site of or require Specialized Colonies.

Some planets may be ‘special’ because they contain evidence of alien civilizations with cultural artifacts and/or technological devices (useful for Reverse Engineering, see 3 Technology, p. 712, *infra*). In one of my favorite cartoons, Hagar the Horrible returns from raiding Paris with a present for his wife, a faucet he looted in Paris. The faucet doesn’t work – absent the plumbing it was attached to, and he says, ‘I don’t understand, it worked in Paris!’ This would be the functional equivalent to H.G. Wells using his time machine to steal a cell phone from 2017 and wonder why it doesn’t work in 1898. So, when assessing alien technological or cultural artifacts, participants should be cognizant that the artifacts are probably part of a system; that technology has in recent decades, developed into global systems rather than self-contained items, for example, the “internet of things” has connected common household items to the global network.

- Red Planet: It is possible during taxation to make a planet produce or ‘give’ more RPs than it normally would. This would take away from the comfort level of the population⁷ and deprive the colony of resources for maintaining and building infrastructure, education, civil security, etc.⁸ Because the game system is based on resources and not money, the only means of ‘deficit spending’ is to take resources from the domestic subsistence of the colony in the now; to essentially take from the present and future of the colony in the present, as the colony’s infrastructure will deteriorate and will have to be replaced at greater expense later.

The likely result would be an increase in entropy (see Barrowing the Future, 2 Disruption, p. 276, *supra*). In this sense, Domestic Subsistence is substantially identical to the lowest level of Abraham Maslow’s Hierarchy of Needs.

- ✓ For example, during the Great Chinese Famine (1958-1961), farmers harvested rice only to watch it being hauled away in trucks by the government for sale on the international market so that the government could acquire foreign currency. The Maoist leaders accused the peasants of hiding food and dismissed reports of mass starvation. See The Illusion of Superabundance discussion 4 Commerce, p. 1231, *infra*.

Note that there is a limit even to this, as you cannot take resources that are not there or are not ready; so each colony has a finite level of resources that can be taken by the interstellar government in any case.

It is also possible for the ‘thiev’n grub-ment’ to take less ‘taxes’ than are due from colonies, but there is no guarantee that such measures would result in a reduction of entropy, as materialism, corruption, sloth, wealth disparities, and other similar factors might still erode the social and economic systems.

- ✓ “We live in difficult times, Marquet. This famine has prevented people from paying their proper tribute to the Church. I raise their taxes, only to be told there’s nothing left for me to tax. Imagine!” – Bishop of Aquila, Ladyhawke (1985).

“Sci-Fi Writers Have No Sense of Scale: The economy of the world seems built on mining deep space, despite the fact that the asteroid belt in the solar system alone would fulfil Earth’s needs for millions of years. An asteroid belt is not a place where you actually have to manoeuvre between rocks to avoid collision, since it’s still pretty damn empty. The world was clearly built to allow for the plot, not to be logical from the logical point of view. It’s also justified in that most of them want to be far, far away from Earth for various reasons. It’s further justified in that the planet was recently cracked open, so the debris hasn’t had a chance to re-coalesce.”

– from TVtropes.org, “The Gap Cycle,” (Stephen R. Donaldson)
captured July 21, 2019

Mining Operations: However, were humanity to discover a means of FTL, do you think that having sufficient resources in our own asteroid belt would keep us from expanding to the stars?

In GGDM there is no provision or mechanic where a planet or system becomes ‘mined out,’ though that is an ‘exhausted resources’ trope used in science-fiction, reflecting the wood-framed ghost towns of the American Old West period.

- ✓ “Well, students, at one time, Devron was a boom planet; that is to say, the people who came here did so with a rampant enthusiasm and sense of hope. There were precious ores to be mined. Of course, that was a number of years ago. Now the planet is that harsh little ball your visi-screens depict ... ill-equipped to offer sustenance to its meagre population of settlers. ... They were originally hard-bitten individualist bent on making easy fortunes. But their dreams were strip-mined with the ore. ... Exhausted of adventure, they are content with tilling the land (what’s left of it) and carrying on light trade with the more prosperous federation worlds.” *Id.*

The collection of RPs by Taxation Power Activations is non-specific, it may or may not, or may likely, reflect some aspect of mining in the system. If a game is played where certain very rare resources are of paramount importance, participants could use the Special Planets and/or Specialized Colonies to reflect mining of that specific resource, and if it something that can be mined out, then the Concierge could impose a maximum number of Taxation Power Activations at that location as part of the Special Writ.

- **Mining Ship:** If participants desire, they may create specialized ‘mining ships’ by use of Patents (see Patents generally, *infra*); there is no Existential Patent in GGDM for mining ships, or anything relating to mining. It is an entire subject that has only been lightly touched upon in science-fiction video; the singular most impressive mining ship in video science-fiction is depicted in Star Trek 2009 (the only thing impressive in the entire loud, colorful mess); the

alien ship in Independence Day: Resurgence (2016) was also massively impressive. The only screen visions after that are world-destroying things like the Lex or Galactus.

- ✓ The 2007 card game, Race for the Galaxy depicts mining ships, though it is difficult to tell their scale. Mining, represented by brown goods, is a strong element in Race for the Galaxy play.

- **Sit-n-spin:** It is possible, of course, for a Homeworld or Lost Colonist position, to decide not to colonize any planets during the game or to colonize only planets in their home system (the ‘sit-n-spin’ or ‘cement mixer’ strategy). This is not automatically wrong. It could be viable. It’s just a matter of scale (i.e. consumption rates); the sit-n-spin position would be like homesteaders, finding whatever they need in their own system and making everything they need. There are plenty of resources here in our own system to last thousands of years potentially; it just depends on the rate of consumption and production (i.e. population demands),⁹ and whether there might be other ores on exoplanets that are not available in the home system.

But GGDM’s resource (and sociocultural) assumptions in the long term are based on the idea of interstellar access to resources and living space. Thus, the Concierge would need to determine when or if the Homeworld or system depletes its resources and the position would need to proactively address the potential situation with technologies and social developments. This is not the same as not having Stardrive technology, not like a Minor Race exactly.

- ✓ As an aside ... I remember reading a short story long, long ago about a future where every inch of the United States is paved. The presidential candidates made a campaign promise that people would be able to drive anywhere they wanted. It was definitely a story written for the very young audience, I think it might have been in our ‘Environmental Adventures’ book in 8th grade. But in science-fiction settings, there have been advanced, huge overpopulated worlds like Trantor or Coruscant where the entire surface has been covered by cities (obviously, vulnerable to Malthusian catastrophe because they depend entirely on massive food imports from farming worlds), and this is likely the situation that would develop in a sit-n-spin strategy in GGDM.

“Socialism is defined by the government controlling the means of production and the distribution of goods and services – not simply by high taxes and the rich sharing their wealth with the poor. In fact, our own system, via the graduated income tax, already leads to the wealthy subsidizing the poor through higher income taxes – and taxes in general.”

– Aaron Blake, “Donald Trump Jr. vows to take half of his daughter’s Halloween goodies in a bad lesson on socialism,” *The Washington Post*, November 1, 2017

Political Will: The numbers presented in this section for production of resources are baseline numbers used in the game system.

Collecting or taking more or less resources than normal during Taxation can only be accomplished by activation of a Writ (based on the Taxation Power) during Taxation that also acts as the Interpretation accompanying the Power Activation. Activation of the Writ (for example, emergency war powers) to take additional resources during taxation will result in an increase in entropy because machines and infrastructure are not maintained and repaired, or education suffers, or civil order is not maintained – any number of ‘breakdowns’ due to the lack of resources.

Conversely, it is also possible, by use of a Writ, to take less during taxation than normal, leaving more resources for the colonies (i.e. ‘bread & circuses’) – but if the position doesn’t need the resources, it’s probably better to save the Fuzzy Group and the Acts, and not activate the Taxation Power until the government needs the RPs.

- ✓ “Now that no one buys our votes, the public has long since cast off its cares; the people that once bestowed commands, consulships, legions and all else, now meddles no more and longs eagerly for just two things – Bread and Games!” – Juvenal (Decimus Iunius Iuvenalis, 1st – 2nd Centuries A.D., Roman Empire).
 - ✓ “The evil was not in bread and circuses, *per se*, but in the willingness of the people to sell their rights as free men for full bellies and the excitement of the games which would serve to distract them from other human hungers, which bread and circuses can never appease.” – Marcus Tullius Cicero (106 B.C. – 43 B.C., lawyer, politician, orator in the late Roman Republic period).¹⁰
- Crunch: Studies by the University of British Columbia demonstrate that the psychological pressure of poverty diminishes cognitive abilities in the population due to worries about finances and subsistence (see Lori Culbert, “Poverty Clouds the Brain: UBC Prof.,” Vancouver Sun, August 30, 2013). Depression is a kind of poverty. This research on poverty also dovetails nicely with Self-Actualization Theory and with the general idea in anthropology that human culture started when humans no longer had to struggle for daily subsistence.
- ✓ “The government doesn’t care if you have water or electricity, there’s nothing at all. They don’t care. It’s too bad. Too bad. The people work hard. They don’t have enough clothing. No one complains. You know why? You complain if you can compare. If you come from Europe, you can compare, but if you live in misery all your life, nothing will move you.” – Gadalla Gubara quoted by Nadja Kornith in “The Omega Man – Gadalla Gubara and the half-life of Sudanese cinema,” Bidoun (bidoun.org), Issue 20, Spring 2010 (complaining about Sudan).
- Catastrophe: In classic human history, emigration and immigration have been the outlets for population suffering from a lack of resources, or overpopulation of an area. When the planet in question is a colony world that is either overpopulated or starving for resources, where is the population going to go, unless either they or the interstellar government provides colony ships? In extreme cases, a planet may be reduced to subsistence culture, a Malthusian Catastrophe, with loss of population and industry, and spawning Intervention Potentials Plus (IP+). As history shows, Malthusian Catastrophes can be externally imposed by force, siege, raids, ‘poisoned wells’ and ‘scorched earth’ policies and/or planetary civil war. The movie *Soylent Green* (1973) describes a classic, self-imposed, creeping Malthusian Catastrophe.
- ✓ “Violations of individual property rights (for instance through government taxation, regulations, etc.) will make property owners value *present goods* increasingly more highly than *future goods* – a conclusion which follows from the law of diminishing marginal utility. Violations of individual property rights thus raise peoples’ time preference, increasing consumption at the expense of savings and investment, thereby reducing (or even reverting) the pace of capital accumulation. An interventionist-socialist societal order will therefore *necessarily* lead to impoverishment relative to a free market societal order, in which there are no *systematic* violations of individuals’

property rights.” – Thorsten Polleit, “What Can the Law of Diminishing Marginal Utility Teach Us?” Mises Institute, February 11, 2011 (emphasis in original).

- Cyberia: Technology (i.e. Patents) cannot be used to directly improve the resource production of population factors during Taxation. All of the means by which production is increased, including automation, personal computers, cyborg implants (if your species is into that sort of thing), telecommunications, transport systems, and such, are classified under the *Industry Existential Patent*; therefore, Industry Installations on colonies do not only represent ‘factories’ and production centers, but the entire infrastructure by which a civilization produces the raw materials, food, manufactured goods, and services needed. However, it is possible to temporarily increase the resource production of population factors by use of Writs, College effects, and possibly other Interpretations, which address non-technological, non-material subjects, such as beliefs, ethics, education, organization, and national and social will.
 - ✓ For example, during WWII, idle Russian factory workers in cities under German siege built homemade tanks to aid in the defense; some of these homemade tanks were quite effective and left the German intelligence baffled. There was no new technology required for this; the workers simply had the will, resources, equipment, knowledge and creativity, and nothing better to do. In one spectacular night attack by factory-worker homemade tanks, the Russian forces overran a position, hooked up and towed away a battery of German 88mm anti-tank guns.

The basic game division that is being created here is the separation of pure biological ability (in the form of RPs from Population) from all of the various technological enhancements (in the form of RPs from Industry). While one might argue that biological engineering, being jacked into a global network, or cybernetics would increase population capability, in GGDM terms, those are placed on the side of Industry improvements, even if they are biological. It’s a game artifice that allows improvement to the Industry Existential Patent without need to specify exact areas or technologies of improvement. And that is the best my wetware can do.

“But when a billionaire avoids paying taxes, he breaks a law that ought to be self-policing: the law of basic human decency.... Doing something because you can is no reason to do something. If a crazed libertarian became president and somehow legalized murder, I assume that we wouldn’t all start doing it?, right. The human conscience, which religious conservatives insist is the voice of God, would suggest otherwise....

Capitalism is supposed to inculcate morals. It assumes that people will honor deals, that a product is as good as the seller says it is, that theft is wrong. Capitalism and democracy work well together because authoritarian states undermine private property and distort the market. But a state is necessary – always necessary – to enforce the law and make sure the market works along agreed lines. In other words, by failing to pay taxes [THE BILLIONAIRE] not only did something bad in and of itself – he also did something that weakened capitalism by weakening the state. You can’t have good capitalism without good infrastructure, effective courts and well-trained cops.”

– Timothy Stanley, October 3, 2016

Endnotes.

¹ Commentary & Citation: That is, each colony is a Wallerstein “world system” that becomes a “mini-system” in relation to the larger (probably ‘world empire’ type) interstellar world system. In this view, colonies will more or less be outlying districts from which goods and services are extracted (e.g., Taxation in GGDM) to a capitalistic center. See Frank Elwell, Macro Social Theory (2009), pp. 45-46.

- ✓ This is the assumption of nearly all science fiction on this subject. The question is whether or not this assumption is made simply because it is an extension of the world in which we live and we cannot imagine any other (e.g., the epic failure of Marxist evolution) or is it an assumption based on inconvertible fact?

² Citation: “To return from a short digression, we must note further that a nation with a low standard has no reserve to fall back upon; it lives on the margin of subsistence, which may easily fail in war-time, especially if much food is imported when conditions are normal. It can hardly be an accident that in this war the nations with a high birth-rate broke up in the order of their fecundity.... The sacrifice of comfort to numbers, which we have seen to be possible by maintaining a low standard of living, not only diminishes the happiness of a nation, and keeps it low in the scale of civilisation; it may easily prove to be a source of weakness in war.” – Dean William Ralph Inge, Outspoken Esays, “The Future of the English Race” (The Galton Lecture, 1919), available for free on the Gutenberg Project.

- ✓ Though this remains very generally true, as it was written in 1919, it does not anticipate the vast advances of technology which have allowed maintenance of ‘comfort’ as long as the resources remain to continue it (see Joseph Tainter’s ‘technological optimist’ discussion, Resources Proficiency, 3 Culture, top p. 397, *infra*). This is similar to the way that world energy crisis calculations in the early to mid-20th Century (e.g., the backstory for the Fallout video game series) were upended by the invention of the transistor, miniaturization, and vast improvements in automobile mileage and overall energy efficiency (and nuclear power plants) such that greater energy consumption does not automatically imply higher technology.
- ✓ See also discussion of the Inge Process, 5 Diplomacy, p. 1161, *infra*.

³ Citation: “Prior to Boltzmann, entropy was understood as a measure of the proportion of energy in a system that can be used for useful work. ... the useful work performed by that increase in entropy [from the moment of the Big Bang] includes the formation of galaxies, stars, planets... indeed, the entire process of evolution.” – Matt O’Dowd (City University of New York), “Are You a Boltzmann Brain,” PBS Space-Time Channel, April 26, 2017.

⁴ Commentary: Particularly interesting in this is Queen Game’s title Shogun (2006), where players collect rice from areas they control. However, two factors limit rice taxation: 1) the farmers get mad and may revolt, and 2) rice cannot be stored from year to year (which is probably how *sake* was invented), but you need to feed your people each year.

⁵ Commentary: A real world example applicable to the game: One of the victims of the September 2013 Washington Naval Yard shooting rampage was a top, very experienced naval ship designer, shot in his office.

⁶ Commentary: The Senate of Rome is arguably one of the oldest continuous existing ‘legislative bodies’ in the world, if one accepts the continuity of existence from the Senate of the Roman Republic to the Senate of the Republic of Italy in Rome. The Roman Senate declared Odoacer King of Italy (476 A.D.), thereby legitimizing the coup d’état that deposed the last Roman Emperor and separated the West from the Eastern Roman Empire. In this, the Roman Senate, as it had done many times before, acted as a legitimizer of authority, a role later taken over by the Popes because the Holy See was more politically palatable to the rest of Europe than the Roman Senate. Charles I of Anjou (of Naples) was a Roman Senator, but appealed to the Pope (everyone was playing the Pope cards) to adjudicate and legitimize his authority over Sicily during the War of the Sicilian Vespers (1282-1302), instead of the Senate of Rome.

- ✓ The War of the Sicilian Vespers is the ‘world war’ of the medieval Mediterranean world, based on their capabilities. It is a great unexplored gaming area; in the right hands, I think a really deep and fascinating (and educational) board game could be based on this smoldering 13th Century Mediterranean conflict. I do not think any games have been published on this particular subject. It would be a good card driven war-game.

⁷ Commentary: A story I saw in a documentary video is that Eva Braun, Hitler’s mistress, got wind of a plan to reduce production of women’s clothing and cosmetics due to wartime demand. Though normally demure, she stormed into a meeting of Hitler and his ministers in protest and asked them if they wanted German women to be thought the ugliest women in the world? Though they would not give in to Eva in person, the planned reduction was quietly crossed off the list and delayed a year; she knew which buttons to push.

- ✓ This story apparently was related by Speer, and is included in two sentences on the Wikipedia biographical page for “Eva Braun.”

⁸ Citation: “Alexei Larionov, the first secretary of the Ryazan Obkom, announced a very ambitious goal of tripling the amount of meat produced in the region within the next year. The promise, in spite of being unrealistic, was confirmed at the regional party conference. On October 12, 1958 Larionov delivered the promise to Khrushchev in person, who became excited.... On January 9, 1959 the promise was published in Pravda, the official party newspaper....publication was rushed by Khrushchev in spite of objections from the Agricultural Department.... The challenge was met by several other regions.... In order to meet the promise, the region had to slaughter all the bovine herd of 1959, as well as a considerable part of its dairy stock. In addition, all cattle reared by kolkhoz farmers in their private households was appropriated ‘temporarily.’ As the collected amount was still not enough to meet the target, obkom had to buy meat in neighboring regions by relocating funds from other sources, such as the purchase of agricultural tools and construction. On December 16, 1959, Ryazan obkom was able to announce that the region delivered 150,000 tons of meat to the state, which was three times the amount delivered the previous year. On top of this, the regional authorities promised to deliver 180,000 in the next year. On December 27, 1959 the success was announced by Khrushchev himself at the CPSU Plenum....

Larionov was awarded the title of Hero of Socialist Labor. However, in 1960 production of meat in Ryazan oblast plummeted to 30,000 tons, since mass slaughter had reduced the amount of cattle by 65% in comparison to the level of 1958. To make matters worse, kolkhoz farmers whose private cattle were ‘temporarily’ appropriated the year before refused to process kolkhoz land. This halved the amount of grain produced in Ryazan oblast. By the fall of 1960, it became impossible to hide the affair. In September 1960 Larionov was dismissed from his post, stripped of the title of Hero of Labor.... On October 10, 1960, he committed suicide.” – from Wikipedia article, “Ryazan miracle,” October 5, 2018.

⁹ Commentary & Citation: The historically significant 1983 anime *Dallos*, which I immediately recognized as being spun off Robert Heinlein’s 1966 novel *The Moon is a Harsh Mistress*, does a very good job telling the story of a Lunar mining colony rebellion against Earth oppression.

- ✓ “On the dramatic front, the storytelling sets up a remarkably thoughtful approach to a colony growing into a rebellious state as time passes. While the earlier generations are willing to tolerate being answerable to Earth, as they feel that they have a great debt to repay to the Earth for it funding the establishment of the lunar colonies, the younger generation who knows nothing of Earth has no such sense of loyalty and so chafes under what they see as Earth’s oppression and Earth prospering on the backs of their labor.... In fact, whether intentional or not, the whole scenario gives off a vibe not too dissimilar from the American colonies in the days leading up to the Revolutionary War.

Over the course of four episodes we see characters either grow into revolutionaries or desperately cling to their ideals, like Shun’s father, who stubbornly insists that ‘someone has to get the work done’ even in the face of widespread strikes, or Alex’s fiancée Melinda, who firmly (and likely naïvely) believes that people on Earth will not turn a blind eye to the grievances of those in Monopolis even as most other characters regard her skeptically. There’s also some bureaucratic scheming going on, too, as Alex’s cocky attitude has not made friends amongst his allies.” – Theron Martin, Review of *Dallos* (Eastern Star DVD), Anime News Network, March 9, 2014.

The story is bleak, existential, political, and somewhat choppy, but they did a very good job of presenting multiple viewpoints on the rebellion, e.g., pointing out that the police suppressing the rebellion were also born on Luna and think that the Earth administrator doesn’t understand (which is why Federation military forces were deployed). And in the middle of all of it is the titular seemingly dormant alien artifact near the colony ... probably a fingerprint left behind when the Concierge used an Intervention Potential on the Moon. It really is the final ten minutes that make the entire story worth it, but you have to play it out to get to that place and time.

¹⁰ Citation & Commentary: The box-office juggernaut *Hunger Games* (2012) was based on this entire idea of bread and circuses. *Panem* means bread in old Latin (e.g., “*panem et circenses*” means “bread & circuses”), and *Panem* has little bread.

- ✓ In the semi-cooperative board game, *Republic of Rome* (1990), players representing ambitious senatorial and patrician class families in Rome could (and always needed to) woo and distract the population by sponsoring bread & circuses while fighting multiple foreign wars.

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See Appendix EPAT1 – The Existential Patents
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See Appendix T&C – Taxation & Census Example

“It began to take so long to calculate the census that many observers envisioned a day when one census would come due before the last one was completed.... The solution to this problem was to use some kind of mechanization. The first attempt came in the census of 1870 when machines invented by Col. Charles W. Seaton, chief clerk of the census, were used. The machines were sorely needed because there were 40 million Americans to be counted.”

– Joel Shurkin, Engines of the Mind (1984)

The Great Abacus in the Sky: Like the Resource Point (RP) the exact measurement of the population factor is not specific in the number of entities or population density it represents. One suggestion in Traveller RPG for translating population factors to hard numbers for human populations was that the population factors would represent the number of zeros after the one, in human populations. So, five population factors would be 100,000 people. This works for *human* populations perhaps, but how many ants could live in the same space taken by 100,000 people?

- ✓ For example, MSN reported in the last week of December 2017 that vandals had knocked over several large hives on a bee farm in Iowa, killing half a million bees from cold exposure and destroying the business.
- ✓ In another case, a man disturbed an estimated 800,000 bees living in a crawlspace attic of a house. Most unfortunate it was for him...

And there is no indication that there are, in fact, *any human populations* in this game, and with so many variables, who knows what exactly a population factor represents or why it is important? The GGDM game definition is that one population factor is a ‘unit’ capable of producing .2 RP when the Taxation Power is activated and .2 new population factors of the same Native Population Type on an Optimal Planet when the Census Power is activated.

- ✓ However, as humans are not very good at being anything but being human – and certainly are not very good at being godlike – undoubtedly the unspoken assumption in GGDM will be that the populations of the game will be human or humanoid aliens, as in most science-fiction television series (with the possible exception of the Truly Alien Primal State). Only big budget movies have dared in recent years to create truly alien – usually hostile to humanity – beings.¹
- **Living Spaces:** One universal rule that applies to all living creatures, no matter how their population factors are composed: They have to live somewhere. At all times during the game, population factors must be either on a colony (or Homeworld) or on a Colony Ship. Population factors are recorded with the colony or ship information.

“When the cosmos shoots pool, it plays for keeps. It sank a six mile wide rock in our pocket of the solar system 66 million years ago. The smack of the asteroid against Earth released energy on the order of billions of atomic bombs. Dinosaurs were the cataclysm’s most famous victims, joined by sea creatures, plants and microorganisms. All told, Earth’s biodiversity shrank by 75 percent in what is known as the ... KPg extinction. A large asteroid strike happens only once every 100 million years. And a controversial new report suggests the KPg impact was an exceptionally unlikely shot.

In a paper published ... in the journal Scientific Reports, a pair of researchers calculated the asteroid had little more than a 1 in 10 chance of triggering a mass extinction when it smacked into Earth. (We mammals should be glad it beat the odds: After the dinosaurs' swift exit, nocturnal furballs – our ancestors – scampered into the daylight and conquered the planet. And one branch of dinosaurs survived and persists as today's birds.)"

– Ben Guarino, “Dinosaurs would have survived if asteroid hit Earth elsewhere, scientists claim,” Washington Post, November 9, 2017

Habitability: It is difficult to repudiate the events of history that put you here. Without the asteroid, perhaps you might have been an English-speaking dinosaur, as in the silly TV mini-series, *Dinotopia* (2002). Nocturnal furballs rule the world! And eat the food I put out for the cats.

All planets are classified, for colonization purposes, based on two criteria: Habitability Class and Maximum Habitability. The information on each planet's Habitability Class and Maximum Habitability (and other information) is subjective and is displayed on the position's information.

- **Cloud Shrouded Surfaces:** The Habitability Class and Maximum Habitability of each planet is determined when the starsystem is first explored. There is a relationship between Stellar Class (i.e. 'star color' in GGDM) and Habitability Class that is explained in detail in *Looking Through, 2 Expansion*, p. 900, *infra*. The game does not need or include any details of the appearance of a planet, or the planet's surface, land masses, weather, atmosphere, or a hundred-thousand other eco-geological details. The only relevant factors are Maximum Habitability and Habitability Class, and that is all the game looks to discover for each planet.
- **The Air That I Breathe:** Habitability Class refers to the *relative* natural environment of the Planet and are divided into six self-explanatory Habitability Classes: Optimal, Hospitable, Habitable, Unpleasant, Hostile, and Uninhabitable (think Venus, or Earth in 200 years). Populations can be landed on any Optimal, Hospitable, or Habitable planet without any additional technology, however, Controlled Environment Technology (CET) is needed to colonize Unpleasant and Hostile Planets. It is also possible, through great effort, to slowly improve the Habitability Class of a planet, while, conversely, pollution and other entropy events will slowly decrease the Habitability Class of planets.
 - ✓ It is striking the similarity between the reasons offered by Ted Kaczynski (aka the Unibomber) for his move to a primitive wilderness existence in Montana in 1971 and his later terrorist attacks, and the lyrics of John Denver's late 1972 hit song, “Rocky Mountain High.” It is probable that Kaczynski was aware of the song later and may have retroactively constructed his 1971 thinking along that line. But it is just as likely that the two, *to very different ends*, come from and express a common mystic anarcho-primitivism root. This is supported by the fact that the locals told the New York Times that shaggy, primitive, reclusive Kaczynski wasn't considered unusual or considered peculiarly strange in the area that attracted many of those types (see, John Kifner, “ON THE SUSPECT'S TRAIL: LIFE IN MONTANA; Gardening, Bicycling And Reading Exotically,” New York Times Archive, April 5, 1996, available free).
- **Dayworld:** Maximum Habitability is the maximum number of population factors that can be on the planet surface. No population can be added to or grown on the *surface* of a planet that is at Maximum Habitability. Orbital Cities (via the Orbital City Existential Patent), costing

20 RPs each, will extend the colony beyond the surface Maximum Habitability of a planet by 15 population factors each by placing populations in orbit (see *Orbital Platforms*, 2 Construction, pp. 666-667, *infra*, for more on *Orbital Cities*, moons, and *Orbital Platforms*) up to half of the planet's *original* Maximum Habitability (all of this can be improved by later Patents).

- ✓ Imagine a massive crowded colony on a habitable world, or imagine Earth with a population of 50 billion humans. Imagine that cities extend for miles underground, extracting heat energy from the magma layers. Imagine a combined orbital and lunar colony population in excess of 100 billion?
- ✓ Imagine that there are people who are born, live and die in underground cities, never seeing the stars, never seeing the surface, which is either becoming uninhabitable, or is reserved for spaceports, the imperial palace, government buildings and defense complexes, and the wealthy who can afford expensive surface estates.²
 - A city that covers an entire planet is called an ecumenopolis, a term coined in 1967. A city that covers an entire continent is called an eperopolis; parts of the Low Countries have shocking population density now. It is expected that colonies in the interstellar civilization will mirror the variable population density found on Earth; writers love it because it provides endless styles of planetary settings!
- ✓ Imagine the society, the people, the complexity. Imagine Trantor, the imperial capital in Isaac Asimov's *Foundation* series that has a polar heat sink:
 - "Excessive use of energy without adequate disposal of heat, for example, could plausibly make the planet of a civilization approaching Type I unsuitable to the biology of the dominant life-forms and their food sources. If Earth is an example, then sea temperatures in excess of 35 °C (95 °F) would jeopardize marine life and make the cooling of mammals to temperatures suitable for their metabolism difficult if not impossible. Of course, these theoretical speculations may not become problems in reality thanks to evolution or the application of future engineering and technology." – from Wikipedia article, "Kardashev Scale," February 12, 2017.
 - It appears that the "heatsink" (geothermal tap) on Trantor was introduced in *Prelude to Foundation*, published in 1988. The term Heat Sink has been used since 1936 according to Merriam-Webster and is a term used mostly in electronics. The Kardashev Scale was proposed in 1964.
- Salusa Secundus: As mentioned previously, some planets are 'special' in some way and may generate extra *something* for the position that colonizes the planet or controls the colony. Generally, Special Planets are Unpleasant or Hostile places (what else would you expect?), so come prepared. They may also be inhabited already. Yeah, it can get complicated.
 - ✓ **Paul Atreides to the Emperor**: You and your House shall have a throne on Salusa Secundus your prison world and the training ground for your accursed Sardaukar. – Frank Herbert, *Dune* (1965).
- Planet Narn: Planets may be damaged by Orbital Attack or Bombardment, or Ground or Pacification Combats when they are conquered. For every 25 population factors destroyed in Combat, the planet is *reduced by* one Habitability Class *and* 25 Maximum Habitability. Max-

imum Habitability is not affected until the loss of Habitability Class and then both are reduced at the same time; however, the accumulation of damage leading to the loss of Habitability Class and Maximum Habitability will be recorded until the event happens. A planet may reach zero surface Maximum Habitability before it is completely reduced to an Unpleasant or Hostile Habitability Class. A planet may lose any Special Status due to bombardment.

- ✓ In the event of dying, you either got what you deserved or got an end you didn't deserve. Either way, it's an idea that only exists and matters in human literature, just like saying 'they deserved a better result' when your favorite team loses. However, conversely, the concept cannot be stretched to being born, to say that anyone 'deserved' to be born implies a whole set of bizarre and untenable un-causal ideas. Not unlike the equally un-causal damnation of the un-evangelized who lived *before* Christ – the 'fate of the unlearned' and 'virtuous pagans' problems that placed Homer, Socrates and Virgil in the first level of Hell³ in Dante's "Inferno" (first part of the Divine Comedy, 1320) – hell from living in a deficient, diminutive form of heaven!⁴

Whenever a planet loses Maximum Habitability and Habitability Class – whether quickly or gradually – it is a fair certainty that the result is a mass-extinction event of the native life forms, especially those of the higher orders, will occur. A significant increase of Maximum Habitability and/or Habitability Class relative to any alien species – as in terraforming – will likely have the same result (e.g., global warming). The biosphere of the Earth has proven to be rather fragile and delicate, while basic life has proven more resilient than expected (e.g., bacteria has been found down to 5 km under the surface). The result of the strike – as would any Orbital Bombardment – bears similarity to the idea of a Nuclear Winter, which idea originated from the observed global climate and weather changes following a volcanic eruption and from observations of sandstorms on Mars (see *The Air that I Choke* discussion, *ut infra*).

The system of marking planetary damage by increments of population lost by violent means is merely a benchmark system based on the assumption that whatever means is used to destroy that much population must also damage the planet (see also *Collateral Damage in Ground Combat* discussion, 4 *Combat*, p. 995, *infra*). As you can imagine, there are ways to kill or destroy technological sophant populations that would leave the remaining biosphere relatively unharmed (e.g., neutron bomb, plagues, bug spray). There is also the possibility that destruction of population, even violently, will not impact the Habitability Class of the planet, for example, a domed colony on a barren (like our moon) world. This is another area where the Concierge might exercise judgment.

- ✓ The bombardment of Planet Narn by the Centauri using mass-drivers and asteroids, was a ground-breaking (literally) moment in the *Babylon 5* television series. It is quite possibly the first use of mass drivers – railgun and coilgun systems designed for space exploration and colonization – as weapons for planetary bombardment in any science-fiction setting. Consider for a moment the damage done by the meteor strike that made the dinosaurs extinct; or the YouTube videos showing projections of worldwide cataclysm from a sizable meteor strike on Earth now. It would take only a few minutes of mass-driver bombardment to damage the Earth's biosphere significantly.
- Alien Agenda: The data for each planet is relative to the owner's Native Population Type, that is, each Native Population Type will see each planet slightly differently, so 'damaging' a planet may improve the planet's Habitability Class and Maximum Habitability for other Native Population Types⁵ or it may reduce it for all Native Population Types. Other positions

may learn through game actions of the change in Habitability Class and Maximum Habitability of previously-discovered planets. This is more likely to occur if the position does something in-game to look, such as sending a ship (see 2 Information generally, *infra*); whereas, positions who don't look are less likely to discover changes. They may also learn through informal player communications (see Greys Diplomacy, 1 Diplomacy, p. 1097, *infra*).

- ✓ A position's planetary data, exploration information could be 'stolen' or learned in-game by Information Operations, see 2 Information, p. 1349, *infra*.

It seems more likely that the threat of Orbital Bombardment is greater against colonies on planets whose habitability class is unfavorable to the attacker's species and/or whose population is at or near the planet's Maximum Habitability. Not the least concern is that Ground Combat would require the attacking troops to be suited up, whereas, the opposing defenders, if the planet is of their favorable Habitability Class, will have the advantage of fighting in their own environment. But there are a lot of factors to consider...

- ✓ **Ambassador Londo:** [exasperated] Why don't you eliminate the entire Narn homeworld while you're at it? **Mr. Morden:** [menacing calm deadpan voice] One thing at a time, Ambassador. One thing at a time. – Babylon 5, "Revelations" (1994).

"Nigerian leaders cannot put a number on the amount of Nigerian women and girls that have gone missing. Nigeria has never had a credible, successful census." –
Olúfémi Táíwò, Professor of Africana studies at Cornell University

"The Gross National Product includes the destruction of the redwoods and the death of Lake Superior. It grows with the production of napalm and missiles and nuclear warheads... It includes... the broadcasting of television programs which glorify violence to sell goods to our children."

– Sen. Robert F. Kennedy (1968 Democratic Presidential Candidate) ⁶

The Air That I Choke: Would Richard Nixon have become President if Robert F. Kennedy hadn't been assassinated? If you were a time traveler...⁷

When I was young, the environmental problems discussed in school were air pollution, deforestation, and landfills, we talked about electric cars, mass transit, and eco-friendly urban planning and recycling. In 8th grade "Environmental Adventures" class with portly Mr. Greene (who was also my American History teacher), I don't recall any mention of global warming, glacier melt, or much mention of rising sea levels; it was all about air pollution from cars and factories, nuclear testing and power plants, deforestation of the Amazon, urban planning, and landfills and toxic dumps. At that time, the Love Canal and Superfund cleanup were regularly in the news, as was the Centralia, PA mine fire which eventually eliminated the town, and the Three Mile Island accident. Then there was the hole in the ozone layer and aerosol cans.

Then the main environmental threat shifted from air pollution to global warming and climate change. The bottom line problem with global warming is that it is probably a natural and predictable process on any biosphere planet that has a developing sapient technological civilization (see Kardashev Scale quote, p. 316, *ut supra*, regarding planetary heat disposal). This doesn't 'let us off the hook,' but conceptually, it is a good place to begin understanding.

- ✓ “But in the history of the solar system and even in human history there are clear records of extraordinary and devastating catastrophes. We have now achieved the dubious distinction of making our own major catastrophes both intentional and inadvertent.” – Carl Sagan, *Cosmos*, Episode 4.

It is true, we don't have any other examples to look at, ours is the only one we know of; but basically, the Earth (or any solid planet) contains trapped energy and the processes and demands of a technological civilization releases that energy – often wastefully, since, for example, 50% of the electricity put into the power grid is lost. The result of the process is that the technological civilization releases trapped geological and chemical energy into the atmosphere, which if it goes on long enough, will change the air temperature of the planet (like heating a room). Thus, the irony of keeping cool: In cooling our houses in the summer, and refrigerating our perishable foods and drinks, we contribute to heating the planet.

Almost certainly, this process would happen anywhere there is a developing planetary technological civilization, especially if fuels are available near the surface. And bringing resources or energy from space to use on the planet, would only introduce to the system *additional outside energy* to the detriment of the planet's ecosphere. It seems inevitable, unless a significant portion of manufacturing and energy use are moved to orbit, that humanity will have to leave the Earth for elsewhere eventually. And the process will be repeated wherever we go.

And the process will be repeated wherever a technological civilization arises, whether through damage and deterioration of their home world, or search for new energy sources and resources. And given the size and age of the Cosmos, this process may and likely will have happened many thousands of times before. But given the size and age of the Cosmos, it is not likely that we will immediately find a thriving developed interstellar civilization out there; the Galactic Space setting of the game remains a highly unlikely occurrence.

- ✓ “The growth in unconventional gas production involving hydraulic fracturing (‘fracking’) has transformed the energy landscape, reducing energy prices, decreasing conventional air pollution by displacing coal in electricity generation, disrupting international energy trading arrangements, and increasing the prospects for energy self-sufficiency for the United States.... The results of our analysis suggest that the introduction of fracking reduces health among infants born to mothers living within 3 km of a well site during pregnancy. For mothers living within 1 km, we find a 25% increase in the probability of low birth weight (birth weight < 2500g) and significant declines in average birth weight and in an index of infant health. There are also reductions in infant health for mothers living within 1 to 3 km of a fracking site, but the estimates are about one-third to one-half of the size of those within the 0- to 1-km band. There is little evidence of health effects at further distances, suggesting that health impacts are highly local.” – Janet Currie, Michael Greenstone, Katherine Meckel, “Hydraulic fracturing and infant health: New evidence from Pennsylvania,” *Sci Adv* **3** (12), e1603021, December 13, 2017.
- Martian Dust: Mars may be instructive. Mars has regular regional dust storms that, every few years, grow and merge into a *global dust storm that lasts for months*. The Earth dust storm in the film *Interstellar* (2014) was clearly modeled after a real disaster on Earth called the Great Dust Bowl (1935-1938 – look at the historical photos), but on a near-Martian scale.

Back to Mars, scientist recently noticed that water vapor on Mars tends to rise to the upper layers during the regular dust storms, where it may then be bled off into space, and have hypothesized that the dust storms were a major contributing factor to the loss of water on Mars (Viking lander has, however, photographed seasonal light frost on the ground on Mars). This is a self-perpetuating, runaway process, as loss of water makes the surface dry, contributing to a cycle of larger and more violent dust storms. From Elizabeth Howell, “Escape from Mars! Red-Planet Dust Storms Linked to Atmosphere Loss,” Space.com, January 25, 2018.

- ✓ “The most important fact about Spaceship Earth: an instruction manual didn’t come with it.” – Buckminster Fuller.

- Pollution Potentials (optional rules): One Pollution Potential is assigned to each Optimal, Hospitable, Habitable or Unpleasant class planet, each time the owner of a *surface* colony with Industry activates the Taxation or Census Powers, even if the colony does not grow population during the Census. Pollution Potentials differ from Intervention Potentials because they are assigned to a specific planet. Thereafter each time the Taxation or Census Power is activated at a colony on the planet, there is a 5% chance per Pollution Potential that an enviro-event will occur on the colony planet. A random number of the Pollution Potentials are converted to a single Intervention Potential (not an IP+) which *must be used* on the planet by the Concierge in that turn to reflect environmental degradation. Alternatively, normal Intervention Potentials could simply be used for this purpose as fits the game story.

- ✓ Pollution Potentials is damage to the *planet* which is not specific to a colony or Native Population Type. There can be some grey areas. But any species that had a favorable Habitability Class will see the planet less favorably after industrial pollution.

The baseline percentages can be variable, depending on two factors: The perceived amount of actual time that has passed in Galactic Space between Regular Turns, and that certain planet’s ecosphere/biospheres might be deemed more or less fragile than others. There are many possible variables which are simply expressed here as a basic percentage chance; which the Concierge may adjust for whatever reason.

- ✓ “The major problem with modern ecological thought, according to [J.B.] Foster, is that it is far too idealistic and spiritual (20). By ‘idealistic’ Foster means that causation is attributed to ideas and ideologies as opposed to material conditions. By ‘spiritual,’ he is referring to the mystical and sacred stance taken toward nature by many ecologists.” – Frank Elwell, Macro Social Theory (2009), Kindle Edition, p. 80.

- Low Carb Colonies: Colonies that produce no RPs due to low population and no industry should not be assigned a Pollution Potential in most instances. These are low population and probably low eco-impact colonies. Colonies consisting of only orbital platforms probably will cause minimum pollution, and no Pollution Potentials, on the planet below unless they are strip mining the planet.

- ✓ See discussion of Romania in 1989, 5 Government Titles, p. 644, *infra*.

- Prescriptions: Re-watching Episode 4 of Cosmos, which aired on October 19, 1980, Carl Sagan did warn:

- ✓ “The hellish conditions on Venus are a reminder that this is serious business. Computer models that successfully explain the climates of other planets predict the deaths of forests, parched croplands, the flooding of coastal cities, environmental refugees,

widespread disasters in the next century unless we change our ways. What do we have to do? Four things. One: much more efficient use of fossil fuels. Why not cars that get 70 miles a gallon instead of 25? Two: research and development on safe alternative energy sources especially solar power. Three: reforestation on a grand scale. And four: helping to bring the billion poorest people on the planet to self-sufficiency which is the key step in curbing world population growth. Every one of these steps makes sense apart from greenhouse warming.”

I did not watch any of Cosmos when it originally aired, but saw it years later in high school science classes, re-runs on PBS, and in undergraduate college courses on VCR tape. If I saw the end of Episode 4 in the mid-80s, it didn't make any impression and it didn't affect by 8th grade courses. But we were first warned of global climate change in at least 1980.

“Polynesian subsistence had the greatest effect on societal development. Some remained or reverted to hunting and gathering because their islands could not support serious agriculture, while others developed advanced agricultural technology to either deal with difficult climates or take advantage of abundant ones. This impacted population growth and densities, which in turn impact political structures.”

– Jared Diamond, Summary of Guns, Germs, and Steel, Kindle Edition (2017), pp. 8-9

Homeworld Habitability: Homeworlds are, or were, Optimal planets for the species that evolved on them. Prior to the game beginning, there may be Fundamental Realities that reduce the Habitability Class and Maximum Habitability of a Homeworld, but barring that, the default assumption is that a Homeworld is automatically an Optimal Planet with a Maximum Habitability of approximately 100 population factors (which can be shorthand written as Optimal 100).

- ✓ **Doctor Who:** You forgot the last time. You remembered the fear and you put it into fairy stories. It's a human superpower, forgetting. If you remembered how things felt, you'd have stopped having wars. And stopped having babies. – Dr. Who, “In the Forest of the Night” (2014).
- **Lebensraum:** Each Native Population Type may have only *one colony* per planet, *all* factors of a Native Population Type on a planet surface and in orbit (i.e. Orbital Cities) are considered *one colony*. Any number of different Native Population Types may colonize a planet – which becomes a ***Balkanized Planet*** – which is to say that the only way to prevent aliens from Landing on and colonizing planet is combat. When two or more species occupy the same planet, the Maximum Habitability of the planet for each population type is reduced by the percentage of the planet occupied by all of the other races.
 - ✓ For example, Populations A and B occupy a planet. Population A sees the planet as a Habitable Planet with 40 population Maximum Habitability, while Population B sees the planet as an Optimal Planet with 100 population Maximum Habitability. Population A has 30 population factors on the planet, therefore, they occupy 75% of the planet, leaving only room for 25 population factors of Population B.
 - ✓ A position may, through conquest, come to own more than one colony on a Balkanized planet, each with a different Native Population Type; this does not violate rules. For all purposes in GGDM, each colony on a Balkanized Planet ***is treated separately***

even if owned by the same position, including in defense. Cooperation may be developed in-game by means such as Trucking, Carting (4 Commerce, *infra*) and Writs.

- For the scheming types... owning two colonies on a Balkanized planet may be Constructural Elements insurance for placing adjacent Fuzzy Groups and Research Groups (see 4 Culture, p. 405; 2 Technology, p. 700, *infra*).

Any game mechanic that is dependent upon the number of population factors on a colony is pro-rated on Balkanized Planets where appropriate. One purpose in activating the Census Power might be to fill remaining spaces on Balkanized Planets, squeezing the aliens.

- ✓ It's a cold evening, I have six cats that live on my porch. I have five heated cat houses, three single and two double, theoretically, there is room for seven cats in the heated cat houses. I have even seen three cats in the double cat houses and two cats in singles in the past. But there's always the social aspect; some cats do not want to sleep with some others. And so I have a small adult tabby neutered female shivering because she either doesn't want to sleep with certain horny tomcats, or a juvenile almost-a-tomcat male kitten, or a rival neutered female, or doesn't want to squeeze into a single cat house where her neutered long-time boyfriend is sleeping. I went out later and she was sleeping in the single cat house where her boyfriend *had been sleeping*.
- Structural Sophistication: The Late Bronze Age collapse in the Middle East was occasioned, in part, by the inability of the political and cultural structures (mainly city-state kingdoms) to handle both the pressure of expanded populations and mass migrations from the North and East (piracy and invasion by the Sea Peoples also jeopardized cities and the supply of tin).
 - ✓ The collapse in Mycenaean Greece was particularly complete, as for two centuries following the widespread and mysterious destruction of the Mycenaean palaces (around 1100 B.C.) there is evidence of very sparse population and little metal working. The classic explanation of Dorian invasion has not worked out well upon investigation, as there is little evidence of the 'Dorian' society until at least 950 B.C. Still, there was clearly movement from the north of Danubian tribes, clans, and families gradually filtering southward into the available lands until enough population density accrued that cities arose again. The semi-mythical foundation of classical Sparta, for example, coincides roughly with the first evidence of the 'Dorian' period.

China is currently testing the limits of how much population can be governed by a mid-late 20th Century political structure. There have been many proposals to divide California into smaller states. For GGDM purposes, participants should assume that the Homeworld is populous enough that very sophisticated cultural and political structures developed pregame.

- Global Civilization: Global Civilization is a hot-button topic, one with enough weight to influence elections in the 21st Century. The sides agree on one point: It seems to be inevitable and unstoppable as a process. Those who want it cheer, those who don't want it scream, grumble, wave their arms, some are caught in the middle because it is their livelihood.
 - ✓ "In recent decades Western civilization has arguably starting [sic] to morph into the first truly Global civilization. Of course it has been a 'Global civilization,' in one sense, for centuries, ever since it started to span with planet with its trade networks and colonial off-shoots. What has been new, since the Second World War, is that non-Western countries around the world have been emerging a centres of political,

economic and cultural influence, whilst the influence of the old centres of Western civilization in Europe and North America have been in comparative decline. ...

As time goes by these trends will all become clearer. Of course, it will – already is – provoke some people all over the world to draw in on themselves. But, though it takes longer than some people expect, it is a process that cannot be stopped. What will emerge is a civilization which puts down roots in, and draws inspiration from, different parts of the world. Scientists, programmers, thinkers, poets, artists, architects, entertainers, entrepreneurs and statesman from right around the world are already playing their part on global advance, and this will become more and more the case in the future.” – TimeMaps Encyclopedia (timemaps.com) article, “A Global Civilization,” (no author attributed), captured August 27, 2019.

- One and All: c.f. “The modern world arguably features four global civilizations, each of which spans much of the world’s population and territory. The nations within a global civilization share a common cultural foundation, despite their vast cultural diversity.” – from essential-humanities.com, article “Global Civilization,” captured August 27, 2019.

The Essential Humanities article then goes on to identify the four current global civilizations as Islamic, South Asian (India and neighboring regions), East Asian (China-Japan and Indochina) and Western (European and all of the colonial offshoots). The map with the article shows the areas of each civilization, but sub-Saharan Africa is not included in any of them.

I found this concept at least interesting and colorable at first glance, but of course, it depends on whether you are thinking of global civilization as one wholistic idea or as four globe-spanning spheres of influence (i.e. how to slice the pie). The author doesn’t cite to any references for this idea, and I could not find any mention of it except on essential-humanities.com, so this may be an original concept of the author of the article. The article is very bare bones and basic, as is the site, and the site may be inactive since about 2013.

Compare this to the concept evident in the TimeMaps.com article cited above: TimeMaps implies that Western Civilization is becoming *the* global civilization; that other civilizations have been westernized by contact and are becoming part of that civilization. This is not a view – echoing 19th and 20th century ‘White Man’s Burden’ ideology, even if unintentionally – that will make non-Western readers happy, but it is colorable. In this view, global civilization is one wholistic idea, which, because of the history of the world, consists of Western civilization and it’s naturalized ‘satellites’ slowly morphing into *a* global civilization.

“Hollerith, in a scientific paper published in the School of Mines Quarterly in 1889, suggested that ‘few who have not come into contact with a census office can form any adequate idea of the labor involved’ in taking a census. It was estimated that the census of 1890 would count around 62 million Americans, yet the method employed would be essentially the same one used since the Babylonians: ‘that of making tally marks in small squares and then counting and adding such tally marks...’ Hollerith pointed out that the increase in cost of the census greatly exceeded the growth of the population.”

– Joel Shurkin, Engines of the Mind (1984) ⁸

Endnotes.

¹ **Commentary:** The English-language Russian-made movie *Attraction* (2017) is an example of a cheesy first contact film. The film started out fine, but after all the alterity buildup, we find out that the aliens are just humans from another planet. Because they didn't have the budget (or intellect) to do that kind of movie, humans are cheaper. Then it turns into an alien-teen human romance with the daughter of the Russian Colonel, who has daddy issues, who is also associated with a group of Russian teens who seem to act just like American movie teens. It seemed to have been quickly forgotten (after about the 45 minute mark) that over 200 people were killed, and a section of Moscow laid waste by the alien craft crashing into the city – because Russian aircraft shot it down with air to air missiles, despite the fact that no electronics are supposed to function in the vicinity of the ship (a standard SF trope). There are also multiple narrative discontinuities where scenes jump and situations resolve themselves without explanation or imagery – because they had to trim the movie to 2 hours 12 minutes, which is twice as long as the idea merited. Or because the writers didn't have any idea how their characters would escape that ridiculous situation they created, so they just cut to the next scene of them walking away free and unhurt, without explanation. I turned it off a little more than halfway through – when she took the alien back to her daddy's apartment for dinner, I could see awkward stupidity about to ensue – and instead read the plot summary on Wikipedia which didn't make me sorry to have skipped the remainder of the movie. Yet apparently the film received good reviews, has a good rating and did well financially. I am sure the young female audience enjoyed it, the alien-teen human romance is not functionally different than the vampire-teen human romances (e.g., *Twilight* (2008)) that swooned the screen over the years – the 'love conquers all differences' trope.

² **Commentary:** In recent years, scientists have discovered billions of tons of biomass in the form of bacteria living under the surface of the Earth, down to 5 km on land and 3 km under the sea bed. This life never sees the sun.

³ **Commentary:** Picture the scene. A Christian is preaching to a crowd in the square, saying that those who do not accept Jesus in their hearts will go to hell when they die. Then someone yells out, "What about Socrates, Plato, Aristotle?" Uh-oh, confused looks, the crowd is murmuring, house of cards just collapsed, beat a hasty retreat!

⁴ **Commentary:** And while we are at it ... to make the absurdity even worse, Dante learned that Adam, Abel, Noah, Moses, Abraham, David, and Rachel – all of whom lived in the old testament before Christ and could not then have been evangelized – were previously resident in the first level of hell with the virtuous pagans, but were scooped in the Harrowing of Hell and taken (undeservedly) to heaven! Humph! My mind is doubled over with laughter!

⁵ **Commentary:** Before the movie *Arrival* in 2017, there was a different sort of aliens movie called *The Arrival* in 1996, in which, the aliens, seeing that we were intent on polluting our planet (which made the climate better for them), decided to help us along toward climate change oblivion so that they could colonize Earth after we perished.

⁶ **Commentary:** Back around the turn of the millennia, I played in a PBEM game where population was converted directly into armies and missile units, or would grow slowly if left untouched. This mechanic – unrealistic in anything but a zombie apocalypse movie – led to the game being dominated solely by 'steamroller' tactics (as the players called them) where players would conquer, convert the entire population into armies and missile units (like zombies), and roll on to the next province, leaving nothing behind (no need to garrison) because the victory conditions were 'last-man standing.' Steamrollers completely dominated the game (which was becoming boring, the flaws of its over-simplicity were becoming apparent) until I won the first World of Kaomaris "World Championship" game, against the top steamrollers, by playing differently, oppositely. The steamrollers destroyed each other, such that I was left with only two opponents when I finally made a move; I trapped them into damaging each other greatly in a huge final battle and I was able to clean the table with my fresh armies against two diminished enemies. During the six months approximately that the Championship game was in progress, discussions were raging on the forum about how to 'fix' the game and by the time the Championship game had finished, the game was radically different.

⁷ **Citation & Commentary:** "Sirhan had violated three California laws merely by possessing the pistol he used to kill Robert Kennedy. Thus, if Sirhan were simply an unwitting patsy involved in a conspiracy, the conspirators must have knowingly chosen a man who had been risking the whole conspiratorial venture by possessing an illegal weapon and firing it at a police range. Had Sirhan been caught with the illegal weapon, the purported conspiracy would have collapsed." – from Wikipedia article, "Assassination of Robert F. Kennedy," citing to Mel Ayton, *The Forgotten Terrorist – Sirhan Sirhan and the Assassination of Robert F. Kennedy* (2007), pp. 109-110.

- ✓ Would there be so many conspiracy theories about the assassination of Robert F. Kennedy if John F. Kennedy had not been previously assassinated?

⁸ **Commentary:** Hollerith invented the electric tabulating machine that was first used in the 1890 census. His company was one of four that merged to become IBM in 1911. IBM is iconic in the history of modern computing.

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See Appendix T&C – Taxation & Census Example

“The onset and progression through the various stages of puberty are influenced by a number of factors. In both animals and humans, the age of puberty appears to be related more to body weight than to chronologic age. Undernutrition and low body fat, or an altered ratio of lean mass to body fat, seem to delay the adolescent spurt and to retard the onset of menarche....”

Poor nutrition alters the ratio of lean mass to body fat and delays the onset of menarche. In the US, the age at menarche decreased by 3 years since 1840 due to improvements in the population’s nutritional status. Underweight females generally experience menarche at later ages than normal weight females. In contrast overweight females often experience menarche earlier than the average weight female. Athletic females and ballet dancers frequently experience late menarche, and these delays may be due to the disruption in fat accumulation which results from excessive exercise. Physically, inactive adolescents, on the other hand, tend to experience menarche at an earlier age than normally active females. In conclusion, the body’s fat content along with a variety of environmental and psychosocial factors are responsible for the development and maintenance of female reproductive functions.”

– E.R. Baker, “Body weight and the initiation of puberty,” (abstract at <https://www.ncbi.nlm.nih.gov/pubmed/4053451>), Clin Obstet Gynecol. 1985 Sep; 28(3):573-9

What Comes Naturally: The Census only affects Friendly and Naturalized Colonies owned by the position that activated the Census Power. Conquered and Converted Colonies never ‘grow’ population (Converted Colonies *do produce* during taxation), nor do populations currently located on Colony Ships or Orbital Cities grow during the Census. The growth of populations during the Census¹ depends on the Habitability Class of the colony planet and the amount of population present at the beginning of the Census. Additionally, for the purposes of Naturalized Colony growth, it is important to remember that Habitability Class depends entirely on the Native Population Type of the colony. Thus, while the owner of the colony might see their planet as Unpleasant, the alien population might regard it as an Optimal Planet and grow accordingly.

- **Optimal Planets:** Population located on planets that their Native Population Type considers Optimal will increase at a rate of one per 5 population factors present at the beginning of the Census (i.e. 20%).

The growth rate for populations on Optimal Class planets would mirror the growth rate of the population on their industrialized origin planet before the game. Consider that the human population of the Earth near the end of the Middle Ages might have been *half a billion people*; whereas, 500 years later, despite wars, plagues, famines, and disasters (as Thomas Malthus noted), the population of the world had multiplied 14 times to *seven billion people!*

- **Hospitable Planets:** Population located on planets that their Native Population Type considers Hospitable will increase at a rate of one per 10 population factors present at the beginning of the Census (i.e. 10%).
- **Habitable Planets:** Population located on planets that their Native Population Type considers Habitable will increase at a rate of one per 20 population factors present at the beginning of the Census (i.e. 5%).

- Unpleasant & Hostile Planets: Population located on planets that their Native Population Type considers Unpleasant will grow by 1 population factor, regardless of the total population of the planet. On Hostile Planets, no population growth occurs; living in camps and domed cities doesn't encourage growth, at best, those populations simply replenish their numbers and deliberately maintain a zero-growth condition to avoid overburdening the precious environmental systems. Zero growth in this situation is not a Disruption Event.
 - ✓ In a perverse way, dumping population onto Unpleasant and Hostile Habitability Class planets is a means to curb runaway population growth (e.g., if the position is required to activate the Census Power). This is entirely consistent with what natural science says about the effect of environment on evolution and viability of species, and on the arguments about climate change/global warming: We may be wiping out thousands of species (see Sixth Mass Extinction Event Excerpt, this section) and making the Earth Unpleasant even to us, curbing our own runaway population growth.
- Low Population Colonies: Colonies whose total *planet surface* population at the beginning of the Census is below the threshold level for growth based on their Habitability Class will grow at half the normal rate each Census until they reach the threshold. Fractions will be rounded up. For example, a colony on a Habitable planet that has 10 population will grow one population factor each Census, until the colony reaches 20 population and then will continue growing at the standard rate set for the Habitability Class of the planet.
- Cabin Fever: Population located on an Orbital City (or Colony Ship, see Colonies in a Can, 3 Expansion, p. 913, *infra*) during activation of the Census Power does not grow. This is *not* a Disruption Event, see Peaches for Mad Molly, 2 Disruption, p. 273, *supra*. Orbital Cities both allow a colony to exceed the planet's Maximum Habitability (see Dayworld, 3 Taxation & Census, p. 315, *supra*) by up to half of the original Maximum Habitability and as a means to stymie runaway population growth if the position is required to frequently activate the Census Power (as a result of either a Fundamental Reality or Government Title).

“It is a feeble population that cannot double itself every generation if it tries.”

– Frederik Pohl, “The Deadly Mission of Phineas Snodgrass,” *Galaxy Magazine*, No. 20, Vol. 5, pp. 5-8, June 1962 (available free online)

Math Exercises: “The Deadly Mission of Phineas Snodgrass” is a 3½ page math exercise in runaway population growth. It is the story of a time traveler who made himself Augustus, Roman Emperor, just before the birth of Christ. He introduced sanitation and medicine to the Roman Empire, and convinced Rome to share it with the rest of the world. Peace and prosperity descended on the world. Population exploded hitting a billion by 60 A.D. and after starvation and housing shortages, science and technology were finally forced along, nuclear power was available in around 200 A.D. Eventually they liquidated the solar system for energy and then it took a galaxy to supply energy for humanity's exploding population. The total mass of humanity would exceed the mass of the Earth in 1962, and eventually the mass of the galaxy in a few centuries.

- ✓ “Those who in principle oppose birth control are either incapable of arithmetic, or else in favor of war, pestilence and famine as permanent features of human life.” – Bertrand Russell.

The story glosses over a staggering amount of details to get from ancient Rome to 1962 in three pages; apparently there was no Concierge and no Social Entropy Theory (see SETTiGGDM, 1 Entropy, p. 220, *supra*). The main point that has changed since 1962 are the energy calculations, miniaturization has changed the energy equation of civilization; the failure to develop miniaturization technology (i.e. the transistor) is the basis for the massive energy shortage and global nuclear war in the alternate history Fallout video game series.

- ✓ This 1962 story mentions a system of force mirrors around the sun so that none of the sun's energy escaped and the outer planets all froze. The concept known as a Dyson Sphere (a term not mentioned in the story) was formalized in 1960, though similar megastructure technologies had been described in science-fiction stories in decades before. The Kardashev Scale was proposed in 1964. Collectively, it appears that a new scale of thinking about civilizations emerged in the early 1960s both in science and engineering, and in its disowned step child, science fiction literature.
- ✓ See Kardashev Scale discussion in Scaling Eras, 1 Eras, p. 755, *infra*; more energy consumption doesn't equate to superior technology and may, in fact, demonstrate an inferior technology.

“You take a cell, circumvent the Hayflick limit, you can prevent senescence. ... It means the cell doesn't grow old, it becomes immortal. Keeps dividing, doesn't die. They say aging is a natural process, but it's actually a fault in our genes. ... Without it, I could keep looking like this forever.”

– Prof. Lena, *Annihilation* (2018)

Natural Assumptions: The game makes broad assumptions that in any colony, sufficient conditions exist for continuation of the species. For example, that the population contains sufficient numbers of viable members of the biological sexes (however many there may be) required for reproduction, that birth ratios are normal for the species (in human populations about 105 males are born for every 100 females, while among cats, 46.5% of kittens are female), that the conditions are otherwise right for reproduction. Alternatively, it is also colorable to assume that sufficient and satisfactory artificial means of reproduction exist in any technologically advanced civilization to insure local reproduction. All of this is *trivial* to the game unless the Concierge or players decide to make it non-trivial (that is, to ‘look’) by developing interpretations, technologies, or activating Interventions; there is plenty of room here for the Concierge to Intervene.

- ✓ Interventions are a form of ‘looking’ in the game where things are created by word.²

GGDM makes no direct reference or calculation regarding natural birth and death rates of any species, or of the aging of populations. It is generically assumed that, absent mass destruction of urban centers, birth and survival rates exceed death rates, and hence population increases during each Census. It is also assumed that infrastructure and systems grow with the population, as a sign of prosperity and wellbeing. Any deviation from these assumptions can be handled by Interpretations and Interventions; most permanent Census and population deviations are Type 1 Fundamental Realities.

The cost of raising and educating the next generation (\$233,610 USD per child born in 2015 and raised to age 17, according to the USDA) are, for game purposes, assumed as part of the basic

domestic subsistence of the colony, i.e. that portion of what the colony produces that is not available to the interstellar government through Taxation. That is why there is no ‘cost’ to the Treasury for the Census. It may even be possible that for some species, the young are born as adults needing little care or education (while human children require at least 12-14 years, other animals require only 1 or 2 years to reach adulthood), perhaps genetically programmed to perform certain tasks (e.g., eusocial insects). This makes little difference in the game system due to the uncertainty and variability of the time periods represented by each Regular Turn, and other undefined factors, such as the number of individuals per population factor, what exactly is a RP, etc.

- Senescence: The Hayflick limit is the main reason humans have a concept of the afterlife and more importantly, why modern humans cling to (and will continue to cling to) the ancestral ideas. Without it (well ok ... and predators, natural disasters, disease, and violence – do you still think the universe is our friend?), would anyone have wondered what happens after death? Would we have the need to reassure ourselves of continued existence in another form after we have lost this one?

Few people now ask why we cannot have immortality with the advance of technology; to the extent that they give it any thought, they probably just assume it will happen *someday*. It is not from scientific literacy that they do not ask, but rather because it is not a pressing issue; notice that seeking immortality has seemingly gone out of fashion in science-fiction literature in the last four decades?³ Is the lack of thought about technological immortality a result of an acceptance that entropy is the way of the universe, or is it something perhaps more sinister: A lack of desire of humanity to be immortal in the current world? Condemned to endless absurdity?

Think that this cannot be true? Mass shootings and murder suicides have become a popular express checkout in recent years. People blame it on guns, television, movies, anything to not have to look up from the ground, look around.

Paris: *For Venus smiles not in a house of tears.*

– William Shakespeare, “Romeo & Juliet” (1595)

Everyone has a Venus: The focus of much of our thought about habitability of planets is based on what sort of atmosphere the planet has and whether it has water. Breathing and hydrating are pretty darned important to us. But beyond that, there are many other factors to consider, in order, gravity, light/heat, air pressure, storms, and perhaps, corrosive substances in the air and on the surface. Everyone has a Venus. Despite Controlled Environment Technologies in the game, a percentage of planets, about 10%, will have an Uninhabitable Habitability Class. While CET might establish colonies in those places, the viability of the colony is short (in GGDM terms) and the cost is too much, and there are many other places far better; positions will shortly have knowledge of hundreds of planets in the Galactic Space.

- ✓ Though largely irrelevant for Uninhabitable planets, Maximum Habitability will also be generated.

Ten percent or less of planets being deemed Uninhabitable to a Major Race in GGDM is quite generous, based on the technology which must exist in the GGDM setting. Currently, nearly 100% of planets we have discovered – including both planets in our own solar system and the

exoplanets – are (probably) Uninhabitable (or at the least, Mars is Hostile Habitability Class) in our current technology (and we cannot even get humans to another planet in our own system currently), so we have a long mountain to climb. The Concierge can adjust the percentages up or down; Uninhabitable does not prohibit isolated Orbital Cities from being established if the technology is developed in the game. ‘Improved’ CET technology can also be developed.

But colonization of ‘Uninhabitability Class’ (i.e. Uninhabitable Habitability Class) planets is more than just a technology issue, it is also a question of why bother? What is there that would lead an interstellar civilization to expend such effort?

➤ No Mars Light: GGDM stops just short of absolutely prohibiting colonization of Uninhabitable Class planets. But it will have to be a special situation, perhaps costing extra RPs, Acts, and/or maintenance, and with the potential for catastrophic loss of the entire colony (or significant loss in population) each Regular Turn. The Darien Scheme, discussed in Colonization, 3 Expansion, p. 911, *infra*, gives a hint of what might happen; the Isthmus of Panama where the Scots tried to settle in 1698 was effectively ‘uninhabitable’ based on the technology and logistics of the time, and is sparsely settled even now. And it is worth noting again, that a planet that is Uninhabitable to one species is home to another (and thus, there may be combat there, the Spaniards attacked the Scots in Panama and suffered greatly in the environment): microbial life has been found near volcanos on Earth.⁴

- ✓ “In fact, organisms that do not just survive but thrive in such environments are appropriately named ‘extremophiles.’ They have evolved to gather nutrients from very strange chemical processes, and they are hardy enough to exist where other forms of life would simply dissolve away, suffocate or starve. Yellowstone’s superheated, anoxic, acidic hot springs are a great example. These deathly pools are full of extremophiles; there’s even a microbe there that has been found to save energy by literally piggybacking around on other, larger extremophiles and stealing their nutrients to get by.” – Robin Andrews, “Living In Hell: The Possibility Of Life Inside A Volcano,” Forbes, April 15, 2017.

“A viable population is a population capable of maintaining itself, without significant manipulation.... A minimum viable population is an estimate of the smallest viable population that will persist for a specified length of time (e.g., 500 yrs.) and with a specified level of certainty (e.g., 95%).... Generally, genetic and demographic uncertainty are only important in affecting viability of very small populations. Demographic uncertainty usually kicks in first.”

– Iowa State University, Natural Resource Ecology and Management, “Minimum Viable Populations,” retrieved March 14, 2018

Minimum Viable Population: Discussion of the minimum viable population (MVP) of humans necessary to prevent inbreeding depression, pedigree collapse,^{5[example]} and/or extinction from catastrophe (e.g., Lake Nyos disaster, 1986, killed over 1,700 people and 3,500 livestock in a few minutes) is a very fine subject occasioned first by the threat of global nuclear apocalypse and later by consideration of colonization of distant worlds, especially by generation ships.

Opinion ranges from approximately 50 humans (some go as low as 15 humans) up to about 4,000; many argue that a small village of about 160 people would be sufficient, barring disaster.

History provides some fine examples, such as the population of Pitcairn Island who are all descended from survivors of the *HMS Bounty* and Tahitian natives they brought along – after most of the men had died in internecine fighting (consider also the murderous rampage among the survivors of the *Batavia* mutiny, in a crude attempt at social engineering).

Population in GGDM is not defined in genetic terms, nor does it represent any fixed number except resource production. Further, population in GGDM might not even be human, but one must assume universally that reproduction requires some sort of information pattern that can be both replicated and corrupted. As such, inbreeding effects could occur or be introduced for very small, isolated colonies, with the participants deciding what population level and isolation period falls below the ‘minimum viable population’ for the species.

- ✓ In the Stargate SG-1 series, the Earth humans established an Alpha Site on another connected world to serve as an off-world base of operations, a quarantine site, a VIP evacuation site, and with enough population to insure that humanity would survive if the Earth were destroyed.
- Inbred Populations: It may occur during play, by accident or design that a position consists mostly of or entirely of low-population colonies. Absent large worlds, this would be a difficult position to play without extraordinarily high technology and industry output. But working from an established and well-defended world, it could be a strategy to seed space as far and wide as possible to explore and prevent extinction.
 - ✓ “Moreover, the Taíno woman’s genome doesn’t contain long repetitive sequences characteristic of inbred populations. Her community, therefore, was likely spread out across many islands and not confined to 500-square-kilometer Eleuthera. ‘It looks like an interconnected network of people exchanging goods, services, and genes,’ says William Schaffer, a bioarchaeologist at Phoenix College who helped excavate the remains in Preacher’s Cave.” – Lizzy Wade, “Genes of ‘extinct’ Caribbean islanders found in living people,” *Science Magazine*, February 19, 2018.

The Taíno island culture is an example for both low Maximum Habitability Habitable/Hospitable/Optimal planets and for the genetic integrity of interstellar nations generally.

- ✓ “Small, isolated populations such as those of remote islands represent extreme examples of pedigree collapse, but the common historical tendency to marry those within walking distance, due to the relative immobility of the population before modern transport, meant that most marriage partners were at least distantly related. Even in America around the 19th century, the tendency of immigrants to marry among their ethnic, language or cultural group produced many cousin marriages. If one considers as a function of time t the number of a given individual’s ancestors who were alive at time t , it is likely that for most individuals this function has a maximum at around 1200 AD. It has been suggested that everyone on Earth is at most 50th cousin to everyone else.” – from Wikipedia article, “Pedigree Collapse,” captured January 15, 2020.
- ✓ “Turns out, it was RYR2 – the gene the researchers had suspected all along. But there wasn’t just one mistake in the gene. More than 300,000 base pairs in the gene had been duplicated. ... To develop the duplication that causes sudden death, a child has to inherit a mutated gene from each parent – the chances of which are 25 percent.

That four children in one family inherited the mutation and died sudden deaths is incredibly unfortunate, [Michael] Ackerman said. The Amish may be more vulnerable to recessive inherited conditions because they are descended from a small number of ancestors and tend to intermarry, [David] Tester said. The two families studied in the report are seemingly unrelated, but because the children all had the exact same duplication in a gene inherited from both parents, Ackerman said that it's likely that they have a common ancestor." – Harmeet Kaur, "No one knew why the kids in 2 Amish families were dying suddenly. Now researchers have some answers." CNN, January 16, 2020.

"Several recent studies suggest that the timing of the onset of puberty in girls has become earlier over the past 30 years, and there is strong evidence that the increasing rates of obesity in children over the same time period is a major factor. This article reviews studies from the United States that examined the age of menarche and the age of onset of breast development and pubic hair as a function of body mass index, which is a good surrogate measure of body fat.

... The linkage between body fat and the reproductive axis in girls may have evolved in mammals as a mechanism for ensuring that pregnancy will not occur unless there are adequate fat stores to sustain both the mother and the growing fetus."

– P.B. Kaplowitz, "Link between body fat and the timing of puberty," (abstract at <https://www.ncbi.nlm.nih.gov/pubmed/18245513>), *Pediatrics*. 2008 Feb;121 Suppl 3:S208-17. doi: 10.1542/peds.2007-1813F

Moving Parts: As noted in the top feature quote and the quote above, the age of menarche is regressing in the human female population.⁶ It doesn't require science however, I have heard commented many times over my life that females are growing up faster, maturing younger, etc. (some of this may have been sparked by the Traci Lords scandal). I have often thought it was due to cosmetics and culture, but there may be a physical reason as well. At the same time:

- ✓ "Researchers assessing the results of nearly 200 studies say sperm counts among men from North America, Europe, Australia, and New Zealand, seem to have halved in less than 40 years. Some experts are skeptical of the Human Reproduction Update findings. But lead researcher Dr. Hagai Levine said he was 'very worried' about what might happen in the future." – Pallab Ghosh, "Sperm count drop 'could make humans extinct,'" BBC Health, July 25, 2017.
- ✓ "In 1992, scientists from Denmark published a study claiming that there had been a decline in the quality of men's semen over the preceding 50 years. Though worries have persisted since then, it has been hard to back up this claim. Now a comprehensive new study has emerged that appears to support the research from decades ago. The average Western man's sperm count has fallen by about 60 percent in the last 38 years, sparking anxiety about what this might mean for humanity's future. The latest study was a meta-analysis of English-language studies on sperm count and concentration that was published this week in the journal Human Reproduction Update.

Led by researchers from the Hebrew University-Hadassah Braun School of Public Health and Community Medicine and the Icahn School of Medicine at Mount Sinai,

the work analyzed 185 studies on sperm count and quality that were published between 1973 and 2011. After combing through the material, the researchers found a large decrease in sperm quality among men from North America, Europe, Australia, and New Zealand. The drop was particularly notable among men who had never had kids and were unaware of their fertility status. In these men, they found a 52.5 percent drop in sperm concentration, and a 59.3 percent decrease in total sperm count. They did not find the same decrease in men from non-Western countries, although the authors acknowledged that this could potentially be due to a lack of data” – Leah Rosenbaum, “The Sperm Counts of Western Men Have Declined Dramatically, Alarming Experts,” *seeker.com*, July 26, 2017.

- ✓ “The state of male fertility has been one of the most hotly debated subjects in medical science in recent years. While a number of previous studies found that sperm counts and quality have been falling, some dismissed or criticized the studies over factors such as the age of men included, the size of the study, bias in counting systems and other aspects of the methodologies. Some other concerns are outlined in an analysis published by the American Society of Andrology which focuses on the male reproductive system. The skepticism also has to do with the difficulty of comparing records from a fertility center in the 1970s with one from today and with the fact a single man’s sperm count may fluctuate during his life span due to his weight, use of alcohol and many other factors.

However, Shanna H. Sawn, one of the authors of the new study published in the *Human Reproduction Update*, said that the new meta-analysis is so broad and comprehensive, involving all of the relevant research published in English, that she hoped it would put some of the uncertainty to rest.... The most important data points in the new study involved sperm concentrations of ‘unselected’ men who haven’t yet proven they are fertile. These are men in the studies who are on the younger side and are not yet fathers or do not have partners who are pregnant. Researchers estimated that the men had an average sperm concentration of 99 million per milliliter in 1973 but that had dropped to an average 47 million per milliliter in 2011.” – Adriana Eun-jung Cha, “Sperm concentration has declined 50 percent in 40 years on three continents,” *Washington Post*, July 25, 2017.

No one is sounding the alarm bells yet for human extinction due to dramatically decreased sperm concentrations. Rather the opposite is true; the population of the world has doubled from 3.5 billion to 7 billion in the time since I was born (about 50 years ago). *Exploding population is still one of the major looming catastrophes of the world*, but is a couple of notches down from some others that will kill us much more quickly. But one wonders at the process that is playing out.

It is an interesting dynamic eh? Earlier fertility in females and less fertility in men. The actual effect is more likely to be sociocultural than physical; e.g., our concepts of sexuality, youth, have changed vastly during the time that these physical phenomenon have occurred in the population. It’s hard to say if there is any connection, since there are so many other factors, such as the introduction of true, widespread contraception means in the 1970s.

- Headroom & Legroom: Similarly, and hand in hand with these phenomena, the average height of humans in developed and developing countries has also *increased* since the middle of the 19th Century. No one thinks this is an evolutionary development in humanity – in fact,

it is counter evolutionary in some respects – rather, the increase in height is likely a nutritional and medical benefit of modern food supply and healthcare maximizing our genetic potentials (Michael J. Dougherty, “Why are we getting taller as a species?” *Scientific American*, June 29, 1998).

This process has become so pronounced that the Chinese military has recently had to re-measure its soldiers and re-size its equipment (especially tanks and vehicles) which was becoming too small for the average soldier (Max Fisher, “Chinese soldiers are getting too big for their tanks,” *Washington Post*, February 18, 2014; Zhao Lei, “Chinese soldiers get bigger, requiring new gear to match,” *chinadaily.com.cn*, February 19, 2014). It has also been well commented in discussions about safety rules that professional sports athletes (except possibly horse jockeys) have become larger since the middle of the 20th Century (e.g., the injuries by big modern hockey players hitting each other at 20-30 mph on skates, or in American football, 300 pound ‘big eater’ linemen hitting each other); television cameras don’t really do it justice unless they are standing next to regular people; standing next to other big professional athletes on the field, the players look like normal people.

“Other experts say it’s not surprising that human longevity may have hit a ceiling. ‘Right now, all we’re doing is we’re combating one disease at a time: heart disease, cancer, stroke,’ says S. Jay Olshansky, who studies aging at the University of Illinois and wrote a commentary article accompanying the report. ‘It’s like a game of whack-a-mole. You know: One disease goes down another comes up,’ he says. Olshansky says the only way that could change is if scientists figure out a way to fight the underlying cause of aging, not just individual diseases. ‘That would be a game changer,’ he says.”

– Rob Stein, “Has The Human Life Span Hit the Ceiling?” NPR, October 5, 2016

Endnotes.

¹ Commentary: I did not understand for most of my life that I was included in the cohort called Generation X. In my view, Generation X represented the children born in the 1980s whose coming of age coincided with the widespread availability of PCs and the early internet. Those children don’t remember the world before PCs, the internet, game consoles and hundreds of TV channels, they don’t remember 13-channel cable, over the air television, grocery store check cashing cards, government checks printed on Hollerith Code Cards, no direct deposit, paying cash for gas. So, even now, I do not see how children born after 1980 have not been assigned a different cohort than mine.

² Commentary & Citation: Lord Foul could not kill Thomas Covenant because he had tricked him previously into breaking the law that separates the dead from the world of the living. He spent himself into nothingness trying.

³ Commentary & Citation: The exception, of course, is Dr. Who, e.g., “The Lazarus Experiment” (2007), but I think even in Dr. Who the concept is rarely addressed directly, or much less so than in the Tom Baker years.

⁴ Citation: “Extremophile bacteria found living on South American volcanoes,” *Science News Releases* (bitsof-science.org), June 9, 2012; “Volcanic life – the first microbes to colonise the Fimmvörðuháls lava,” Dr. Laura Kelly guest post (posted by John A. Stevenson), all-geo.org (Iceland volcano ash geology open source GIS python), July 28, 2014.

⁵ Commentary: Most people have two grandmothers; the simplest pedigree collapse is when this is not true. Most historical examples are more complicated, like not having eight great-grandparents or your uncle is your father.

⁶ Citation: “Although the average age of menarche (onset of first menstrual period) has been getting younger in U.S. women.... The average age at menarche is now about 12.4 years old, down from 13.3 in women born prior to the 1920s, but the average age at menopause has been around 51.5 for decades.” – WebMD article, “Menopause.”

✓ Think of the opening scene of the 1976 Stephen King horror-movie classic, *Carrie*.

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“Like most tropes, this one didn’t come out of nowhere. In purely biological terms, men are more expendable than women because 1 male and 10 females can produce 10 times the offspring of 1 female and 10 males. In primitive times when epidemics were far more common and relatively few people survived to adulthood ‘women and children first’ was not just misandristic bragadocio, it was a matter of basic survival. Societies that didn’t protect their women tended to expand more slowly and die out more easily than those that did.” – TVTropes.org, “Men are the Expendable Gender”¹

Birkenhead Drill: e.g., Smurfette. Anthropology 101: Expendability Theory: A theory that suggests men will tend to do more dangerous jobs (especially combat) because the loss of a man is less disadvantageous reproductively than that of a woman. *Google it.* Smurfs are extinct.

- ✓ “In 1852, HMS Birkenhead was wrecked at Gansbaai while bringing reinforcements to the war at the request of Sir Harry Smith. As the ship sank, the men (mostly new recruits) stood silently in rank, while the women and children were loaded into the lifeboats. They remained in rank as the ship slipped under and over 300 died.” – from Wikipedia article, “Xhosa Wars,” captured June 15, 2019.²

Whether we acknowledge it or not, this is still the central issue to women serving in the military, especially in combat roles. It goes to the core of our psychology, how many women actually want to be in the infantry, artillery, or tanks? So the feminist argument in this case is one of principle (equality of opportunity and treatment), rather than reality.

Most viewers – especially the younger ones – may not have given it much thought when the dodo yelled, “There goes the last female!” in *Ice Age* (2002) as they all went over the cliff.

- ✓ If any human male asks why women and children first, he should go with the women and children.³

“You have repeatedly condemned my triage philosophy as being too lenient, too soft. It is not. Triage is, and has always been, a concession to the inevitable, not premeditated mass-murder. Twenty-five years ago, in the white heat of a new crusade, we set a rather idealistic goal: semi-immediate reversal of runaway overpopulation.

We were dismayed to find it not that simple. How can an illiterate Third Worlder, whose single recreation in an otherwise drab existence is sex, be persuaded to remain chaste during his wife’s fertile period?”

– William Walling, “Triage” (short story, 1976)

Triage: Basic Triage categories: 1) Those who will die even if they receive immediate medical care, 2) those who will die if they do not receive immediate medical care, and 3) those who will not die if they do not receive immediate medical care.

- ✓ “In advanced triage, specially trained doctors, nurses and paramedics may decide that some seriously injured people should not receive advanced care because they are unlikely to survive. It is used to divert scarce resources away from patients with little

chance of survival in order to increase the chances for others with higher likelihoods. The use of advanced triage may become necessary when medical professionals decide that the medical resources available are not sufficient to treat all the people who need help. The treatment being prioritized can include the time spent on medical care, or drugs or other limited resources. ...

In these extreme situations, any medical care given to people who will die anyway can be considered to be care withdrawn from others who might have survived (or perhaps suffered less severe disability from their injuries) had they been treated instead. It becomes the task of the disaster medical authorities to set aside some victims as hopeless, to avoid trying to save one life at the expense of several others.” – from Wikipedia article, “Triage,” captured August 26, 2019.

In the William Wallace story, certain parts of the world that were on the verge of collapse due to failure to check runaway overpopulation could be denied U.N. assistance from the limited remaining resources, and allowed to collapse. There was a political-ideological war in the U.N. agency over application vs. racism.

- ✓ “Despite our sanctions, proscriptions, lawful executions and extensive triage judgments; despite floods, earthquakes, plagues, and the farther encroachment of deserts upon our remaining arable soil, there are now some twenty-five thousand more human beings on Earth than the nine and three-quarter billions we could not feed last week. And you tell me all’s right with the world.” – William Walling, “Triage” (short story, 1976).

“I pity your wife if she thinks six minutes is forever.”

– Freddy Mercury’s character, *Bohemian Rhapsody* (2018)

Reproductive Consciousness: Pornography, masturbation, and prostitution are about recreational sex without consequences, more or less. Eroticism and sensuality are about psychological needs; lovemaking is about all three. Sexual intercourse is only about bonding and reproduction (reproduction does not require love⁴), bonding is only about having two or more humans to raise the young.⁵ These are the three legs upon which the continued procreation of humanity stands.

Contraception and modern pornography, and millennia of accidental and inadvertent pregnancies, and attempts to moralize and control reproduction, demonstrate amply that reproduction is not the main human desire, but rather we desire the reproductive activities that just happen, as a side consequence, to lead to reproduction. As serendipitous as this revelation may seem to the modern mind, this is a fundamental reality which, more often than not, humanity sees only in afterthought; sex is a recreational exercise and psychological need. This is the human dichotomy.

- ✓ Again, the plethora of Why Not questions govern human sexuality; why not have sex with whomever you like, why not have sex with your friend’s girlfriend, why not masturbate, why not have sex with your brother, sister, cousin, mother or father, why not have sex with your students, why not have group sex, why not have sex with someone who doesn’t consent? *Camaraderie amoureuse?*
 - “Here sexual union and family, there freedom or promiscuity” – Émile Armand (d. 1963), the early 20th Century French anarchist of *free love*.

Contraception places a barrier between the act, momentary gratification and long term consequences, both personal for parents and child, and for civilization. This changed Western sexuality and relationships to the horror of conservatives by removing the danger of reproduction while maintaining the gratification of psychological needs. Theoretically, this might have led to better long term bonding, but it hasn't as other primal drives remain active in young adult humans.

It is perhaps the cruelest joke that most of us were not 'intended' to be here, that the possibility was not considered in the moment and only half-mindedly afterward. That we were the after effect of a momentary gratification. It seems that 'nature' intended us not to be responsible for creation for which we could not possibly obtain permission – except that is backwards – rather that it was a necessary development for the procreation of life that it either be 'mindless,' involuntary (as an amoeba) or propelled by gratification.

- ✓ Is any *quid pro quo* involving sex automatically prostitution? Suppose by sworn court testimony it is established that after a husband bought a house in both their names, and they moved into the house, on the first night in the house, the wife felt like having sex and they did have sex. And it was in main part because they finally had a house of their own, and she felt secure being the co-owner. Is this *quid pro quo* or just normal bonding-reproductive behavior of humans (what some call romance and love)? You might argue that I am stretching the point of *quid pro quo* in relation to sex, the modern usage of the term carries an expectation that the arrangement is explicit. But, there is nothing in the translation of the phrase that implies that it must be explicit, it can be implicit or even accidental or natural. For example, the species of energetic little birds whose males build nests on the ground (they like anything blue) solely for the purpose of attracting and mating females, and they mate as many as they can!
- Domesticated Animals: It is not entirely certain, prehistorically, *when humans began to understand that sex leads to reproduction* – an understanding called reproductive consciousness – which seems to be unique to humans. Some believe that domestication of animals first led to understanding the connection. Without modern science, the causal relation might be less obvious than it would seem, due to the relaxed fertility cycle of human females, the long gestation periods of human reproduction, and perhaps, youthful promiscuity and the fact that every act of copulation does not immediately lead to pregnancy (no 1:1 correlation between the act and the result). It is possible, though disputed, that some isolated tribes studied by anthropologist in modern times, may have attributed pregnancy to magic or acts of the gods, while regarding sex as a social activity. Even with modern understandings, the moment of contraception remains magical as we still cannot create life out of non-living matter.
 - ✓ In the 1967 hit song "I Think We're Alone Now" by Tommy James and the Shondells, the young adults think the parents don't understand what they are doing and what they want to do, but it is just the opposite; the parents know exactly what they are trying to do, and the children do not: They seek the momentary gratification.

It is thus that only humans can *intend* reproduction of ourselves and the animals we control – because of reproductive consciousness; the latter being the source of dog, cattle and horse breeding, and cat fancy.

- ✓ Allow your mind to range for a minute over the implications of understanding the connection between the sexual encounter and birth (vs. not understanding). Is there

any part of humanity that has not been touched by this understanding? History, family relationships, inheritance, crime, food, medicine, politics, ethnicity, race, religion, drama, law. It is a profound understanding equal in all ways to knowing that we can control and make fire (discussed in *The Secret of Fire*, 3 Technology, p. 721, *infra*).

We naturally watch animal documentaries from our perspective; it is not entirely clear, and somewhat unlikely, that the animals themselves perceive the cause and effect of their actions; that mating season driven by instinctive behavior, leads to young members of the species later. Nor do they likely see the larger picture of the march of the seasons, being mainly concerned with the here and now, daily survival. Causal understanding has two elements, memory of what happened, and inference or reasoning, with the results eventually confirmed or dismissed by testing or continued observation. Do animals actively remember the activity of mating?

- ✓ “They [dogs and cats] don’t even understand, we are sure, any relationship between a sexual encounter and pregnancy and birth, and therefore, cannot understand the necessity or techniques for interfering with the process. They seem closed off from their own mortality and the peril of it all. That level of comprehension would appear to be ours alone.” – Roger Caras, *A Cat is Watching* (1989), p. 208.⁶

Sapient understanding of death, our own death, an abstraction since we will not actually experience it and live to write about it, is a major step toward seeing the meaninglessness, comprehending the Existential Void. The inability to connect the sexual encounter with pregnancy and birth, probably indicates a lack of “autobiographical memory” and “extended self-conception” advanced as central pillars of human consciousness (which is locally co-extant with sapience and personhood, Daniel Dennett) by Prof. Antonio Damasio (Jason Pontin, “The Importance of Feelings,” MIT Technology Review, June 17, 2014). See full feature quote, 3 The Big Bang, p. 9, *supra*.

Although it cannot be ruled impossible that a technologically advanced species would not automatically possess reproductive consciousness, it might be fun to try in the game, though the operational consequences are not immediately clear. Reproductive consciousness is so fundamental to the human condition currently that we would automatically assume that any sapient species we encounter would be firmly in possession of the same consciousness.

- ✓ Autobiographical memory and extended self-conception does not extend to preexistence: A human doesn’t remember being born (or before being born, which is absurd) and does not know when they will die. And that makes us no different than cats, dogs or any other living creature. Other than the common, accepted, observed fact of birth and death, hospitals and graveyards, each human would have no idea that they have not always existed – other than their parents’ claims – or that they will not always exist, other than seeing death around them (and humans are carnivores, which makes it necessary for survival). Without such communication (which humans could provide if they had the ability to understand), cats and dogs don’t know they have not always existed if they ever thought of it. It has usually been considered quite probable that non-sapient species do not have this extended awareness, and to the extent that they consider it, each has always existed and always will, and thus they cannot see the Void. Metaphysics and religions simply keep and reinforce in humanity that animal

blindness to the Void by moving it to a realm beyond the now and the physical, so that we can think – with varying sincerity – that we will always exist in some form.

- Notice that Western religions talk about the ‘afterlife’ but never a ‘pre-life’?

- What Is, Is: If male cats were self-absorbed with moralities, absurdism, Kantian imperatives, and meanings, there would be no more kittens in the world. I might even go so far as to suggest that male cats don’t know what a female cat *is*; as Chaki Kobayashi (see excerpt *What is a Tree?* in *Persistence of Existence*, *supra*) pointed out, perhaps inadvertently, the *what is* of anything is an interesting concept in and of itself. To the male cat, the female cat *is* that smell which at certain times makes him fight and do other instinctive behaviors which we call mating (or the sexual encounter, as Roger Caras called it), the female cat *is* the one who wants to do that thing against his belly sometimes that the male cat wants to do any time.⁷ The female cat *is* the one who wants to love up against him when he comes up and *is* the one who wants to play sometimes and he doesn’t mind.

That is different, of course, from what the kittens think a female cat *is*; there really is no such thing to the kittens: There is only mother caregiver, siblings, and all other things in the world which might be an existential threat, food, or something to play with and pounce. To us, who have reproductive consciousness, extended awareness, autobiographical memory, sapience, etc. – and no sexual-reproductive interest in female cats (don’t even go there, Catan ‘wood-for-sheep’ people) – the female cat *is* the sex of the species that bears and cares for kittens, the ‘mother’ of the future. As Chaka Kobayashi might ask, is the male cat dumb? Dumber than us? Whose *is* is?

The notion of a childbearer and sexual reproduction is so engrained in creatures above amoeba – an amoeba is not considered an animal – because it has been wildly successful in evolutionary terms and ingrained in our psychology such that we cannot imagine otherwise. The *non-childbearing role is the definition of the male* biological sex – the essence of ‘maleness’ – for most people, and since the dawn of sapience (to which we made deities and mythologies), though biologist may have a slightly different definition due to natural oddities such as the sea horse.

But, of course, we do know of asexual reproduction (e.g., fission, budding, spores) without ‘childbearing’ in the sense that we think of it, and according to the Wikipedia article on the subject (January 13, 2019), approximately half the phyla in the animal kingdom, up to snakes and reptiles, have displayed asexual reproduction, though there had to be a childbearer (i.e. a female) in those cases. Anyway, GGDM makes no assumption or specification (with the exception of some Fundamental Realities) as to whether reproduction is sexual or asexual, or whether any member of the species is a childbearer, female, or other. This may impact, for example, Black-ops, see ‘honey trap’ feature quote bottom p. 1291 and discussion in *Bees, Bears and Sci-Fi, 2 Special Operations*, p. 1292 *infra*, if the participants *choose to look*.

- What It Isn’t: The stark dividing wall between mainstream filmmaking and pornography is unsimulated sex. For example, the spectrum from actual prostitution to lap dancers to strip tease performers. While this may seem serendipitous to the reader, it is taken quite seriously and marks the single, most enduring cognitive divide of human literature and art since the beginning. Though the wall has eroded slightly over the last 50 years (beginning with Andy

Warhol's Blue Room (1960)) in the film industry, it is still very much intact, but there remains an odd, contorted relationship between the two poles: While more 'mainstream' productions have *slowly* featured more unsimulated sex (and increased 'gratuitous' nudity and simulated sex), porn *quickly* moved exclusively into the video niche, generally abandoning in the last 30 years all pretense of mainstream filmmaking, storytelling, sets and costumes, or even erotic art and sensuality (though, in the larger picture, there are always historical cycles). As one critic pointedly said, there is nothing sexy about modern porn.⁸

The evolution of the movie Caligula (1979) from mainstream Roman movie (as *political satire*) with mainstream actors (it featured veteran actors Peter O'Toole, Malcom McDowell, and Helen Mirren) and production quality – to which was added first violence and simulated sex, and finally unsimulated sex (i.e. pornography) is a fascinating example, and caused Gore Vidal and Tinto Bass to subsequently disown the movie.

- ✓ See related Good Vibrations discussion, 7 Beginnings, p. 69, *supra*.
- ✓ See also Neurotic Religion and Temple Prostitution discussion, 4 Culture, pp. 412, 415, *infra*.
- Fuzzy Places: Science-fiction literature has long vaguely suggested here and there that intellectual maturity of the human race and/or future evolution would lead either to an end of reproduction or an end of natural reproduction. The back basis for this ranges from early 20th Century ideas of the separation of intellect and bestiality – in these futures, intellect wins and human bestial drives fade – to full embrace of Kantian imperatives and anti-natalist arguments. Population control and advanced anagathics are often also cited. At the other end of this is extinction. To adapt a Nick Bostrom-like argument, which is the greater moral imperative – to avoid the harms of individuals being born into this world without consent – the anti-natalist argument – or to avoid extinction of humanity – as Bostrom suggests? See Derek Parfit and Nick Bostrom, The Unicorn Song, 1 Resolution, p. 1461, *infra*.
 - ✓ As mentioned previously, so far as we know, only humans can intend to reproduce, whether they happen to be thinking about it at that moment or not, they know it is a possible consequence. This is enough to place them on a shelf separate from all that we know. It is thus possible for humans to cause their own extinction through choice. Does every sapient life in the universe end in that way? If so, Fermi Paradox solved. Or is it part of the emergent evolution of the universe (see fractures discussion, Fourth Frame, 1 Entropy, p. 226, *supra*) that over time, the basic drives of life in the universe will be supplanted by choice by lifeforms on whether or not to continue reproducing?
 - ✓ Anti-natalism is thus a function of human consciousness, sapience, recognition of birth and death, mortality and reproductive consciousness which *makes the blameless in animals blameworthy in humans*. At least until the time of Malthus, the attitude was that we should just be like the animals, blameless for reproduction even if conscious of it. Reversion to being like the animals or attempts to be so blameless have never worked out for humans; we cannot go back to being animals any more than we can revert to our childhood innocence. We are stuck with our sapient consciousness.
 - ✓ 🕯 “When the candles are out, all women are fair.” – Plutarch, Conjugal Precepts.^{9🕯}

“There are three forms of sexual coercion that researchers have documented in both human and nonhuman primates: harassment, intimidation, and forced copulation. Harassment is the most common and results when males make repeated attempts to mate that imposes costs on females, intimidation is the use of physical violence inflicted on females who refuse to mate with a given male, and forced copulation (or ‘rape’ in the human literature) is the least common form that involves violent restraint for immediate mating.

The researchers found convincing evidence that the first two forms of sexual coercion (but not the third) increased the long-term reproductive success among males in Japanese macaques, baboons, and our closest evolutionary relatives the chimpanzees. This suggests that, at least for these three species, sexual coercion has been selected as an adaptive strategy in male sexual behavior. But what about humans? This is a difficult question to answer since, for reasons of privacy, researchers can’t very well study human sexuality by stationing a field researcher in our bedrooms.”

– Eric Michael Johnson, “The Science of Sexism: Primate Behavior and the Culture of Sexual Coercion,” *Scientific American* (blogs), July 20, 2011 ^{10,11}

Unnatural Selection: ‘Unselected male’ is a scientific term for a male who has not proved his fertility (see Moving Parts, 4 Taxation & Census, p. 331, *supra*), but the term also carries with it a load of profundity: It is the female of the species who selects, it is the female – as the child-bearer – who decides and consents to sex throughout the animal kingdom.

Many young human males cannot accept this fact; fear that the female may select another (or fear of remaining unselected) is the primary force behind societal controls on female reproduction, male dominance hierarchy, restrictions on female clothing, movement and occupations, arranged marriages and bride kidnapping. No other species – with the possible exception of some observed instances among apes in the wild – commits rape or imprisons females.

- ✓ Rape is, by definition, a circumvention of the natural order, to force selection on the female (bearing in mind, however, that sex is a psychological need and reproduction an afterthought).
- ✓ Rape is only possible because of the relaxed fertility cycle of female humanity (i.e. the fact that humanity does not have a ‘mating season’¹² like other species, that human females are sexually available most of the time) and different physiology: In all other species, it would do the male no good (reproductively) to force a sexual encounter on the female who is not ready to submit.

Most human males learn, eventually, that it is a far better experience when the female chooses; studies have shown that females who like the guy they have sex with are more likely to orgasm, and the female orgasm plays an important multi-part role in reproduction. Thus, human reproduction is adapted such that the nice guy wins, in an evolutionary sense.¹³

Rape is, of course, not likely to occur between humans and aliens (any more so than humans and non-human animals ... don’t go there! No bad Settlers of Catan jokes!), and is rarely if ever depicted in science-fiction or space-opera literature except where the aliens are parasitic and use humans as hosts (and even then, it is not sexual rape, but predatory assault). See previous discussion of crossbreeding in GGDM in Pan-Galactic Pornography, 5 Beginnings, p. 53, *supra*.

- Tears of a Woman: “Men tend to hate it when women cry – for reasons that they often have difficulty articulating. Now, new research suggests why – men may be biologically primed to react to a woman’s tears. According to a new study, even a whiff of these tears can dramatically reduce men’s testosterone levels and to a lesser extent, their sense of sexual arousal. With or without conscious awareness, women’s crying can just turn men off.” – Maia Szalavitz, *Time*, January 6, 2011.

- ✓ “Seeing tears clearly has an effect on people – it tends to turn anger into compassion. But scientists at the Weizmann Institute of Science wondered if the effect was strictly visual. Might there be some chemical in human tears that was responsible for the urge to care for someone? ... But psychologist James Cherry of Boston University says though the Israeli study convinces him that there is some chemical signal, he isn’t convinced the chemical is only in the tears. ‘Certainly there are effects,’ he says. ‘But whatever substance or substances that may be there could be found in a lot of places. You just don’t know that.’ Cherry says the chemical could be in sweat or saliva. Psychologist Ad Vingerhoets of Tilburg University in the Netherlands has also been studying human tears. He says women’s tears may reduce male testosterone and sexual arousal, but that’s not the main effect. ‘It’s my hypothesis that tears [have] an effect not primarily on testosterone but on oxytocin,’ says Vingerhoets, referring to the hormone that promotes social bonding and caregiving.” – Joe Palca, “Smell That Sadness? Female Tears Turn Off Men,” *NPR*, January 7, 2011.
- ✓ “Robert Provine, who studies the evolution and neural basis of behaviour at the University of Maryland, Baltimore County in Catonsville, says that the results are consistent with previous suggestions that crying could reduce aggression. Testosterone may be linked to hostility, and lowering aggression could be evolutionarily adaptive, he explains.” – Janell Weaver, “Women’s tears contain chemical cues,” *Nature*, January 6, 2011.

Unfortunately, our domesticated animals and pets can love but cannot cry (with the possible exception of elephants, “Elephant cries after rescue from 50 years of abuse”¹⁴), but their actions can arouse human anger, especially in the immature, intemperate types, and they often become the focal point of the moment for our anger and frustration at the universe, our life, ourselves, our children, our jobs, and other people. Pets have no tears for defense.

- Comparative Zoologies: I observe much cat behavior and socialization. An aggressive young wandering tomcat that I have seen a few times came onto my porch where my semi-feral outside cats gather and live. He first tried to force himself on a yearling female; she rolled over and he had to jump back to avoid having his tummy clawed by her hind legs and his nose swatted. Next he tried to run up behind an older female who understood well what was on his mind, before he got to her, she turned around and hissed and swatted, he barely avoided having his nose swatted again. Though most male cats don’t try to force females to mate, the behavior is not exclusive to primate males. Unlike humans, however, the other males present didn’t act to protect the females from him, they didn’t need it.

There is some limit to which human behavior can be compared to those of our favorite animals and sexuality and reproduction are the nexus of the argument. On one hand, zoologist (specifically Desmond Morris, see *Tyranny in the Nursery*, 3 Colleges, p. 491, *infra*) have demonstrated that much of human behavior is the same as other animals. On the other, what separates human behavior from those of other animals is our metaconsciousness and all that

comes with sapience. And reproductively, it is our reproductive consciousness that conflicts with the automatic mating behavior in other animals. So while human females are available for ‘mating’ more often than other species, the gestation period of human reproduction has extended beyond the seasonal mating of other animals, making greater demands on the parents, and in most humans, consciousness has changed the reproductive behavior. Both can be true in any given instant.

- **Nude Apes:** As a demonstration of how we are programmed by our culture, Dr. Fessler (my abnormal psychology professor) pointed out that sexual arousal from adult human nudity or the association of nudity with sex, only exists in cultures that have long had clothing.¹⁵ This has progressed to the point that the sight of bared female breasts alone causes mild to substantial arousal, in some historical and extremely conservative contemporary cultures female bared feet, bare necks, bare faces, and even bare hands in public are or have been in the past, considered scandalous. In cultures where clothing was not invented before the arrival of the Europeans, or where the female breasts are not covered, nudity or near complete nudity alone is not sufficient to cause sexual arousal in adult members of those societies.¹⁶ Consider the modern phenomenon of nudist camps where male arousal must quickly separate from nudity.

Heimdall: *I am conducting research into the genetic history of the Asgard.*

O’Neill: *Yeah, now see, that doesn’t sound like something worth dying for.*

Heimdall: *That is because you do not understand the gravity of the situation.*

O’Neill: *Feel free to enlighten us.*

Heimdall: *As a race, the Asgard reproduce exclusively through a process of enhanced cellular mitosis.*

Carter: *Are you serious? You have no other means of propagation?*

Heimdall: *No.*

[Carter looks surprised]

O’Neill: *Carter?*

Carter: *They’re clones, sir. All of them.*

O’Neill: *Ah. Well, that answers a few questions.*

Heimdall: *In fact, for nearly a thousand years, we have been physically incapable of achieving cell division through meiosis.*

[O’Neill looks questioningly at Carter]

O’Neill: *Hmm?*

Carter: *Sexual reproduction, Sir.*

O’Neill: *Ah. (to Heimdall) A thousand years?*

Heimdall: *It is not something we usually discuss with other races.*

O’Neill: *This I understand.*

Heimdall: *Through cloning we have achieved a measure of immortality. As each Asgard’s body fails, his consciousness is transferred into a newer, younger version of himself. Unfortunately, the lack of genetic diversity has become a problem.*

Carter: *It’s like making a copy of a copy of a copy. Eventually there’s deterioration.*

Heimdall: *We created a process of controlled mutation which has helped us to avoid complete genetic breakdown. But we are at the limits of our technical capabilities. The truth is, the Asgard are a dying race.*

– Stargate SG-1, “Revelations” (2002)

Brave New World: Technology brings with it the ability to control population growth (either by increasing or decreasing the rate of growth) in an orderly and peaceful manner (as opposed to war, starvation, disease, drugs, incarceration, and prostitution), however, *the will to do so is an entirely different matter*. Even while it may make sense to balance and even retard population growth on a planet, it has proven to be quite difficult to convince the population to curtail their power of reproduction.

✓ See Triage, *ut supra*, p. 334.

Conversely, when technology allows a civilization to explode into interstellar space – where the space and resources to grow is theoretically unlimited – there is little reason, generally, to retard population growth, except:

- 1) When the growth threatens the governmental control and overall political unity of the species, and
- 2) When it threatens to overwhelm the local systems and resources available on colony planets, e.g., in Controlled Environment Habitats, Colony Ships or Orbital Cities.

This brings the discussion back around to the sci-fi staple of being able to ‘build’ population by industrial means – clones, *in-vitros* (e.g., Space: Above and Beyond (1995-1996)), replicants (e.g., Blade Runner (1982)), and of course, cyborgs. The basic rules of the game prohibit it (for sanity purposes, see View from a Height, 1 Construction, p. 660, *supra*). It is not *impossible* to create by Patents the ability to ‘build’ population by use of RPs and the Colony Enhancement activation of the Construction Power (perhaps in conjunction with the Census Power) with all of the inherent existential questions to play out in the game.

✓ Among the myriad possible ramifications of widespread, industrial-scale cloning, the Dust sci-fi short, “The Replacement” (on YouTube, 2019) presents an interesting issue: The clone of a janitor becomes the first clone President of the United States. And orders a thousand more clones of himself. In fact, it is hinted that a significant part of the population is clones, and ‘originals’ are becoming uncommon;¹⁷ the media in the story treats the clone presidential victory as a civil rights victory.

In the game, positions may, of course, develop some technologies to increase, decrease, or mutate populations, however, the game makes the assumption that the ability to do so efficiently exists within the technology of the 1st Era (without having to create the technology in-game – unless players desire to develop the game in that way), so that mainly population growth is properly controlled by first, the frequency of the activations of the Census Power (and Maximum Habitability), and second, by use of Writs (which express the social and political will – see It is Written, 1 Writs, p. 435, *infra*) related to the activation of the Census Power.

✓ When asked why he reads Playboy magazine, Edward Bernays replied, “For the same reason I read the National Geographic, I like to see places I will never visit.” – L. Tyre, *The Father of Spin* (1998).

➤ **Technological Senescence:** The benefits of technological civilization: tobacco, alcohol, drugs, automation, food stuffs and drinks, cosmetics, dentistry, elective surgeries, Botox injections, and clothes, fashion and pop psychology, plentiful and cheap, and extended adolescence and delayed entry into the workforce, expanding life expectancy – have distorted our sense of normal human aging.

- ✓ “[Brandon Milholland] and his colleagues came to this conclusion by analyzing decades of longevity data from about 40 countries. As just about anyone could tell you, it has become increasingly common for those in wealthy nations to live to ages that once would have seemed impossible. For decades, the ages of the oldest living people were increasing over time – but that slowed and pretty much stopped by the 1980s. And the researchers found that, based on statistical trends, those who reach age 110 today do not have a longer life expectancy than individuals who reached the same age decades ago. The results may sound straightforward, but life span is a debated subject in the scientific community.” – Rachel Felton, “Are we approaching the limits of human life span?” Washington Post, October 6, 2019.¹⁸
- ✓ “The report says that if a human lifespan was extended beyond 125 years, it would require other scientific interventions beyond improving someone’s health. ‘Although there is no scientific reason why such efforts could not be successful, the possibility is essentially constrained by the myriad of genetic variants that collectively determine species specific lifespan,’ it says.” – Bianca Britton, “Humans Have Reached Their Lifespan Limit, Researchers Say,” The CNN Wire, October 6, 2016.

Our Bronze Age ancestors would not recognize us.

- ✓ “And you – with your aftershave lotion and your little red car, pushing papers across a desk all day and chasing tail all night – tell me, just how the hell do you think you would look to Tiglath-Pileser, say, or Attila the Hun?” – Frederik Pohl, “Day Million” (1966).¹⁹

➤ Assortative Mating: Pulling back the mask.

- ✓ “Assortative mating is a mating pattern and a form of sexual selection in which individuals with similar phenotypes mate with one another more frequently than would be expected under a random mating pattern.” – from Wikipedia article, “Assortative mating,” January 12, 2019.

Assortative mating is a form of ‘natural unnatural selection’ that is available to animals of higher orders from snails to common toads to bluebirds (*Id.*); although snails don’t seem at first glance to be of a ‘higher order,’ they are relatively recent – about 550 million (i.e. more than half a billion) years ago – in the evolution of life on Earth, which is estimated to have begun 3.5 billion years ago.²⁰

- ✓ “... it took nature hundreds of millions of years to evolve bacterium, and billions of years to make a grasshopper” – Carl Sagan, *Cosmos*, Episode 5.

Assortative mating in animals requires at the least the sentience to distinguish characteristics between members of a species;²¹ assortative mating is a natural form of discrimination.

- ✓ Merriam-Webster online dictionary at *assortative mating*: nonrandom mating: such as **a**: mating between the more similar individuals of a population especially when regarded as a factor in evolutionary differentiation within a population **b**: selective mating between individuals whose choice of marriage partners is determined by similarity of social environment.

Although assortative mating has been well documented in other species, humans take it many steps further into the realm of sociocultural, educational and intelligence preferences. Assortative mating preferences in humans has been established by scientific data since around 1900. Dating match sites – the ones that pop up in internet banners and air television commercials in February – seem to be using very sophisticated assortative mating programs to match economic, education, and sociocultural personal profile inventories, and additionally, they have a huge database of the millions of past responses submitted to find socio-patterns. In the form of endogamy and extreme homogamy, inbreeding and assortative mating can intersect causing pedigree collapse (e.g., the famous Habsburg jaw).²²

Within the time scales of GGDM, assortative mating could display some strong local effects (e.g., see Frontier Drift, 3 Entropy, p. 246, *supra*) though probably not approaching truly evolutionary changes,²³ without the assistance of technology.

- ✓ “[Q] What can French and American women learn from one another about love? [A] *We can learn from French women to maintain a certain mystery in a relationship and to pay more attention to the aesthetics of one’s personal appearance and lovemaking. They can learn from us to be more direct in expressing our needs, whether they be in the kitchen, the bedroom, or the boardroom.*” – Mary Duncan interview with author Marilyn Yalom, “Love, Fidelity and Sex: French Style,” Huffington Post, January 23, 2014 (emphasis in original, article is free online).

Dr. Strangelove: *Naturally, they would breed prodigiously, eh? There would be much time and little to do. With the proper breeding techniques, and starting with a ratio of, say, ten women to each man, I should estimate the progeny of the original group of 200,000 would emerge a hundred years later as well over a hundred million. Naturally the group would have to continually engage in enlarging the original living space.*

General Buck Turgidson: *Doctor, you mentioned the ratio of ten women to each man. Now, wouldn’t that necessitate the abandonment of the so called monogamous sexual relationship, I mean, as far as men were concerned?*

Dr. Strangelove: *Regrettably, yes. But it is, you know, a sacrifice required for the future of the human race. I hasten to add that since each man will be required to do prodigious... service along these lines, the women will have to be selected for their sexual characteristics which will have to be of a highly stimulating nature.*

– Dr. Strangelove (1964)

Endnotes.

¹ **Commentary:** Not to mention that in a situation where there are ten human males and only one viable human female, the total population is likely to decrease significantly before it increases! Humans murder for reproduction.

² **Commentary & Citation:** This seemingly unbelievable account of stoic discipline and male chivalry is confirmed by quotes and citations in the Wikipedia article, “HMS Birkenhead,” to wit:

- ✓ “The surviving soldiers mustered and awaited their officers’ orders. Salmond ordered Colonel Seton to send men to the chain pumps; sixty were directed to this task, sixty more were assigned to the tackles of the lifeboats, and the rest were assembled on the poop deck in order to raise the forward part of the ship. The women and children were placed in the ship’s cutter, which lay alongside. Two other large boats (capacity 150 each) were manned, but one was immediately swamped and the other could not be launched due to poor maintenance and paint on the winches. This left only three smaller boats available. The surviving

officers and men assembled on deck, where Lieutenant-Colonel Seton of the 74th Foot took charge of all military personnel and stressed the necessity of maintaining order and discipline to his officers. As a survivor later recounted: ‘Almost everybody kept silent, indeed nothing was heard, but the kicking of the horses and the orders of Salmond, all given in a clear firm voice.’” *Id.*, citing to William Henry Giles Kingston (1899) and “The Wreck of H.M. Steamer ‘Birkenhead’ – 26 Feb 1852” at capeinfo.com.

- ✓ “Just before she sank, Salmond called out that ‘all those who can swim jump overboard, and make for the boats.’ Colonel Seton, however, recognising that rushing the lifeboats would risk swamping them and endangering the women and children, ordered the men to stand fast, and only three men made the attempt. ... The soldiers did not move, even as the ship broke up barely 20 minutes after striking the rock. Some of the soldiers managed to swim the 2 miles (3.2 km) to shore over the next 12 hours, often hanging on to pieces of the wreck to stay afloat, but most drowned, died of exposure, or were killed by sharks.” *Id.*
- ✓ “The order and regularity that prevailed on board, from the moment the ship struck till she totally disappeared, far exceeded anything that I had thought could be effected by the best discipline; and it is the more to be wondered at seeing that most of the soldiers were but a short time in the service. Everyone did as he was directed and there was not a murmur or cry amongst them until the ship made her final plunge – all received their orders and carried them out as if they were embarking instead of going to the bottom – I never saw any embarkation conducted with so little noise or confusion.” *Id.*, testimony of Captain Edward W. C. Wright of the 91st Argyllshire Regiment, reported by William Henry Giles Kingston, *Id.*

Neither ship captain Salmond nor Lt. Col. Seton survived the sinking, which was memorialized in a poem by Runyard Kipling called “Soldier an’ Sailor Too” (1893) – the term came to mean stoic discipline in such situations – and the protocol of ‘women and children first’ became standard evacuation in *all* circumstances. It *codified expendability* and a social expectation of civilized, calm, orderly male courage that is reflected in later fiction, e.g., *Star Trek* and *Titanic* (1997) where the musicians played cheery music while the women and children evacuated.

³ Commentary: **The bright line**: During the planning of the execution of the Romanov family in July 1918, the two guards who objected to shooting women and children were dismissed to their barracks by Yakov Mikhailovich Yurovsky for ‘failing to do their revolutionary duty.’ Would that give you pause about the revolution? But it happens all the time; the rationalization being that a few innocents will be killed now for a better world later.

⁴ Commentary: In this context then, the statements by Stormy Daniels in the belatedly published interview by InTouch Magazine are very revealing about our sexuality, casual sex and pornography:

- ✓ “So anyway, the sex was nothing crazy. He wasn’t like, chain me to the bed or anything. It was one position.... It was textbook generic. It wasn’t like, ‘Oh my God, I love you.’ He wasn’t like Fabio or anything. He wasn’t trying to have, like, porn sex... You know. It was one position, what you would expect someone his age to do. It wasn’t bad. Don’t get me wrong.”

Stormy Daniels has not done the female causes any good, she is certainly *not an icon of feminism*. She has basically told every boy in America what they can have if they are a celebrity billionaire; fortunately for her, the conversation has been about *the philanderer*, she has not been a scorned woman (to any extent more than is normal for a porn actress), forced to wear a Scarlett Letter on her chest or be publically slut-shamed (not possible considering her occupation): A Bill Clinton milestone to be *quietly* celebrated by feminists. She has also reduced the religious conservative family values caucus to shambles and shudders as they have had to issue a mulligan and perform a pretzel logic contortionist act in order to support *the philanderer* (stating that he is an “imperfect instrument of God” Ack!). I suspect that she is most pleased by this.

- ✓ This argument is in the same vein as the suggestion that sexploitation movie director Russ Meyer was inadvertently a feminist: “Film historian and Meyer biographer Jimmy McDonough posits that Russ Meyer’s usage of physically and sexually overwhelming female characters places him in his own separate genre. He argues that despite portraying women as sex objects, Meyer nonetheless depicts them as more powerful than men and is therefore an inadvertent feminist filmmaker.” – from Wikipedia article, “Russ Meyer,” December 18, 2018, citing to [Big Bosoms and Square Jaws: The Biography of Russ Meyer](#) (2005).

⁵ Citation & Commentary: “Their opinion might be roughly summarized in the words of Arnold Toynbee: ‘With the increase in our power, our sense of responsibility and our sense of distress increases.’ Toynbee has said that the growth of science and technology makes more acute the disparity between the real and the ideal.” – Brian Aldiss, [Galactic Empires, Vol. 1](#) (1976).

- ✓ Science and technology are more than just a thing, they are a worldview, a way of thinking – about everything. For example, is it possible that the demystification of sex, attraction, reproduction, has led to a greater division between the sexes than has ever existed before? The disparity between the real and the ideals of the participants creates the distress in the relationship? My personal experience, in hindsight, suggests strongly that is the case: The fantasy is always better than the reality.

⁶ Commentary: Extend this thought out a little: They probably don't see any causal connection between consumption of food and defecation. They probably don't see any causal connection between consumption of food and growing or getting fat like my housecats. They simply know they are hungry, and they eat, or hunt if necessary. Hunting and eating become a chicken and egg argument, they need to eat to hunt, and they need to hunt to eat and procreate. My cats are food dish predators. It also is not likely, from my experience, that they understand that biting and their claws cause pain, or possibly they don't understand that others feel pain; perhaps this is necessary for them as natural predators. Animals are notoriously short of understanding cause and effect relationships, which understanding humanity takes as a sign of sapience, abstract thought, foresight, the long view, experience, judgment.

⁷ Commentary: I have observed homosexual male cat behavior this spring, a friendly, but sexually aggressive male cat who comes to my porch sometimes was apparently confused about the gender of a small yearling male cat who lives on my porch and chased him around the neighborhood trying to mate with him. At other times when he has been on my porch, I have noticed that he showed no interest in the yearling female, but is obsessed with her brother. I have similarly observed homosexual behavior among my neutered male indoor cats – who were neutered as kittens, but have not observed the same with an outdoor male cat who was neutered as an adult (at about 2 yrs. old).

- ✓ Male dogs are notorious for homosexual behavior and I have witnessed several instances among my neighbor's big dogs. I believe the going theory as to male dogs is that it is not sexual as much as dominance.

⁸ Citation: “Ruminov does not consider *Love Machine* to be pornography. For him, it is an illustration of his idea of ‘new pornography.’ He refers to the contemporary Swiss-born and British-based philosopher Alain De Botton, famous for his promotion of complex philosophic ideas concerning love, sex and happiness. Quoting him, Ruminov sets an example of the perceptive integrity of a human being presented by the icon of the Virgin Mary made by painters of the Renaissance period. The admiration of the human body in the Renaissance led to present the Virgin Mary with nude breasts and a halo, unifying the separation of the corporal and the divine. And the icon of Virgin Mary inspired Ruminov for his future film.

Starting from the mid-1970s, society stopped to pretend that love and the relationship between a man and a woman is possible without sex. Erotic elements, sex and pornography took their place in mainstream cinema during the era of the sexual revolution, and allowed the appearance of such masterpieces as Bernardo Bertolucci's *The Last Tango in Paris* (1972) or Nagasi Oshima's *Empire of Passion* (1978). Today, erotic scenes are almost made obligatory by Russian producers to ensure commercial success. However, during the Soviet Union period the idea of sex was totally excluded from cinema, and only during perestroika the gate opened up to huge amounts of video pornography.

Since the end of the 1970s the pornographic industry does not really try to enter the world of cinematographic art, staying in the niche of video and serving very specific purposes. Such films usually deploy a very simple script and a limited number of angles for shooting that are edited in a primitive way. The pornography is often associated with perversity and shame. The last attempt to transgress the border between cinema and pornography was made in 2015 by Gaspard Noé with his film *Love*. By the time *Love* created an uproar at Cannes, Ruminov's film was almost completed and *Love* didn't influence it.

The idea of Ruminov's ‘new pornography’ is supposed to purify the perception of the naturalness of the human body from the morbid and aggressive views proposed by traditional pornography. However, is *Love Machine* pornography? According to one of the most important specialists on the question of pornography, Linda Williams, we can consider the film as ‘body genre,’ or even as ‘an extended rubric of melodrama, considered as a filmic mode of stylistic and /or emotional excess that stands in contrast to more ‘dominant’ realistic, goal-oriented narrative’ (Williams, 1991). *Love Machine* transgresses pornography: the story concentrates on Natal'ia Anisimova's crumbling world that attracts the spectator more than erotic scenes.” – Ksenia Konstantinova-Ragot, Université Paris VIII, review of “Pavel Ruminov: *Love Machine* (*Mashina liubvi*, 2016),” *KinoKultura*, Issue 54, October 8, 2016 (Creative Commons 3.0) (available free online).

- ✓ There are nearly a dozen movies listed with the title “*Love Machine*,” about one a year. This review refers to the experimental Russian language film. Other titles with the same name range from trashy psycho exploitation horror (literally, in one a psychiatrist using a beam machine to cause women to kill their husbands during sex) to comedy to sex robots (*à la* the Replicants in *Blade Runner*). Yeash!

- ✓ Not all such ‘new pornography’ efforts are appreciated in the West (whatever the requirements of Russian cinema), consider the following criticisms of the 2012 movie *Sexual Chronicles of a French Family* (gathered from Metacritic):
 - “Offers diverting date-night fare for open-minded heterosexual couples and swingers, though its superiority (artistic or otherwise) to actual porn is debatable.” – Dennis Harvey, *Variety* (score 50/100).
 - “It’s a celebration of libertine sexuality – nothing more, nothing less – and almost remarkably untroubled by any of the dramatic issues it raises. Much of its 79 minutes is spent marveling over how skillfully the actors simulate the real thing.” – Scott Tobias, *The AV Club* (score 42/100).
 - “A barrage of screwing with interludes does not yield a cohesive movie. Watching *Sexual Chronicles of a French Family*, the one-note idea grows increasingly evident, as does its absence of fresh ideas.” – Eric Kohn, *IndieWire* (score 42/100).
 - This latter also describes the problems with action movies cranked to the theoretical max. It is hard to have a coherent story or promote any thought or message in a movie that features over the top violence and action with a few interludes. Movie makers and tyrants both know this.

⁹ Commentary: If it were not for sex, there would be no love in the world. This is more than just a snarky male comment; you should give it more than a passing moment of thought. Your first love is the unconditional love of a mother (however short-lived), all else later is a transfer of the need for affection from another of the opposite sex. It is possible for something to seem snarky, but profound at the same moment. Just like after-sex commentary.

¹⁰ Commentary: This ‘harassment’ should not be taken quite in the same context as human females use the term; in the spring of 2020, a tomcat became obsessed with a very sociable neutered female who lives on my porch. I think she reciprocated a little of it, but cannot fully respond because she is neutered. He followed her around enthusiastically, even to the point of sleeping on top of the heated cat house in which she took refuge.

¹¹ Commentary: Since I was young, I have heard many men say, “I’m a boob man.” I have heard men say it around other men, I have heard men say it to women sometimes, and it has come up as comments made in a few well-endowed client sexual harassment cases I worked on over the years. I think it’s just an idiotic statement; every man is a boob man, to the point of even being used as a display of wealth and status (e.g., among the 10th Century Rus people, as reported by Ahmad ibn Fadlan). And so are women. It’s the most basic, infantile part of human sexuality.

- ✓ “Each woman wears on either breast a box of iron, silver, copper, or gold; the value of the box indicates the wealth of the husband. Each box has a ring from which depends a knife. The women wear neck-rings of gold and silver. Their most prized ornaments are green glass beads. They string them as necklaces for their women.” – Ahmad ibn Fadlan, as quoted in Gwyn Jones, [A History of the Vikings](#) (2001).
- ✓ The value of the materials in the box wasn’t the only thing on display, the size of the box probably mattered too! Imagine the weight of those things around the neck.

¹² Commentary: An annual activation of the Census Power... In a very strange way, ‘evolutionary progress’ can be thought of as the successive ability to activate new GGDM Vital Powers, just as evolution was taught backdoor in high school biology (without ever mentioning the word) by teaching the phyla of the animal kingdom in order from simplest to most complex. Every species begins with the Census Power.

¹³ Commentary & Citation: I guess it speaks to my view that I misheard a lyric in Ratt’s “I Want a Woman” (1988) for over 30 years, I heard, “I think I found out what means so much, baby’s tears and the woman’s trust!” I didn’t consider it inconsistent generally with the rest of the song (whose subject is romantic maturity) and actually thought it was a crowning lyric (despite Ratt’s appearance and overtly sexualized, testosterone driven, ebullient cocksure youthful, but very talented and smooth jazzy metal musical style). Most lyric sites have “I’m thinkin’ now down the week so much, Think the chances that that woman’s touch,” which doesn’t make a lot of lyrical sense to me, some others have “I’m think I got down what means so much, Fingertips with that woman’s touch” which at least makes better sense and is much closer to what I have (mis-)heard for years. I still like my interpretation better and will probably continue to mishear the lyric for the rest of my life.

¹⁴ Citation: “An elephant that spent 50 years in captivity cried real tears when wildlife conservationists staged a daring midnight rescue.” – Internet Broadcasting, July 8, 2014.

- ✓ “An elephant that was kept in chains for 50 years and abused by a drug addict who used the animal beg in India has been freed. Raju had been beaten and starved since being poached from the wild as a baby and resorted to eating paper and plastic to fill his stomach. The chains and spikes wrapped around his legs had left him with chronic wounds and arthritis and he was in almost constant pain. But now he is walking free for the first time after a daring rescue by conservationists with a court order by the Uttar Pradesh Forest Department to take the elephant from his abusive owner. The charity took Raju in the middle of the night on Thursday, supported by police and state officials. The elephant’s mahout and previous owner tried to stop him being taken by adding more chains and having people block the roads for the rescue lorry. Experts worked for hours to gain the elephant’s trust with fruit and encouragement until they could get him into the van that would take him to a sanctuary.” – Lizzy Dearden, “Elephant ‘cries’ while being rescued after 50 years of abuse in India,” Independent UK, July 7, 2014.
- ✓ “Raju’s captors layered tighter chains on him and attempted to confuse him by shouting commands, but their efforts proved futile. A team of 10 veterinarians and experts from Wildlife SOS along with 20 Forestry Commission officers and two policemen managed to rescue the abused elephant, according to the Mirror, a British tabloid. ‘Raju was in chains 24 hours a day, an act of intolerable cruelty. The team were astounded to see tears roll down his face during the rescue,’ Pooja Binopal, a spokesman for Wildlife SOS, said, per the Mirror. ‘It was incredibly emotional. We knew in our hearts he realized he was being freed. Elephants are majestic and highly intelligent animals. We can only imagine what torture the past half a century has been for him.’” – Cavan Sieczkowski, “Raju The Elephant Cries After Being Rescued Following 50 Years Of Abuse, Chains,” Huffington Post, July 7, 2014.
- ✓ The rescue video is on YouTube. Another elephant, Mohan, who was to be rescued with Raju ‘disappeared’ after the rescue, and was eventually located and rescued with another court order (Mark Molloy, “World’s unluckiest elephant’ finally free after 50 years in chains,” Telegraph UK, September 29, 2016).

¹⁵ Commentary: I was lucky to have Dr. Robert K. Fessler as my psychology instructor at Point Park College. I don’t think I realized entirely at the time how unusual was his approach, but it has grown on me over the years as I have matured intellectually. Dr. Fessler was a psychologist who had no love of psychiatry, he was on the other side of the ledger so to speak; I summarize that he felt they overplayed their hand, greatly inflated their claims of effectiveness. He used Richard Castillo’s Culture and Mental Illness (1997) as his course textbook, pointed out cultural differences in effective rates of use of psychiatric drugs, talked about the Soviet diagnosis of “Sluggish Schizophrenia” and political uses of clinical psychiatric confinement to suppress dissent, he introduced me to Rosenhan’s article and his course had an entire section on Viktor Frankl. He pointed out the amount of money spent on research of psychiatric drugs and the lack of important success in treating true mental disorders with them (as a paralegal, I later learned some of the dark relationship of doctors and drug companies, which are reflected in the Rosenhan article). He didn’t whitewash anything, when I expressed interest in pursuing a graduate degree in psychology at another university, he advised that it would be nothing like he taught in his courses, I would be doing Skinner boxes.

- ✓ The difference in outlook between psychiatry and psychology (and between mental sciences and religion) is more stark than most realize, consider the following encapsulation, by a *psychologist*, of contrasting views of what was through millennia past considered a mortal sin:
 - “Depression involves aversion to effort, and the moral danger of sloth lies in this characteristic. The work involved in exercising one’s will to make moral and spiritual decisions seems particularly undesirable and demanding. Thus the slothful person drifts along in habits of sin, convinced that he has no willpower and aided in this claim by those who persist in seeking only biological and environmental causes and medical remedies for sloth.” – Dr. William Backus, What Your Counselor Never Told You (2000), pp. 147-148, as cited in Wikipedia article, “Sloth.”
- ✓ On the matter of my extensive use of the Rosenhan report and Dr. Castillo in criticism of medicalized mental sciences throughout GGDM, one might argue that I was ‘conditioned’ to that point of view by my maverick college psychology professor. Fair enough, though I am also not without life experience – a half century worth – and in that sense my ‘conditioning’ has held up remarkably well! But to make that argument is to also, fairly, suggest that the arguer is also equally conditioned by their education to unquestioningly accept the validity of medicalized mental sciences as the profession is currently practiced and taught. We are all conditioned, that is a side effect of education and why honest debate is necessary.

¹⁶ Citation & Commentary: Our textbook for the course was Richard J. Castillo’s Culture & Mental Illness (1997). I believe this very phenomenon is discussed in the book, along with sexual mores of several wide-ranging cultures,

and as such, you can probably work out the connection with mental illness. In any event, I highly recommend reading this book. It was written as a companion to the DSM IV, and though newer DSMs have been issued, it is still relevant to the discussion.

- ✓ “Dr. Richard J. Castillo, Ph.D. Harvard University, Psychiatric Anthropology, was a cross-cultural adviser on the writing of DSM-IV, and has now written two companion works, Culture and Mental Illness: A Client-Centered Approach and Meanings of Madness: Readings on Culture and Mental Illness. Dr. Castillo is Professor of Psychology at the University of Hawaii – West Oahu, and Clinical Professor of Psychiatry at University of Hawaii at Manoa. Dr. Castillo’s work involves the fields of Psychology, Psychiatry, Cross-Cultural Studies, Anthropology and Religion, and includes topics of mental illness and psychotherapy in all DSM-IV diagnostic areas, shamanism, and the cultural factors affecting dissociative disorders and the relationship of dissociative symptoms to schizophrenia and other psychotic disorders. He presents a client-centered model of assessment and diagnosis based on a holistic paradigm that integrates known biological, psychological, social, and cultural factors.” – from <http://www2.hawaii.edu/~rcastill/welcome.html>.

¹⁷ Citation: The janitor (main character) says, “I feel like a horse after the car has been invented.”

¹⁸ Citation: “‘We cannot break through that ceiling,’ [Jan] Vijg says. ‘The take-home message essentially is this whole ever-increasing life expectancy of humans cannot go on.’ ... The researchers found that the age of the oldest people dying had indeed increased steadily between the 1960s and 1990s, according to their report. But beginning in the 1990s, ‘you no longer see that,’ Vijg says. ‘You see that it stays the same.’ The absolute maximum human life span may be as high as 125, the researchers calculated. But the chances of anyone actually living that long are less than 1 in 10,000. ... But, he added, ‘the take-home lesson from what we found is that the human species most likely has a maximum life span of about 115 and we cannot break through that ceiling, at least not as far as we now know.’” – Rob Stein, “Has The Human Life Span Hit the Ceiling?” NPR, October 5, 2016.

- ✓ “Vijg’s team concludes that there is a natural limit to human lifespan of about 115 years old. There will still be occasional outliers like [Jeanne] Calment, but he calculates that the probability of a person exceeding 125 in any given year is less than 1 in 10,000. The limit is surprising, says Vijg, given that the world’s population is increasing – supplying an ever-increasing pool of people who could live longer – and that nutrition and general health have improved. ‘If anything you would have expected more Jeanne Calments in recent years, but there aren’t.’” – Linda Geddes, “Humans May Have Already Reached Their Maximum Lifespan,” Nature Magazine, October 5, 2016.
- ✓ “Prof Jan Vijg, one of the researchers from the Albert Einstein College of Medicine, told the BBC News website: ‘In people over 105 we make very little progress, that tells you we are most likely approaching the limit to human life. For the first time in history we’ve been able to see this, it looks like the maximum life span – this ceiling, this barrier – is about 115.’” – James Gallagher, “Limit to human life may be 115 (ish),” BBC News, October 5, 2016.
 - Queen Elizabeth II is currently 92 years old and Prince Philip is 97 years old. The Queen Mother lived to 101 years old.
- ✓ “For the first time in more than two decades, life expectancy for Americans declined last year – a troubling development linked to a panoply of worsening health problems in the United States. Rising fatalities from heart disease and stroke, diabetes, drug overdoses, accidents and other conditions caused the lower life expectancy revealed in a report released Thursday by the National Center for Health Statistics. In all, death rates rose for eight of the top 10 leading causes of death.” – Lenny Bernstein, “US life expectancy decreases for the first time since 1993,” Washington Post, December 8, 2016.

¹⁹ Commentary: There is an argument that keeps cycling round every decade, that electric lights interfere with and delay the human circadian rhythm. And that interior heating has interrupted our seasonal rhythms. The argument is both not quite accepted empirically but also hard to deny in existential observation. I remember seeing a news report on studies of third-shift workers, specifically, it focused on salt mine workers in Utah. It is well-known that third shift disrupts lives, both internally and externally, few people do it for long, everyone who gets an opportunity at a regular weekday job jumps off the third-shift merry-go-round (e.g., the low-paying, third-shift job at an always open McDonalds or CoGo’s store, or even graveyard shift contract security, which I worked many times). Most places that care about their workers, especially professionally-trained, licensed workplaces or places subject to malpractice liability (e.g., hospitals, nursing homes, and first responders – because stupidity, chaos, and carelessness never take a night off), find ways to rotate workers’ shifts to avoid third-shift burnout while maintaining a 24-hour operation. Consider the plight of time-zone crossing airline pilots and crews?

5 Taxation & Census – Reproductive Consciousness

- ✓ Whatever the effects are, they are arguably more pronounced since the 19th Century and before; wealthy people in previous centuries could be ‘night owls’ and party into the morning hours, but everyone else stuck to the daylight schedules and seasonal schedules until modern times brought cheap, reliable universal electricity. Modern interior lighting is beginning to take into effect light colors and intensities required for vision without disruption of circadian clocks; I remember a report just within the last two years (maybe in 2017?) that suggested that the bluish light used by cell phones, tablets, and readers – which many people use sitting in bed at night before going to sleep – disrupts or delays being able to get to sleep. In fact, even in my youth, watching television (which were CRT screens then) right before bed was discouraged.

²⁰ **Citation:** See for example, Stephanie Pappas, “What Was the First Life on Earth?” Live Science (livescience.com), March 1, 2017.

²¹ **Commentary & Citation:** Assortative mating has also been identified in plants – whose mating would seem most random of all – in the form of differing flowering schedules, i.e. if plant mating were truly random, all of the members of a species would flower at the same time to achieve maximum random assortment:

- ✓ “We focus on a hybrid zone population between the two closely related ash species *Fraxinus excelsior* L. (common ash) and *F. angustifolia* Vahl (narrow-leaved ash), which is composed of individuals of the two species and several hybrid types. This population is structured by flowering time: the *F. excelsior* individuals flower later than the *F. angustifolia* individuals, and the hybrid types flower in-between. Hybrids are scattered throughout the population, suggesting favorable conditions for their local adaptation. ... We detected a very high pollen immigration rate and a fat-tailed dispersal kernel, counter-balanced by slight phenological assortative mating and short-distance pollen dispersal. Early intermediate flowering hybrids, which had the highest male mating success, showed optimal sex allocation and increased selfing rates. We detected asymmetry of gene flow, with early flowering trees participating more as pollen donors than late flowering trees. ... This study provides striking evidence that long-distance gene flow alone is not sufficient to counteract the effects of assortative mating and selfing. Phenological assortative mating and short-distance dispersal can create temporal and spatial structuring that appears to maintain this hybrid population. The asymmetry of gene flow, with higher fertility and increased selfing, can potentially confer a selective advantage to early flowering hybrids in the zone. In the event of climate change, hybridization may provide a means for *F. angustifolia* to further extend its range at the expense of *F. excelsior*.” – Pierre R Gérard, Etienne K Klein, et al., “Assortative mating and differential male mating success in an ash hybrid zone population,” BMC Evolutionary Biology, November 15, 2006; the entire paper is available for free online.

²² **Commentary:** My mother at a time in my youth was employed by Greek families who sent their sons back to Greece to find ‘proper wives’; they would not allow their sons to marry American-born women. I am not certain if this also applied to their daughters, but it probably did. They also sent their wealth back to banks in Greece.

- ✓ Not coincidentally, there are videos on YouTube currently complaining about the amount of money remitted (“remittances”) by immigrants working in the United States to relatives in foreign countries. So this is not a new subject. The tone of the videos makes their nationalistic, ethnic, anti-immigration intent obvious.

²³ **Citation:** “Nonrandom mating occurs in plants when there is inbreeding or assortative mating. The consequence of nonrandom mating is that population genotype frequencies do not exist in Hardy-Weinberg equilibrium. Although nonrandom mating does not directly drive evolutionary change – meaning allele frequencies are not altered – it can have a profound effect on genotype frequencies and hence can indirectly affect evolution. There are three main ways for nonrandom mating to occur. First, positive assortative mating results when individuals and their mates share one or more phenotypic characteristics with themselves. Negative assortative mating occurs when individuals and their mates are dissimilar phenotypically. Inbreeding is a third form of nonrandom mating that occurs when individuals mate with relatives more often than would be expected by chance. For both inbreeding and assortative mating, genes combine in such a way that offspring genotypes differ from those that are predicted by the most basic population genetic model, described by the Hardy-Weinberg theorem. One assumption of the Hardy-Weinberg theorem, which predicts unchanging equilibrium values for genotype and allele frequencies, is that individuals mate at random. Unlike other violations of this model (such as natural selection, genetic drift, mutation), nonrandom mating affects genotype but not allele frequencies.” – Plant Life (<http://lifeofplant.blogspot.com/2011/03/nonrandom-mating.html>), “Nonrandom Mating,” retrieved January 12, 2019.

Excerpt from “A black protester hugged a white nationalist outside Richard Spencer’s talk. ‘Why do you hate me?’, he asked”

Mary Hui, Washington Post, October 20, 2017

Wearing a white T-shirt emblazoned with swastikas, Randy Furniss, hands in his pockets, walked slowly through a crowd Thursday that had largely gathered to protest white nationalist Richard Spencer, who was delivering a speech at the University of Florida.

“Go home, Nazi scum!” the crowd chanted, jeering at Furniss, of Idaho.

Suddenly, an individual in a green hoodie punched Furniss in the face, before quickly disappearing into the crowd. Furniss recoiled, but carried on walking. Blood trickled from his lip down his chin.

Then something unexpected happened.

A man went up to Furniss and gave him a hug, wrapping one arm around the Nazi’s shoulders, and another arm around his shaved head.

“Why don’t you like me, dog?” the man asked Furniss.

The man, identified by the New York Daily News as Aaron Courtney, is a 31-year-old high school football coach in Gainesville. He said he wanted to show Furniss some love. The hug may have been a small act, but Courtney thinks it can speak volumes.

“It’s a step in the right direction. One hug can really change the world. It’s really that simple,” he said.

Furniss, a self-described white nationalist, explained his views to News4Jax.

“They want what we have. And we just want them to shut up and get on with life,” Furniss said. “They’re being raised up and it’s getting to the point where they want to push us down. That’s not right.”

Courtney hadn’t originally planned on attending the protest. But he was surprised when he received a state of emergency notification on Monday, ahead of Spencer’s planned appearance, the Daily News reported.

“I found out about what kind of person he was and that encouraged me, as an African-American, to come out and protest,” Courtney said. “Because this is what we’re trying to avoid. It’s people like him who are increasing the distance . . . between people.”

Courtney was about to leave the protest, having already spent almost four hours at the scene, when he saw Furniss causing a scene in the crowd, the Daily News reported.

“I had the opportunity to talk to someone who hates my guts and I wanted to know why. During our conversation, I asked him, ‘Why do you hate me? What is it about me? Is it my skin color? My history? My dreadlocks?’” he said.

Courtney repeatedly asked Furniss for an answer, only to be met with silence and a blank look. Exasperated, Courtney asked Furniss for a hug. He was initially reluctant, but as Courtney reached over the third time, Furniss reciprocated, wrapping his arms around Courtney.

“And I heard God whisper in my ear, ‘You changed his life,’” Courtney said.

“Why do you hate me?” Courtney asked Furniss one last time.

“I don’t know,” Furniss finally answered, Courtney said.

For Courtney, that was a good enough answer.

“I believe that was his sincere answer. He really doesn’t know,” Courtney said.

Excerpt from “Footage of Mother Scolding Son During Baltimore Riots Goes Viral”

Meena Jang, Hollywood Reporter, April 28, 2015

Violent rioting continues to overwhelm the streets of Baltimore, Maryland following Monday’s funeral for Freddie Gray, an African-American man who died while in police custody, but one woman is making sure her family stays away from it.

Video footage of the ongoing riots shot by WMAR surfaced on Tuesday, showing a mother scolding her teenage son for apparently participating in the public protests. The woman, who reportedly caught her son throwing rocks at police on live television, can be seen repeatedly slapping the teen while asking, “You want to be out here doing this dumb shit? Get the f--- over here.”

The mother demands that her son, who is dressed in all-black attire, take off his face mask and hood as she angrily drags him away from the scene.

Excerpt from “Baltimore mom who smacked son during riots:

‘I don’t want him to be a Freddie Gray’”

CBS News, April 28, 2015

The Baltimore mother caught on video repeatedly smacking her son after catching him participating in rioting in Baltimore told CBS News that she was only concerned about protecting him.

“He gave me eye contact. And at that point, you know, not even thinking about cameras or anything like that. That’s my only son and at the end of the day I don’t want him to be a Freddie Gray,” Toya Graham said, referencing the 25-year old man who died after mysteriously sustaining severe spinal injuries in police custody earlier in the month. His death has sparked protests throughout the city, with tensions boiling over Monday.

Graham told CBS News she launched into action after spotting her 16-year-old son Michael wearing a hoodie and mask amid the protesters.

“At that point, I just lost it,” said Graham. “I was shocked, I was angry, because you never want to see your child out there doing that.”

**Excerpt from “Baltimore Protests: What Smacked Baltimore Teen
Has to Say About His Mom”**

Steve Osunsami and Meghan Keneally, ABC News, April 30, 2015

The teenage boy publicly shamed when his mom smacked him around at the Baltimore riots this week said he knows she “really cares about me.”

A video shows Michael Singleton being dragged from the protests and whacked by his mother, Toya Graham, after she saw him on television and recognized a key piece of clothing.

“What caught my eye was his sweatpants,” she told ABC News. “Even though he had on all black, I knew those sweatpants he had on, they had a stripe on the side of it and then his eye contact met mine. And I knew that was my son.”

Though he was visibly annoyed and tried brushing off his mom in the video that has now gone viral, the 16-year-old recognizes that she was just looking out for him.

“I’m like, ‘Oh man! What is my momma doing down here?’” Michael told ABC News, laughing while thinking back to the moment his mom nabbed him Monday afternoon.

“All my friends know my mother. Every time they see her they’re like, ‘Toya coming.’ Oh, yeah she’s coming. Everybody better get straight,” he said.

He added: “I understand how much my mother really cares about me. I just got to try to do better.”

Despite some criticism that she went too far with the corporal punishment, Graham has been widely praised as a hero and an example of good parenting by taking control of her son, who said he wasn’t planning on going out on the afternoon of Freddie Gray’s funeral but his friends convinced him. Gray died this month with unexplained injuries after being taken into police custody, prompting protests in Baltimore and elsewhere.

“To see him down there, doing what he was doing, we’re not doing that,” Graham said.

“I’m not angry with him anymore. As long as I have breath in my body, you will not be on the streets, selling drugs, you just not going to live like that.”

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“Culture is the sum of all the forms of art, of love and of thought, which, in the course of centuries, have enabled man to be less enslaved”

– Andre Malraux, Minister of Culture of France (1959-1969)

“It’s because we’re so trapped in our culture, in the being of being human on this planet with the brains we have, and the same two arms and legs everybody has. We’re so trapped that any way we could imagine to escape would be just another part of the trap. Anything we want, we’re trained to want.”

– Chuck Palahniuk ¹

Programming Dilemma: Once you fully understand the extent to which you have been taught to want certain things and disdain others, you – and every other individual – must decide whether or not to be angry about it, to change it, to discard it, or whether perhaps you, and the world, are better off in the primal state or the cultured state of humanity. Most people, while they may come to disagree with this and that, choose the latter; most people are also at least somewhat angered – and it may or may not express itself in various circumstances and degrees – by some of the cultural idioms and ideals they are taught that don’t accord with reality they experience.²

- ✓ This problem is particularly acute when populations experience rapid transition periods such as that of European and American industrialization that brought masses of displaced farmers and former mom-and-pop shop owners to work in factories. Similar if more radical processes occurred in European colonies in Africa, for example, the Zulu farmers, sovereign and self-sufficient homesteaders, were forced off their land to work on white-owned farms, in mines, or in construction. This transition occurred within a generation and was complete in two generations.
- ✓ This transference of agrarian and independent family run trade shops – who worked whenever necessary and as much as they felt they needed, keeping somewhat irregular schedules – to wage workers who had to report and leave at specific times, on a regular schedule, vastly changed the human time sense (which was reinforced by public schooling that requires students to be in class at a specific time each day). See Time Sense discussion, 3 Reformation, p. 1406, *infra*.

The Problem of Immersion: aka drowning. GGDM started with a problem. In games that I played in my youth, such as Stellar Conquest, Advanced Civilization (the Avalon Hill version), and Axis and Allies, population existed game mechanically just to produce money or industry to buy technology and military units. Similarly, I noticed that in most science-fiction stories, especially in movies and television, the audience learned very little about the aliens; mostly, we are shown only their military, flashy technologies, and few cultural parts necessary to propel the adventure or make a point. I began in the early 1990s to create a game where the population was more than just ‘factors’ or ‘points.’ The evolution from Stellar Conquest to GGDM has been to solve a problem that I set forth over 25 years ago.³ Problems to take on a life of their own...⁴

- ✓ “Most games hang their hats on their stories or feats of button-dancing reflexes, but the humble simulation has always had a place at the table. And there are a number of

weirdly specific and joyfully banal simulation games out there.” – Max Eddy & Matthew Buzzi, “The Most Niche Simulation PC Games We Could Find,” PC Magazine, March 15, 2019.

- ✓ The growth of GGDM epitomizes Joseph Tainter’s collapse of complex societies and the Roman Empire: Layers of complexity were added to solve the simulation problem, it grew rapidly in size and resources, expansion was frozen, then all available space was filled (*horror vacui*). In this model, all that is left is simulation collapse.

A parallel example of how an initial project grows and morphs over decades:

- ✓ “The development of the Quantified Judgment Method of Analysis began in 1964, when HERO performed a study for the Army’s Combat Developments Command called ‘Historical Trends Related to Weapons Lethality.’ The study involved developing a process to compare the lethality of weapons over the course of history. This resulted in a measurement scale providing ‘theoretical lethality indices.’ Awareness of the dynamic interrelationship among dispersion, mobility, and firepower led to the development of further measurement scales, and subsequently to the QJM model, and later the TNDM.” – Susan Rich referring to the Quantified Judgment Method, T. N. Dupuy Associates Inc., biography page for Trevor N. Dupuy at The Dupuy Institute.
- ✓ “For it is your wish, as you have often told me, that – since the unfinished and crude essays, which slipped out of the notebook of my boyhood, or rather of my youth, are hardly worthy of my present time of life, and of my experience gained from the numerous and grave causes in which I have been engaged – I should publish something more polished and complete on these same topics...” – Marcus Tullius Cicero, *Of Oratory* (55 B.C.), Bk. 1 (trans. E. W. Sutton and H. Rackham) from Patricia Bizzell and Bruce Herzberg, *The Rhetorical Tradition* (1990), p. 200.
- ✓ “Finally, the one distinguishing feature of ‘Babylon 5’ among other science fiction genre offerings in general was the focus on ‘people problems’ instead of ‘technobabble.’ What set ‘Babylon 5’ apart from many other sci-fi series was the emphasis on personal development, relationships, and politics – most other series will tend to rely on ‘creature/battle/spatial anomaly of the week.’ Each week, ‘Babylon 5’ would explore issues such as ethics, beliefs, backroom deal-making, redemption, and empire-building. Problem resolution was never diminished to ‘reinitializing the tachyon emitters’ (a popular tactic on ‘Voyager’) – it was often a more difficult, drawn-out, and realistic process that attacked the underlying problem, often with unforeseen consequences. Of all the other science fiction series on the air, only ‘Deep Space Nine’ comes close to this.” – Anthony Leong, “Babylon 5: Triumph and Tragedy in Three Acts,” *Frontier: the Australian Science-Fiction Media Magazine*, April/June 1999.
 - See 2 Entropy, p. 236 and 3 Entropy, bottom, p. 243, *supra*, for discussion of unintended/unforeseen consequences.

*“Let’s go down to the Sunset Grill
We can watch the working girls go by
Watch the ‘basket people’ walk around and mumble
And stare out at the auburn sky.”*

– Don Henley, “Sunset Grill” (1984)

Down at the Sunset Grill: Culture is what happens when people are bored. If you put a group of strangers in a room together, without miniaturized electronics, no television, no connectivity, with nothing better to do, and no outside pressures to distract them, they will in short order go about inventing culture. Someone will begin drumming or humming, or singing.⁵ Someone will begin drawing or writing. Someone would invent a game. Someone will snore loudly. Others will sit and talk, while some sit quietly and think. Some will look out the window and become seemingly fascinated by the movements of a fly, or the blowing of the clouds across the sky. Someone will eventually tell someone else how it is, how they should be, and what is what in the world. Some charismatic fool will gather a bored-amused crowd around.⁶

It is no surprise then that the favorite exercise of creative writing instructors worldwide is to assign students the task of writing a story about two, three, or four people in a room. Culture is the accumulated history of sapient human boredom.

- ✓ Alternatively – my recollection from watching a documentary – the Japanese believe that much of what became high culture began as an effort to give the warrior elite something else to do when not fighting, to give meaning to life outside of martial glory, to discourage petty and unnecessary combat between clans, to develop deeper, refined and more rounded warriors and rulers. Clearly the endless petty warfare of honor and slights was taking a great toll on feudal Japan.

Culture is what happens when the mind is not entirely and constantly preoccupied with the daily struggle and search for food or shelter, or fleeing from predators. Culture is what happens when primitive intelligence comfortably overcomes the challenges of the environment in which it was fostered. Culture is what happens when intelligence becomes the predator rather than the prey.

- ✓ I have long thought that the stories of Greek mythology that came down to us were invented by a bunch of drunk old men sitting around the fire – I mean, Zeus' head split open and Athena was born? Allegory for the wisdom-in-hindsight of a morning-after hangover?

It is not entirely beyond understanding that in centuries past, people of leisure, hereditary nobility, and royalty, considered themselves the civilized most people of the world, and looked down upon the struggling working masses generation after generation, until by the 18th Century, men of leisure prided themselves in being completely useless. Uselessness and culture are related.

Culture is what happens when the bond continues after the milk runs dry. War is what happens when culture happens. While animals are sometimes aggressive, territorial, they never fight for principles or leaders or causes. Animals generally have the sense to run away and live another day. While animals may fight for territory or mates, war requires civilization, and civilization apparently requires war. Cultured beings fight wars for (or imagine they do) ideals and futures.

- ✓ Bonobos, one of the two closest (genetically) remaining primate relatives of humans, engage in genito-genital rubbing and other socio-sexual activities more frequently in captivity than in the wild. Possibly this is because they are bored and the only meaning they have is their group. Bonobos are also the only other species known to engage in face-to-face copulation.
- **People in a Room:** I highly recommend watching *Man from Earth* (2007), which is basically seven educated people in a room (most of them professors with one young student), one of whom, John, claims to be 14,000 years old and seems to have reasonable answers to all of

their questions. An eighth person – a psychiatrist – joins them, then leaves, then rejoins them. Within that framework, the author – who dictated the last parts to his son as he was dying – is able to discuss a wide range of topics related to humanity ranging through daily lives, memory, existence, families, life and death, progress of humanity, history, creation, religion generally, and the relationship of Buddhism and Christianity. Critics felt the latter part was heavy-handed, but I suspect it is because it contains an uncomfortable truth that they don't like having forced on them, they prefer to close their eyes and whistle at the sky.

People in a starship stories are basically people in a room stories, ranging from Star Trek (where about half or more of the scenes are on the bridge), *Alien* (1979), *Passengers* (2016), to lower-budget stories like the movie *5th Passenger* (2017), *Pandorum* (2009) and *Cargo: Space is Cold* (2009). Because, where are you going to go? The difference in scale is simply whether or not the ship ever reaches a destination, as it does frequently in Star Trek, but less frequently or never in most other fiction.

Not coincidentally, *GGDM is precisely the same*; the players are a group of people in a room – or degenerated savages on a generation ship like the *Warden* (Metamorphosis Alpha RPG, 1976) which may be inspired by Brian Aldiss' 1958 novel, *Non-Stop* or Robert Heinlein's 1963 novel *Orphans of the Sky* (consisting of two stories published in 1941) – playing a storytelling game (perhaps with extra equipment to keep track of it all) ranging over all of humanity and creation. The reader and I are two people in a room or at a café table in a corner or on a patio (and some readers will prefer to close their eyes and whistle at the sky), only the GGDM framework is slightly different, it has the organized structure of the game to depend dialogue and commentary upon.⁷

- Sophistry to the Stars: In the classical Western tradition, the much reviled Sophists of Ancient Greece, who travelled from city to city (they may also have been travelling merchants, entertainers, and sailors as well, from which English gets Sophia, sophistry, sophistication – which latter is always relative) were the first to realize that culture was neither absolute or objective; that culture, worldviews, rules, myths, rituals and taboos were slightly different in each city, from place to place. The Sophists themselves violated a social taboo against charging fees for education when they were paid to teach young men to speak well in public (e.g., see the tale of Corax vs. Tisais).⁸
 - ✓ The concept of being paid to teach was scandalous in ancient Greece and was (as I learned in college), one of the charges against the Sophists. However, charging to teach, once embedded in our culture, regardless of the objections of philosophers, led to emergent results over 2500 years – professionalization, writers being paid to create textbooks and instructive works (as opposed to entertainers, who were apparently always paid, which morphed into fiction writers), public schools, multiplication of knowledge, organization of knowledge for presentation, etc. Though the issue has long been 'settled' the debate still lingers in the background, leading to charges that ideas are not worth anything unless someone can sell or use them to make money.
 - As discussed in 3 The Big Bang, p. 12, GGDM is, in the vein of philosophy, a form of freely given teaching and even peer-to-peer learning.

Because of this sudden understanding of the 'subjectivity' of culture, knowledge came into danger, and thus, Plato attacked the Sophists (in Gorgias, 380 B.C.) and rhetoric for their ability to 'create' knowledge in the minds of the listener (pretty much the staple of religion,

then and for millennia to come), which, in Plato's view, unless spoken by a Philosopher, was prone to create falsehood and deception (St. Augustine echoes this with arguments that classical knowledge could be repurposed and cleansed of corruption for Christianity through the Church).⁹ Basically, the problem was that insular Greece became cosmopolitan and the two forces struggled against each other for centuries in the midst of Persian incursion, Grecian world conquest, and eventual Roman ruin: How could Greece keep its 'soul' in contact with the wider world?

- ✓ The same problem exists today individually for each person reading this work and for the near-infinite multitudes who don't or won't or wouldn't.
- ✓ And the same is expected to be true within the GGDM setting, or if humans encounter alien life, especially either sapient or technologically advanced alien life: How will the 'soul' of the species be preserved against wider contact, will the cultures of the homeworld survive, flourish, conquer, and run into ruin in the universe?

"A man's character always takes its hue, more or less, from the form and color of things about him." – Frederick Douglass

Gemini Dream: Culture is a Vital Power of the government or central authorities of each position in the game.

However, this is more a matter of game mechanical contrivance than 'reality' as governments (at least those that last long) can rarely exercise or attempt to exercise autocratic power over the culture of the people; those that do are regarded for their radical ideology or theology.¹⁰ Rather, government and the culture they rule are inseparable, but not equal, equity twins; the culture creates the government that it accepts as legitimate, the individuals who lead or are employed in the government come to their jobs or places from the culture that created it, carrying with them all of the cultural baggage, and the government, through various actions, and often unintended consequences subsequently shapes the culture that created it.¹¹

That being stated, the Culture Power may be activated by positions for the following purposes:

1. Exposing Aspects,
2. Perfecting Proficiencies,
3. Cohering,
4. Introduce Writs (see Writs, *infra*),
5. Found College (see Colleges, *infra*),
6. Amend College Charter (see Colleges, *infra*),
7. Endow Colleges (see Colleges, *infra*),
8. Develop Doctrinal Templates (see Colleges, *infra*).
 - Activation of the Culture Power for the purpose of Develop Doctrinal Templates requires a concurrent activation of the Combat Power for any purpose.

Activations of the Culture Power for the purposes of Exposing Aspects, Perfecting Proficiencies or Cohering require two Acts. Additionally, Perfecting Proficiencies and Cohering also require the expenditure of Resource Points (RPs) because money talks and ... (you know it already), see Perfect Proficiencies, 3 Culture, p. 381, and The 'Getting on the Same Page' Meeting, 5 Culture,

p. 422, *infra*. These three purposes of Culture Power activation will be fully explained in this section, while introduction of Writs, Foundation and Endowment of Colleges, and Amended Charters, and Doctrinal Templates are the subject of the following sections.

- **About Porpoises:** Many Power Activations throughout GGDM have multiple possible purposes – that is a subset of actions to choose from under the Power Activation. Taxation and Census Power Activations only have single purposes, the Culture Power Activation is the first to have multiple purposes (listed above). Actions submitted for any Power Activation that has multiple purposes must state the purpose for which the Power has been activated or they cannot be processed as the mechanics and cost for each purpose are different. Each Power Activation can only be for one purpose.
 - ✓ “So long and thanks for all the fish.” – note left by the dolphins when they left Earth shortly before the Volgon construction crews demolished the Earth to make way for a hyperspace bypass. It is also the name of the 1984 book by Douglas Adams, part of the Hitchhiker’s Guide to the Galaxy series.
- **Undersea Glow:** Exposing Aspects, Perfecting Proficiencies and Introduce Writs cannot be affected by inactive Constructural Elements and will never fail for that reason. Cohering is attempted at each colony and ship that has inactive Constructural Elements and can potentially fail at any colony or ship due to inactive Constructural Elements. The remaining purposes will be addressed in the Writs and Colleges sections.

“Reporters are not generally well versed in artistic movements, or the history of literature or art. And most are certain that their readers, or viewers, are of limited intellectual ability and must have things explained simply, in any case. Thus, the reporters in the media tried to relate something that was new to already preexisting frameworks and images that were only vaguely appropriate in their efforts to explain and simplify.

With a variety of oversimplified and conventional formulas at their disposal, they fell back on the nearest stereotypical approximation of what the phenomenon resembled, as they saw it. And even worse, they did not see it clearly and completely at that. They got a quotation here and a photograph there – and it was their job to wrap it up in a comprehensible package – and if it seemed to violate the prevailing mandatory conformist doctrine, they would also be obliged to give it a negative spin as well....

The consequence is, that even though we may know now that these images do not accurately reflect the reality of the Beat movement, we still subconsciously look for them when we look back to the 50s. We have not even yet completely escaped the visual imagery that has been so insistently forced upon us.”

– Thornton Lee Streiff, Introduction to The Beat Vortex website about the Beat Culture in Wichita, Kansas, retrieved from The Way Back Machine, November 28, 2016

Beat Down: Contrast Madison Avenue and Hollywood images of the Beat Culture (“Beatniks,” from “beat” and “sputnik,” as in far out or up there) with the following:

- ✓ “The Beat Generation, that was a vision that we had, John Clellon Holmes and I, and Allen Ginsberg in an even wilder way, in the late Forties, of a generation of crazy, illuminated hipsters suddenly rising and roaming America, serious, bumming and hitchhiking everywhere, ragged, beatific, beautiful in an ugly graceful new way – a vision gleaned from the way we had heard the word ‘beat’ spoken on street corners on Times Square and in the Village, in other cities in the downtown city night of post-war America – beat, meaning down and out but full of intense conviction. We’d even heard old 1910 Daddy Hipsters of the streets speak the word that way, with a melancholy sneer. It never meant juvenile delinquents, it meant characters of a special spirituality who didn’t gang up but were solitary Bartlebies staring out the dead wall window of our civilization ...” – Jack Kerouac, “Aftermath: The Philosophy of the Beat Generation,” *Esquire*, March 1958.

The origins of the Beat Generation possibly extend back to the post-Civil War in the United States, cf.:

- ✓ From Merriam-Webster online dictionary at *guttersnipe*: “Unfurl yourselves under my banner, noble savages, illustrious guttersnipes, wrote Mark Twain sometime around 1869. Twain was among the first writers to use guttersnipe for a young hoodlum or street urchin. In doing so, he was following a trend among writers of the time to associate gutter (a low area at the side of a road) with a low station in life. Other writers in the late 19th century used guttersnipe more literally as a name for certain kinds of snipes, or birds with long thin beaks that live in wet areas. Gutter-bird was another term that was used at that time for both birds and disreputable persons. And even snipe itself has a history as a term of opprobrium; it was used as such during Shakespeare’s day.”

Guttersnipe, or at least its Deutsche equivalent, is the term used by the aristocracy and high-ranking military officers for a young rabble-rouser named Adolf Hitler. He was also called a *bohémian*.

Beat Culture might thus be a transcendental evolution of guttersnipe into *avant garde* intellectual and their main antagonist, apparently, was Establishment Poetry (and the local police cadre). The Beat Movement in the altered state of the media image Beatniks, evolved into the hippies. Modern popular culture has the well-noted tendency to transform deep meanings into window dressing and ornamentation through commercialization and mindless repetition.

- ✓ Another famous example of where the media got it wrong, and in the process distorted an entire art form, is ‘breakdancing’ – which I remember the kids doing on cardboard in the high school cafeteria during lunch. This was in the early 1980s, it was new, non-conformist, and misunderstood. Real practitioners call it breaking.

“This dippy, if seemingly harmless, book on men’s style serves as an unintentional marker of certain pop sociology trends. ‘The Gentlemen’s Guide to Grooming’ proclaims that ‘hirsute is hip,’ a pronouncement that will hardly come as news to anyone living in metropolitan areas where the young and stylish congregate....

One does not need advocate a return to the clean-cut conformity of the Eisenhower era to find the folderol being sold here fundamentally spurious. The flamboyant hair and dress of beatniks, hippies and punks was genuinely transgressive because it was authentically risky; showing up at that job interview in leather had quantifiable consequences. And if we’ve learned anything from the rise of Silicon Valley, it’s that the unkempt look is, in fact, fully compatible with grotesque forms of corporate greed.

The rebel-outsider attitude depends upon a wholly self-contradictory and finally unsustainable idea of a mass bohemia, one that would require the majority of the population to feel superior to itself. The ‘Gentleman’s Guide’ represents the selling of what we think we want to be, and in this, it may be the perfectly groomed sign of our times.”

– Michael Lindgren, “Hipster style at its most annoying,” *The Washington Post*, December 26, 2017

Endnotes.

¹ Citation & Commentary: “The conscious and intelligent manipulation of the organized habits and opinions of the masses is an important element in democratic society. Those who manipulate this unseen mechanism of society constitute an invisible government which is the true ruling power of our country. We are governed, our minds are molded, our tastes formed, our ideas suggested, largely by men we have never heard of. This is a logical result of the way in which our democratic society is organized. Vast numbers of human beings must cooperate in this manner if they are to live together as a smoothly functioning society. ... In almost every act of our daily lives, whether in the sphere of politics or business, in our social conduct or our ethical thinking, we are dominated by the relatively small number of persons...who understand the mental processes and social patterns of the masses. It is they who pull the wires which control the public mind.” – Edward Bernays, Propaganda (1928).

- ✓ I highly recommend watching Marvin Olasky’s 1984 interview of Edward Bernays, who was 93 years old – not because of Marvin Olasky, but because of what Bernays said when he had nothing left to fear or lose.
- ✓ Shirley Temple Black smoked cigarettes, but never in public because it might influence her fans; it is as if, or possible, that she resented what Bernays had done for his tobacco clients with the 1929 “Torches of Freedom” campaign. Comments the New World Encyclopedia:
 - “In the 1890s, when gender role reversals could be caricaturized, the idea of an aggressive woman who also smoked was considered laughable. In 1929, Edward Bernays proved otherwise when he convinced women to smoke in public during an Easter parade in Manhattan as a show of defiance against male domination. The demonstrators were not aware that a tobacco company was behind the publicity stunt.” – article “Edward L. Bernays,” captured October 12, 2018.

² Commentary: It’s like the Tetris-like falling tile game Hashira. It becomes obvious that the computer is cheating. There are only six types of tiles. They are generated on the board in groups of three. You could roll 3d6 for the generation manually. Amazingly, when you need a particular tile, 18, 24, 30 tiles will generate before you see the tile you need. That can’t be random. You might think it is just an outlier run of bad luck, like throwing 30d6 and not getting any sixes. Except that it happens all the time; the program seems to sense that you need a specific tile and it cheats. That’s the only way to put it, it plays with loaded dice. If a human player did that, anywhere, it would be called cheating (I have a friend who alleges that the Race for the Galaxy computer AI opponents cheat as well).

Additionally, the last 30+ tiles generated before the end of the game are also *amazingly unplayable* and finish filling the board quickly (it's not just the endgame speed, I am talking about the tiles don't match any plays currently on the board). It happens every game, it's not just bad luck. This is very odd because it is not a competitive game, you are not playing checkers against the computer; the simple role of the computer in any Tetris-like game is to randomly generate tiles, which is why Tetris-like games are so old already, because that's what early computers could do. So why is the computer allowed to cheat, why does the computer need to cheat? There is no money involved, it's not like an arcade game machine, which were designed to keep players pumping quarters into the machines.

- ✓ Regardless of whether you think I am nuts or being hyperbolic, or that I am flat wrong, go with it; being hyperbolic or one-sided does not equate to being either factually or argumentatively wrong. I have seen *consistently* the most improbable tile generation sequences in Hashira. If I could contort the odds of die rolls as reliably as Hashira does regularly, I'd take it to Vegas and be a millionaire in a few hours. I am neither exaggerating nor kidding around.
- ✓ Back to the discussion above, once you have decided that the computer game program is cheating – once it becomes clear that you cannot reliably plan ahead, set up elimination plays or chains, or anticipate that *normal* random generation of tiles (at what? 20, 30 tiles per minute) will occur, then the question becomes what amount of effort, emotion do you put into the game? How much do you care about the score, getting higher scores? Is it a pointless game or is it a game where you try to get higher scores despite the computer cheating?
- ✓ Not only is Hashira like the discussion of cultural programming in this sense, but it is also reflective of the universe – or at least the human relationship with the universe – as discussed previously in *Turbulence of Being*, 1 Entropy, p. 223, *supra*.

³ Commentary: Imagine running in a race where you don't know where is the finish line? In the first breath, most people would declare roundly that is unfair; but in the next breath they'd realize that's the way it is with life. You can finish the rest of this line of thought on your own.

- ✓ In GGDM design, I had no idea where the finish line was when I started or as the game evolved. It probably moved a few hundred times. I had no idea I'd still be working on it half a lifetime later. The game was certainly exploding beyond the initial bounds in the summer of 1996 and crashed in 1998 and had to be re-written from a different base in 2000-2002. As I approached middle age, the final shape of the game and my expectations of what it would become slowly emerged in my mind; I still don't know where the end line is, but in early 2018 I began a blind dash for the finish line.
 - This particular thought or analogy was probably inspired by listening to the Indie-folk song "Youth" by the group Daughter (2013); it came up because I was listening to Bôa on my music app. Bôa performed the opening theme for *Serial Experiments: Lain* ("Duvet" 1998).

⁴ Commentary: I guess that since my adolescence, I have wanted my gaming hobby or experience to be more, mean more than what it can or could be in our current society – more than pre-boxed market manipulation-exploitation (i.e. commercialism, materialism). I always took it far more seriously than others. Military intelligence training as a battlefield intelligence analyst thus fit my personality perfectly; I excelled in it. As I reach middle age, I realize that it is not possible in our current milieu and that I am not very good at games in any event.

⁵ Commentary & Citation: A question for Plato and Cicero: What is the difference between rhetoric (as oratory) and singing? By this, I mean modern lyrical singing as I have heard from music historians that music was not performed in Plato or Cicero's time in the way it is now, e.g., John Koopman, Lawrence University notes in a "Brief History of Singing" that Roman music, derived from Greek music, was mostly instrumental and military, but they did have some singing (<https://www2.lawrence.edu/fast/KOOPMAJO/antiquity.html>, April 4, 2019). Is singing skill, does it create knowledge in the mind of the listener? Can it be elegant and resplendent but hollow thunder?

⁶ Commentary: The kernel of this discussion is probably an argument I made in freshman English class at Lycoming College around 1990. I argued that peace and utopia were generally not possible because (in the vein of The Player Piano, which we may have been reading and discussing) people would be bored, need to find something to do, and there would again be conflict and destruction. Professor Hawkes (or Hawkins, I don't recall), one of the late counterculture generation that became professors (he sold used farm equipment while getting his Masters Degree), didn't like my probably-not-well-phrased argument (and I don't think he liked me either, as I was more pro-military at that time and he also informed me that I was a know-it-all), and gave me a hard time before dismissing it entirely.

- ✓ Unknown to me at the time – and this happens to me quite a lot – my argument that day was sort of in the cant of similar arguments that had been made by a line of intellectuals before me, e.g., Lewis Mumford etc. to the extent that they argued that social problems arose from lack of meaningful work.

⁷ Commentary: Is the other person like him that John met once around 1600 a reference to “Flint” in “Requiem for Methuselah” (ST:OS 1969, which Bixby wrote)? This would make John in *Man from Earth* older than “Flint” as John would have been born around 12,000 B.C.; Flint who claimed to be born in 3,834 B.C. was very roughly over 6,000 years old in *Star Trek*. The era (late 1960s) and the 51-minute television series setting in which the episode was produced and the intended audience (adolescent and young males) all very much limited what could be discussed or even mentioned. *Man from Earth* was Jerome Bixby’s final exposition (he appears to have worked on it for about 30 years) of what he wanted to discuss in “Requiem for Methuselah” and all of his other works. *Man from Earth* says far more in a tight 87 minutes than *Star Trek* said in any 50 minute episode (see previous discussion of *Young Adult vs. Adult Fiction*, 3 *The Sidereal Stage*, EN 7, p. 127, *supra*).

- ✓ Incidentally, *Man from Earth* (2007) is classified on some sites as sci-fi: Wikipedia calls it “drama science fiction,” and IMDB calls it “drama, science fiction, fantasy” (they couldn’t make up their mind, I guess, or were just clueless and didn’t care anyway). There is nothing in *Man from Earth* (2007) that makes it specifically science-fiction themed except the author’s relationship to *Star Trek*, specifically relevant here, he was the author of the “Requiem for Methuselah” (1969) episode. Rather, the concept of immortality has been around since *ancient myths*, nor is the setting science-fiction, it is ordinary everyday drama, as opposed to *Star Trek* which is a science-fiction setting, that is, science-fiction assumptions and inventions are required for the *Star Trek* setting, like GGDM, but not in *Man from Earth* (2007). I would agree that *Man from Earth* is fantasy – in a low-key way – and very literary, but is not science-fiction literature.
 - There is a small three-post debate about classifying *Man from Earth* as science-fiction on the Wikipedia talk page for the article about the movie. The last poster points out that if *Man from Earth* is science-fiction, so is every fantasy story that contradicts known natural laws or scientific principles (in John’s case, the Hayflick Limit). No one has seen fit to edit the article however to remove the science-fiction claim because all of the other equally clueless websites call it ‘science-fiction.’
 - Is it contradictory for me to argue that *Man from Earth* is not science-fiction literature because it does not require a science-fiction setting, but then to claim it is vaguely fantasy literature without it being in a fantasy setting? Or is it more true that fantasy is related to ancient myths and ancient myths could occur in ordinary settings, whereas, science-fiction literature generally requires a science-fiction setting at some point in the story in order to be ‘science-fiction’?

⁸ Citation: <https://americanrhetoric.com/corax&tisias.htm>.

⁹ Commentary: I had early lessons in the power of rhetoric. My mother – who had a 1970s obsession with the history of the rise of Hitler in the 1930s – hated Howard Cosell. Up to about third grade, we listened mostly to the radio, which was on almost all day long; my mother deliberately avoided getting a television so that I wouldn’t be too influenced by it. Howard Cosell came on right after Paul Harvey signed off, we always listened to Paul Harvey, but as soon as she heard Cosell’s intro, she turned off the radio. I can still do a decent imitation of his bombastic, stuffy intro (I can also imitate Paul Harvey, we listened to him into the 1980s). Anyway, I remember that my mother said to me in 1st grade that a man on the radio should not have the power to destroy an athlete’s career.

¹⁰ Commentary: There is no shortage of examples of these sorts of governments; governments or ruling groups who rename the months of the year, restart the calendar from the year their rule began, outlaw music, dancing or games, attempt to change the language to fit their ideology, outlaw certain words, force the people to conform to a particular clothing style, color scheme, or hair style, outlaw art and literature, summarily dispose of traditions and old laws, summarily execute intellectuals and teachers, export the population from the cities, and/or insist that the population worship the head of government. Nothing stirs resentment like heavy-handed internally imposed radical cultural change in the name of religion, revolution, or ideology. I recommend watching or reading Margaret Atwood’s *The Handmaid’s Tale* (novel – 1985, movie –1990, series – 2017).

¹¹ Clarification & Citation: See *Base and Superstructure in Marxist Theory*. However, Marxist Theory is obsessed with power relationships; whereas the formulation of the relationship in these rules is more of a never-ending neutral, asymmetrical and uneven embrace. “In an everlasting kiss,” Bruce Springsteen, “Born to Run.”

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See Appendix ASP – Sample Aspect Lists
See Appendix WR – Writ Examples, Land Grant Writ, Naturalization

*“According to Tainter’s Collapse of Complex Societies, societies become more complex as they try to solve problems. Social complexity can be recognized by numerous differentiated and specialised social and economic roles and many mechanisms through which they are coordinated, and by reliance on symbolic and abstract communication, and the existence of a class of information producers and analysts who are not involved in primary resource production. Such complexity requires a substantial ‘energy’ subsidy (meaning the consumption of resources, or other forms of wealth). ... In Tainter’s view, while invasions, crop failures, disease or environmental degradation may be the apparent causes of societal collapse, the ultimate cause is an economic one, inherent in the structure of society rather than in external shocks which may batter them: **diminishing returns on investments in social complexity.**”*

– from Wikipedia article, “Joseph Tainter,” captured November 22, 2018
(emphasis in original)

Lunette Ring Weight: There is a difference between what you can pick up and what you can carry if someone helps you get ahold of it. I most likely cannot pick 180 pounds straight up from the floor, I probably never could. But I could carry two 90 lb. artillery shells, one on each shoulder, when unloading ammo from the truck. The Marines on the truck lowered one onto one shoulder, I turned around, and they put the second one on the other shoulder. The shells had eye rings at the top so they were fairly easy to balance and control, if heavy and I could simply bend forward and rotate or flip them using the eyebolt handle to stand them up at the destination.¹

- ✓ Can you pick up a 180 pound person from the floor – say if they were unconscious? Heroes in movies do it all the time, of course, but in the WWE, it’s all choreographed (i.e. ‘kayfabe’) with the opponent surreptitiously cooperating in being body-slammed to the mat or picked up and spun around the ring. In the moment of an emergency you can pick up a person with their assistance (that is, injured but aware) and help them for a short distance to safety or a treatment center. Conversely, it is nearly impossible to singlehandedly pick up a person who is completely committed to resisting; police and first responders know this from training.²

Civilization is like that too, but to a vastly greater degree. There is a difference between the level of thought and complexity that each human would develop on their own in a vacuum of sorts, and the complexity that we carry (our cognitive or cultural schema) in our heads and daily behaviors and interactions that is placed upon us by education and living daily in our civilization. A civilization can be helped if it wants it, it cannot be helped if it is resisting foreign ideas.

- ✓ “Complexity characterises the behaviour of a system or model whose components interact in multiple ways and follow local rules, meaning there is no reasonable higher instruction to define the various possible interactions. The term is generally used to characterize something with many parts where those parts interact with each other in multiple ways, *culminating in a higher order of emergence* greater than the sum of its parts. The study of these complex linkages at various scales is the main goal of complex systems theory. Science as of 2010 takes a number of approaches to characterizing complexity; Zayed et al. reflect many of these. Neil [Fraser] Johnson [physicist, complexity theory] states that ‘even among scientists, there is no unique definition of

complexity – and the scientific notion has traditionally been conveyed using particular examples...’ Ultimately Johnson adopts the definition of ‘complexity science’ as ‘the study of the phenomena which emerge from a collection of interacting objects’.” – from Wikipedia article, “Complexity,” captured November 22, 2018 (emphasis added).

The modern social safety nets may be a form of social complexity which is experiencing diminishing returns in addition to locking down resources in the present and endless future. See Conquest by Entitlements discussion 5 Culture, p. 430, *infra*.

*“Researchers, as yet, have very little ability to **identify internal structures of large distributed systems** like human societies, which is an important scientific problem. Genuine structural collapse seems, in many cases, the only plausible explanation supporting the idea that such structures exist. However, until they can be concretely identified, scientific inquiry appears limited to the construction of scientific narratives, **using systems thinking for careful story telling about systemic organization and change.**”*

– Wikipedia article, “Societal Collapse,” February 24, 2015 (emphasis added)

Deductive Drek: Broadly speaking, there is absolutely no empirical basis for the structures or many of the claims offered in GGDM. As such, GGDM is a work of philosophy at best and/or just my considered and meaningless personal opinion, at worst. Possibly it is pre-theoretical intuition, see John W. Carroll quote, 1 Temporal Technology, pp. 811-812, *infra*. It might even be rubbish; see Richard Dawkins bottom feature quote in 2 Fallen to Earth, p. 1527, *infra*. It is not certain how any of this is testable or verifiable in the current sense.

Cultural Traits: Culture is represented in the Public Space by placement of Cultural Traits. There are two types of Cultural Traits: Aspects and Proficiencies; each takes one monad on the Public Spaces. Culture is like a multi-faceted diamond that appears differently each time you turn it slightly in the light; it is impossible to see all of the aspects of a diamond at any one time.³

For those steeped in what we now call culture – the theatre denizens of the cultural district, the fashion victims, the cultural anthropologist, art historians and musicologists, micro-sociologist (as in a diminutive sociologist, like the tiny witch who kept getting smaller with age☺), comedy club crawlers, fringy poets, and artsy types – this section is not what you call culture. This section contains game rules and procedures, and a broad structural outline of a “large distributed system” (*ut supra*), it is very mechanical. It’s up to the game participants to add color (or not).

- ✓ “A fad is an intense but short-lived fashion trend. Fads are also by their nature at the extreme range of currently acceptable style, which means they commonly cross the line from the sublime to the ridiculous. Fashion victims can be seen to have crossed this line.” – Wikipedia article, “Fashion victim,” captured September 8, 2018.

“But, here’s the thing: Campaigns – especially those for president – are rarely won and lost on ‘carefully thought-out policies.’ They are almost always won on emotions – positive ones or negative ones.”

– Chris Cillizzia, CNN Politics, September 6, 2017

Aspects: An Aspect that became apparent in 2016 in the U.S. and Europe.

A song is a feeling, experience, emotion, moment compressed into a few minutes of eternity. Our lives have songs; human life feels like eternity pressed into a trice. Like the songs of whales, civilizations have one or more songs repeating at various cycles. Aspects represent part of the songs of a civilization. Aspects are particular glimpses of a culture (eigenstates?) which only appear at particular times, or under the correct circumstances (*ut infra*, p. 369). Aspects might represent a mood of the people, or emotion, or underlying feeling, or unspoken values, unstated beliefs, a historical movement or trend, or something not quite expected from the outward appearance of the culture, but that become apparent to the objective observer periodically. Whether such are considered rational or irrational, they exist and are real:

- ✓ “Whites have to realize that African American men have a fear, and boys have a fear of being confronted by the police because of some of these incidents. Some people may consider it rational. Some people may consider it irrational. But it’s a reality. It exists.” – Rudy Giuliani, on “Face the Nation,” July 10, 2016.

The question in GGDM was, what concept is sufficient or necessary to describe the phenomena? It is the same question asked by Ptolemy’s astronomy and by nuclear physicists. That is an aspect of this problem. While Aspects might arguably be another ‘interpretation’ in the game, they are not officially Interpretations for game purposes: They lack form, they are only pieces.

- ✓ The whale song is one of the only songs humans recognize that are not about us. It’s a start at least.
 - ✓ My very handsome, well-fed tomcat Fritz has the loudest, most melodious, sustained purr I have ever heard and he exercises it often. I think the other cats like it, and he uses it when joining them wherever they happen to be snoozing, he likes to sleep with other cats (not just females). It is an important socializing tool for him, something added to the tribe, I think it serves somewhat the same purpose as singing in humans; mother cats purr to their kittens like a human mother sings to her baby or infant.
- Aspects A to Z: There are literally thousands of possible Aspects: Verb forms and abstract nouns. Aspects available in any game will be limited to those on the Aspects List provided by the Concierge during the setup. The Aspects List is an alphabetical list where each letter represents a particular Aspect whose word appears next to the letter. Thus, the Aspects in the Public Spaces will bear the letters of the alphabet (26 possible Aspects) and the letter on the Aspect represents the Aspect corresponding the letter on the list.
- ✓ For example, “A” might mean “aggression,” “M” might mean “mediocrity” while “C” represents “charity” and so forth. Dial M for Murder?☺

The Concierge will provide each position with a *secret* Aspect List for their culture. The list might or might not be the same for all positions; each position could have its own list, or more likely, there will be some significant overlap. Not all letters might be used in a list.

Like the Galactic Space in this game, the Aspect List reduces the impossibly infinite to a manageable, playable, finite sample for game purposes – it is thus a concession to playability. Your species will exhibit about 20-25 Aspects during the game.

- ✓ The Aspects List in GGDM is a loose form of lexical hypothesis such as that used in personality psychology or traits theory, which I previously criticized as resulting in

gross oversimplification in relation to the Five Factor Model of Personality (aka The Big Five), see 2 Constructural Elements, EN 15, p. 203, *infra*. And it is inherently based upon the lexicon that humans apply to themselves and would likely impute upon alien species we might encounter, similar to anthropomorphic idealized traits imputed on animals in children’s stories, fables and myths (e.g., the sly fox, the clever but vain or selfish bird, the wise owl, the industrious ants).

- “Despite some variation in its definition and application, the hypothesis is generally defined by two postulates. The first states that those personality characteristics that are important to a group of people will eventually become a part of that group’s language. The second follows from the first, stating that more important personality characteristics are more likely to be encoded into language as a single word.” – from Wikipedia article, “Lexical Hypothesis,” captured May 10, 2019.
- I agree with lexical hypothesis as a *generally interesting and informative idea* about language. But it struggles to find concrete, utilitarian application in human personality, sociology, or cognitive theory without becoming just absurd and untenable, as demonstrated by the Five Factors Model of Personality Traits. This is similar to the long intellectual struggle of reducing general concepts about civilization (and my personal experience) to concrete, objective game mechanics in GGDM. I am aware then, that GGDM may be criticized, as a simulation of civilizations, in the same way I have criticized the Five Factors Model or Big Five Personality Traits.
- ✓ The Aspects List of each position may be changed during the game by Kairotic Moments, see After the Fall, 3 Kairotic Moments, p. 1445, *infra*.
 - All of the commentary, endnotes, and quotes⁴ in this work are Aspects as the term is used here; in that each is a thought, insight, personal feeling or expression that became apparent (‘exposed’) at the time I was thinking and reading about, researching the subject to which it belongs. Had I not written GGDM, those same (probably unimportant) insights may or may not have become apparent in another context, possibly never.
- A Bustle in Your Hedgerow: Whenever the Culture Power is activated for the purpose of Exposing Aspects, the position may attempt to ‘expose’ three Aspects of their choice. This Power Activation *cannot fail* due to inactive Constructural Elements, it is not locational.
 - ✓ Being able to choose which Aspects are Exposed is admittedly, an unrealistic mechanic, a necessary game concession (and the ‘godview’ of the players over their position), depending on how much you believe that the media and the government manipulates public emotion in our current society through invisible hands (*a la* Edward Bernays). If this becomes too unbelievable for the participants, the Concierge could always use an Intervention to create an unanticipated result or consequences.

Exposed Aspects must be immediately placed on any available unoccupied Monad in the Public Space *adjacent to a Friendly or Naturalized Colony* (cf. Cultural Proficiency Pieces can be placed adjacent to *any other piece*). Each attempt to expose an Aspect must provide a short (one sentence) reference to a game event, condition, News Event, or circumstance that

might provide the opportunity to ‘expose’ the named Aspect and the location where the proposed Aspect is to be placed on the Public Space. The Concierge will interpret very liberally, but the sentence or reference and proposed location must reasonably relate to the Aspect to be Exposed; only the most specious Exposure attempts will be rejected without a die roll. Whether or not the Aspect is in fact Exposed, is not up to the Concierge, rather, the Aspect will be exposed 50% of the time. If the Aspect is part of an existing Writ Interpretation, the Aspect will be exposed 55% of the time, and if a Writ containing that Aspect is activated (not issued) in the same Regular Turn, the Aspect is exposed 60% of the time.

- ✓ Positions may attempt to increase their chance of success in bringing forth a particular Aspect by doubling up on Exposure attempts. The Concierge may or may not allow this, but whatever rule is established should be applied consistently, and to all positions throughout the game. Positions may also choose to activate the Culture Power multiple times during the same turn to Expose Aspects; because of the cost of this, duplication should be allowed for Exposing the same Aspects, as long as they are part of different Culture Power activations. Players should be prepared for the possibility that duplicate attempts may both be successful, and, as the Aspect must be placed on an empty Monad, second and subsequent successes will be lost if there is no place to put them. What you risk or pay for something is governed by how much you need it.
- The Rule of Three: Three Aspects per activation of the Culture Power for the purpose of Exposing Aspects is a simple baseline number that may prove insufficient in actual game play. There are ways to constructively increase (or decrease) this number. For example, one attempt may be added for each First Contact (this works better in games with fewer positions) or Shared Meanings (for larger games perhaps) thus linking Aspects to Diplomacy and encouraging First Contacts and Shared Meaning interpretations. The Concierge may also allow one additional Aspect exposure attempt per uninterrupted Government Title or one Aspect Exposure attempt for each Fundamental Reality held by the position. Players may use Writs activations to gain additional Aspects. The Concierge can also play with percentages, for example, altering the percentages based on the total population of the target colony for the Aspect, or making Writs near automatic for Aspects. These are all optional, and options.
- Between the Candle and the Stars: The primary quality of Aspects are that they are momentary, transitory; the mood changes, values recede from the forefront, times change. As a result, Aspects are not permanent. Aspect pieces have a light side and a ‘dark side’; on the turn they are placed, they are placed light side up (or occasionally, the dark side up, at the judgment of the Concierge). At the end of each Regular Turn, the Aspects that started the turn with the light side up are flipped to the dark side, and Aspects that started the turn with the dark side showing are removed at the end of the Regular Turn.

The following is possibly a good, practical example of the aging of Aspects:

- ✓ “Back in our Dec. 2016 [NBC/WSJ] poll, respondents were asked which word best described how they felt about the results of the [Presidential] election, and the top answers (allowing for multiple responses) were ‘hopeful’ (32 percent), ‘disgusted’ (25 percent), ‘scared’ (23 percent), ‘excited’ (12 percent) and ‘relieved’ (11 percent)... But when we asked the same question about how Americans feel about Trump’s first year as president in our latest poll out this morning, here were the top responses: ‘disgusted’ (38 percent), ‘scared’ (24 percent), ‘hopeful’ (23 percent), ‘proud’ (12

percent) and ‘angry’ (11 percent).” – Chuck Todd, Mark Murray, Carrie Dann, “Trump at one year: From hopeful to disgusted,” NBC News, January 19, 2018.

Thus, Aspects age off the Public Spaces if they are not removed before then due to other causes. In the human mindset, there is an inherent suggestion that accompanies having light and dark sides to Aspects, and participants are free to incorporate that into the game if they wish. It is possible even to have Aspect Lists that have different Aspects for the light and dark side of every Aspect, if desired, for example, Apathy/Aggression, Peace/Police, or infinite other combinations (see UNITY OF OPPOSITES discussion 5 Fallen to Earth, p. 1570, *infra*). However, dark sides do not always need to be *exactly opposite* of the light side, just different and somewhat related (e.g., see ‘Quiet’/‘Queer’ in Appendix ASP, *infra*).

- ✓ This is a very simplified system. There is room for the Concierge to intervene. For example, there might be a 50% chance that the Aspect will flip each Regular Turn, and a percentage chance (say 33%) that after the first flip, instead of aging off, the Aspect flips again. The caution here is that the system introduced in the rules above is designed to create regular turnover on the Public Space so that it does not become clogged, while at the same time, emphasizing the fickle nature of Aspects. Introducing percentages will slow the turnover process or introduce unevenness.
- To Be a Rock and Not to Roll: The argument may be made that many things are both good/desirable or bad/undesirable under various circumstances.
 - ✓ For example, one might have righteous anger – which may arguably be good/desirable – which later becomes irrational or intemperate anger that most agree is bad/undesirable, both personally, and for civilization, especially when combined with power.

A common and recurring argument in our society regards the relationship of charitable giving to fraud, corruption and bloating of large charitable non-profit organizations, and homeless begging to support illegal drug use habits. Rampant consumerism and materialism has been argued as being both good for the economy, guaranteeing employment and profit, and as a driver of technology, but very bad for our mentality, our moral or spiritual good (e.g. generativity), and for the environment. Thus, Aspects can have light and dark sides while still being the same Aspect, if the participants decide to play Aspects in that way.

“Music is the soundtrack of our lives.” – Dick Clark

The Music of Your Life: Within the framework of GGDM, modern popular music can be explained by Aspects – performers or groups that have a few charting hits, such as contemporaries Gary Wright or Lobo and the groups Orleans, Bread, or Bad Fingers, are successful insofar as their music matches (*exposes* or *modifies*) a dominant Aspect of the time.

- ✓ “The overriding theme, of a world doomed by its passive acquiescence to and overdependence on its own overdone technologies, struck a resonant chord in millions of people around the world in the late 1960s. The song was #1 on the Billboard Hot 100 singles chart during the Apollo 11 moon landing.” – from Wikipedia article, “In the Year 2525,” captured January 14, 2020 (505 years to go...).

Performers that have long successful charting singles careers are those whose music have the most success in matching or affecting the Aspects of their time; this is nothing new, it is just a

macrosocial way of stating what has been stated in documentaries, commentaries, and articles about 1960s music and performers of the Vietnam Era (the time when modern popular music was *emergent* with certain sociopolitical movements), such as Bob Dylan, The Rolling Stones, The Who, the fading of the Beach Boys, and the musical changes through which The Beatles passed. The difference is that by looking at Aspects, the effect is not confined to a certain tumultuous decade, but instead applies to all popular music including Taylor Swift, the split between rock n' roll and country music (and the evolutions within each, and *crossovers*), to modern European metal groups (Gothic, Symphonic, or Power Metal), for example, the Scandinavian metal groups that still heavily rely on mythological images.

As such, it is not surprising that we like the music that we grew up listening to – my favorite music, that I still listen to, is the music that was on the radio in my youth, that my friends and family listened to, and added to it, is the music I heard and liked while I was in the service. At some point, most adults stop listening to new music (which sounds alien) and the music they like becomes the ‘music of their lives.’ We build interpretations around our favorite songs, sometimes based on incorrect hearing of lyrics.

- ✓ Thanks to the Eagles playing on the radio when I was young, I thought there was a “cheat’n side of town.” I had little idea of what that meant in 2nd grade, but I thought it was real – I probably pictured something from Bugs Bunny and Yosemite Sam cartoons. I remember asking my mother where it was, which direction ... I don’t think she answered because she was too busy cracking up with laughter (LAMO!). I might have thought it was the Fourth Ward bar down on the corner of Walnut and Lycoming Streets which I was not allowed to go near.

I am fairly convinced that we are ‘programmed’ on a certain level by the popular music of our times, and with the advent of recording and playback devices, broadcasting (and the energy to support their regular use), the effect gained *an order of magnitude* (discussed in Uber Alles, 2 Eras, p. 767, *infra*), previously, music was a novelty heard in churches, taverns, parades and shows, or sung while working or putting a baby to sleep. Rural people might have had less regular exposure to music than those in the city, or less variety, and this made those in the city ‘more cultured’ as part of the effect of “the stimulus of urban agglomeration” (see further discussion of this fourth order phenomenon and Edward Soja’s ‘synekism’ in 1 Commerce, p. 1183, *infra*).

- ✓ Glenn Frey talked about a problem that was creeping into our consciousness at that time and did it in a way that everyone liked, remembered and that is considered a classic: The 1984 hit song, “Smuggler’s Blues.”
- ✓ Criticism of songs like Phil Collins’ “Another Day in Paradise” (1989) creates a negative feedback loop: Any skilled, moderately successful singer who records a song about homeless people is exposed to criticism of exploitation. The published critics have made that criticism publically valid by their status. Why would anyone record songs about the homeless problem? And does recording songs about the homeless problem do any good in any case? Especially if all that is heard is the criticism. In the years after the song aired, however, ‘another day in paradise’ became a common sarcasm about work and life on Earth, but not in referring to homeless people.
- ✓ Vigorous singing or vocal performance can mask lyrical and logical defects in a song, for example, Benny Mardone’s power ballad antics in “Into the Night” (1980) makes the listener forget that he is singing about his lust for a 16 year old girl, whereas, Gary

Puckett's lyrical rejections in "Young Girl" (1968) keeps the jailbait issue front and center. Suspension of disbelief is an element in lyrical music as well as in literary fiction and movies, some songs, such as Steely Dan's "Deacon Blues" (corny lyrics, 1977) and Andrew Gold's "Lonely Boy" (logical failure, 1976) fail the test, lacking both lyrical logic and cover of vigorous vocal antics and power background music. This is the musical version of sophistry (in the sense of Plato's Gorgias (380 B.C.)).

- **Braggadocio:** "[Barry] Manilow was initially reluctant to record the song [I Write the Songs], stating in his autobiography *Sweet Life*: 'The problem with the song was that if you didn't listen carefully to the lyric, you would think that the singer was singing about himself. It could be misinterpreted as a monumental ego trip.'" – from Wikipedia article, "I Write the Songs," February 19, 2019.
 - ✓ Barry Manilow recorded "I Write the Songs" in 1975 and his concern is what has become known as braggadocio in RAP music. Barry Manilow expresses concisely an objection that I have long had about RAP/Hip Hop: So much of it is a shameless, blatant monumental ego trip by the performer singing or rhyming about how great they are, often combined with criminal, violent or bawdy street tales, instead of doing something creative, literary, poetic (not just rhyming words) and proving it, e.g., Run DMC's "Rock Box" (1984) and thousands of similar performances. To the outside observer, braggadocio has seemed to dominate RAP music, even when the music addresses real human issues such as Coolio's "Gangsta's Paradise" (1995) or is actually humorous such as Sir Mix Alot's "My Hooptie" (1989).

It's a cultural thing, I come from a different culture and so does Mr. Manilow and I interpret braggadocio in a different, classical way than those who like RAP/Hip Hop music. Some braggadocio crept into rock music in the 1980s, for example, The Scorpions "Rock You Like A Hurricane" (also 1984) might be interpreted as an ego trip. Certainly M.C. Hammer's "U Can't Touch This" (1990) contains a 'monumental ego trip' but is done much more artfully (i.e. proves it) and entertainingly, and he certainly pushes the envelope but stops just, and not much, short of overdoing it.

- ✓ I went to high school in the early 1980s, and lived in Marine Corps barracks in the late 1980s. If I was going to learn to like RAP music, it would have happened then. While I don't know RAP music like a fan would (or like I know my own favorite music), it is not the case that I have not been exposed to it! Some of it was funny, like "Funky Cold Medina" (1989), even if totally bawdy and ridiculous. I live in a neighborhood where RAP is still heard normally. For those who think I'm racist, ask yourself if you can genuinely dislike certain music without being racist? I also do not like the dominance of diss tracks,⁵ which goes in hand with the rest of the culture.
- **Affliction of Aspects:** It is important to distinguish emotions from Aspects, I do not believe they are the same. An Aspect is a single word describing a quality of something that becomes apparent when exposed by circumstances that was not obviously apparent before. Many abstract nouns and some verb forms that might be used for Aspects in GGDM do not describe emotions (though they may be in some sense related, e.g., 'pride' – do you have it, do you feel it?). Thus, Aspects are an *overlapping subset* of abstract nouns and verb forms.
 - ✓ "The concept of 'Emotion' itself is an invention of the seventeenth century. Before that, scholars wrote about passions, sentiments, and other concepts that had somewhat

different meanings.” – Lisa Feldman Barrett, How Emotions Are Made: The Secret Life of the Brain (2017).

- ✓ “The word ‘smile’ doesn’t even exist in Latin or Ancient Greek. Smiling was an invention of the Middle Ages, and broad, toothy-mouthed smiles (with crinkling at the eyes, named the Duchenne smile by [Paul] Ekman) became popular only in the eighteenth century as dentistry became more accessible and affordable.” *Id.*

Problematic also is that emotions are generally regarded as phenomena of the individual human moment (Merriam-Webster, *emotion*, at c: the affective aspect of consciousness: feeling), and it is difficult to expand to describe larger and larger groups – for example, a crowd can be said to be angry figuratively but can a civilization?⁶ – and maintained over extended periods of time – minutes, hours vs. years, perhaps centuries. To the extent that something like that can be comprehensible, is the extent to which Aspects *may* describe emotions.

- ✓ It is commonly said in sports that ‘you cannot play without emotion’; e.g., either Joe Buck or Troy Aikman repeated this common refrain on Thursday Night Football on November 8, 2018. To the extent that Aspects in GGDM represent emotion, they can be said to represent the emotion with which civilization ‘plays.’

If, however, Aspects are more related to ‘feeling’ – another definitional quagmire related directly to emotion, see Merriam-Webster online dictionary at *feeling* – then Aspects may relate more to *zeitgeist* within the time frames of GGDM. Merriam-Webster online dictionary defines *zeitgeist* as: the general intellectual, moral, and cultural climate of an era. The ‘feeling’ of the time must be part of *zeitgeist*, or, putting it in the reverse, to get the *zeitgeist* of a historical time, one must share or sense some of the feeling or feel.

- ✓ See Thinking vs. Feeling, Work of the Mind, 3 The Big Bang, p. 9, *supra*.
 - ✓ See also discussion of Godhead vs. Pinhead in literature, 1 The Sidereal Stage, p. 110, *supra*, and discussion of the modern concepts of emotion and evil in Modernity Machines, 1 Technology p. 696, *infra*.
- Hazy Overlapping Middle: There is a gray area where Constructural Elements and Aspects overlap. Picture a Venn diagram (i.e. overlapping circle graph) where two circles overlap and the overlap area is not shaded. Recall the following quote from Symbolic Constructural Elements, 1 Constructural Elements, p. 176, *supra*:
- ✓ [Interview] “To the French public, this was a great victory. [Fort] Douaumont was a great symbol. It was of no military significance whatsoever, but it was a symbol. It had to be recaptured. And it was seen in France as being a great victory. In Germany, it was seen as a terrible defeat. The reality is, it didn’t matter tactically. It was all about perception.” – Major Gordon Corrigan (British Army, Gurkha Rifles), Under Siege television series (2008), Episode 4.

Fort Douaumont, as part of a line of fortifications along the French-German frontier, was a military symbol of French nationalism and sovereignty, especially given the humiliation of 1870. In this sense, it was a Symbolic Constructural Element. However, Fort Douaumont became a stronger symbol, or larger symbol in the French Public Space, by becoming also an Aspect of the times in 1917, during the Siege of Verdun to which was strongly attached the emotions (hope, will) of the French and German military leadership and civilian populations.

“A discovery is a new perception of an aspect of reality that already exists: the principle of the lever, a new continent, the hallucinogenic effects of mescaline, or the moons of Saturn. A discovery, if shared within a society becomes an addition to the society’s culture and store of knowledge.”

– Ian Robertson, *Society: A Brief Introduction* (1988)

Aspects of Sociology: As is common in Western sociology, which was created in the reductionist and positivist image of the physical scientific view of the 19th Century, apparently “aspects” of a culture (similar to emotions, thoughts, and feelings) are not regarded as co-equal in any way with objective physical reality and are not intrinsically knowledge (e.g., Ian Robertson, *ut supra*).

- ✓ **Consider:** “The social sciences deal with the *fourth order of natural phenomenon, namely the super-organic or social*.... Culture itself is a phenomenon which has no existence for any of the sciences devoted to the strictly physical, organic, or mental orders of fact; nor can comprehension of it be reached by combining the viewpoints of physical, biological and psychological sciences, which deal with the first three orders of phenomenon. The super-organic constitutes a distinct, but of course, not isolated or detached, order of facts in the phenomenal, objective world, and it has to be studied by analyzing it on its own ground and in its own terms, *and not by extending over it the notions and terms arrived at in the sciences which study the lower, if not simpler, orders of phenomena.*” – Clarence Marsh Case,⁷ *Outlines of Introductory Sociology* (1924), pp. xvii-xviii (emphasis added).^{8,9}
- ✓ “The four orders are *the inorganic, the vital organic, the mental organic and the super-organic, or social*. In every one of these fields of investigation the student may proceed either by the historical method, which seeks to depict concrete reality in all its concreteness, or by the analytic, processual method, which tries to give an account in terms of abstract generalizations, mechanisms, processes, laws and principles.” – *Id.*¹⁰[Full Quote]
- ✓ “The earlier sociologist were accustomed to make comprehensive, even extravagant claims, for the new study, but they did not succeed in establishing its exact position in a logical classification of the sciences.... In the effort, they were encouraged, as is well-known, by the narrowness and barrenness of the older social sciences, notably history and political economy.” *Id.* at p. xviii.

I believe this is a fundamental epistemological flaw of Western sociology¹¹ and have chosen to base this simulation on the phenomenological supposition (i.e. appearance) that, from the view of civilization, culture is just as ‘real’ as the physical laws of the universe, but of a different character (e.g., Sokal Hoax, see Alan Sokal feature quote, bottom of 3 Entropy, p. 249, *supra*). This is a necessary step to understanding civilizations as a Gestalt Structure and participants are asked to accept as fact at least within GGDM that *sociocultural facts are as real as physical facts* and not some version of ‘virtual reality’ that we ‘know’ is not real (but actually is, in a way, because it’s part of our worldview now).¹²

- ✓ “In stating this principle, [Ludwig von Mises] was voicing opposition to the introduction into economics of concepts such as ‘market equilibrium,’ *which were largely inspired by the physical sciences*, and were perhaps *motivated by a desire on the part of*

some economists to establish their field as a science on par with physics.” – Michael Accad, M.D., “An introduction to praxeology and Austrian school economics,” alertandoriented.com (blog), April 13, 2016 (emphasis added). Mises and Case agree.

- See full feature quote, 1 Beginnings, bottom p. 25, *supra*.

- Methodological Dualism: It is clear from Mr. Case’s arguments, and Mises ‘methodological dualism,’ that sociology (and “the sciences of human affairs”, *Id.*, e.g., economics) struggled in the early 20th century (e.g., 1924) to separate itself conceptually from the bounds and expectations of physics and biology.¹³ Psychology as a medical science, was then less than 50 years old (Sigmund Freud was still alive in 1924), but at least it was based on medicine, a long-respected discipline. I had this impression as well from the *high school lectures* of my youth that distinguished ‘hard science’ and ‘soft science’ and implied strongly that the ‘soft sciences’ (e.g., sociology, psychology, criminology, etc.) were somehow less real or not really sciences. Though the Marsh book would seem to be ‘outdated’ (but Plato is not?) to some, the epistemological structuring of the studies of natural phenomenon in ‘four orders’ is interesting and agreeable (but not axiomatic, irrefutable, *ut infra*); the idea of the super-organic seems now to suggest an emergence (discussed generally in 3 Fallen to Earth, *infra*).
 - ✓ “Ludwig von Mises in particular argued against empiricist approaches to the social sciences in general, because human events are unique and ‘unrepeatable,’ whereas scientific experiments are necessarily reducible.” – from Wikipedia article, “Praxeology,” citing to Human Action (1949).

That this place struggle continues to this day is evinced perhaps by the comments of John Kaag and David O’Hara, and Christine Hensler in EN 11 (*ut supra*) about the effects of the educational reemphasis on STEM and decline in humanities, or by Professor Elwell about *micro- vs. macrosociology*:

- ✓ “Mainstream sociology is straying from its roots. This can be clearly seen in introductory sociology and social problems texts in which a focus on microsociology and social psychology has become ever more prominent. It can also be seen in the more recent graduates of sociology programs, specialists in one or two of the more than thirty subfields of sociology. While all tend to be well versed in questionnaire design and data manipulation as well as being excellent specialists in such diverse fields as gerontology or deviance, most have little background in the broader traditions of the discipline, little appreciation or experience with holistic analyses. Today, too many sociologists practice the discipline as one of social data collection and manipulation, *a reification of method over substance*. Others are specializing in a small part of the sociocultural system – say family, or deviance, or criminality – and losing the inclination or ability to communicate with their colleagues and their students either in other subfields or about the larger social whole. Some still do continue the practice of macrosociology, but it too is often the preserve of specialists with their own jargon, interests, and readership.” – Frank W. Elwell, Macrosociology: Four Modern Theorists (2006), p. xi (emphasis added).

Mr. Case, in the same pages cited above, goes on to distinguish the “*social* sociologist” (emphasis in original) as one who studies social and cultural phenomenon as a thing onto itself, *equal to all others in fact*. Mr. Case was therefore aware of the disparity in factual prestige.

- ✓ In the mental health fields, psychiatry and psychology are distinguished; psychiatrists are medical doctors (like Sigmund Freud) who can prescribe medications for mental conditions. Psychologists are counselors, roughly speaking, who focus on helping patients by changing the patient's cognition, worldview, and thus are seemingly more related to rhetoric and philosophies and the humanities in general. While psychiatrists are medical doctors and are instantly respected as such in our civilization, psychologists and their field, are notably less so and struggle for place, beyond pop culture books and motivational speakers. I remember in relation to the Abnormal Psychology class I had in college, a comment critical of psychology suggesting *that any good effect obtained by clinical psychologist is due to their level of personal empathy and conversational skill* (as if this is a problem?...) and not to any theories of the mind or understanding of cognition and worldviews developed in psychological theories.
- Not Quite A Priori: Clarence Marsh Case's four orders of natural phenomenon is not quite axiomatic; that is, they can be refuted, one can say, "No, I disagree" without creating an insoluble intellectual contradiction. Thus they are probably not or are borderline as synthetic *a priori* propositions. One can propose alternative arrangements, but one cannot argue that there are no divisions, no difference in natural phenomenon between non-living and living things (Case's first and second orders), humanity and the rest of life on earth, etc. No biologist argues that there is no difference between a human and a bacteria or between a cow and the grass it eats, on the basis that they are all 'life' indivisible or based on the same molecules. That things are different from each other and can be divided – must be divided – into classes, groups, and so forth and ordered has been *a priori* to human knowledge – not just Western knowledge – in the same way as day and night; Aristotle said, 'It is the mark of an educated man to look for precision in each class of things just so far as the nature of the subject admits.' Plato and Aristotle were the original tendentious pedants of the West.

Within that range is a matter of how you slice the pie, but one cannot deny – without arriving at nothingness¹⁴ – that there is a pie to be sliced; even the most radical anarchist or esotericist does not go about arguing this. Mr. Case's four orders are very intuitive and useful in that sense, and at the bottom of it all, they accord with the fundamental observations of humanity since prehistoric times: That there are living things, non-living things, and things that were living but are not now, that there is what is inside your head and the rest of the world (in literature, godhead vs. pinhead, Case's *third order*, see 1 The Sidereal Stage, p. 110, *supra*), and that there are individuals and then there is society, civilization, that both predates and outlasts individuals, and that carries from generation to generation (i.e. culture by definition) and is somehow much more organically complex than mere life forms (Case's *fourth order*).

- ✓ Although Mr. Case may have followed Comte (whom he mentions) in describing the orders (with modifications), identification of the third order (i.e. the "mental organic") may have been inspired by or originated from Immanuel Kant, to wit:
 - "Kant's argument turns on the view that, while all empirical phenomena must result from determining causes, human thought introduces something seemingly not found elsewhere in nature – the ability to conceive of the world in terms of how it *ought* to be, or how it might otherwise be. For Kant, subjective reasoning is necessarily distinct from how the world is empirically. Because of its capacity to distinguish *is* from *ought*, reasoning can 'spontaneously' originate new

events without being itself determined by what already exists.” – from Wikipedia article, “Compatibilism,” captured October 27, 2019 (emphasis in original), citing to Immanuel Kant, The Critique of Pure Reason (1781), trans. by Max Mueller (1949), p. 448.

The distinction between ‘subjective reasoning’ and the empirical world is the difference between the first/second orders of natural phenomenon and the third order.

State of the Union: At any time, the Concierge may (and should) view any position’s Public Spaces (like looking inside your civilization’s head) and judge the current state of the position’s civilization based on Aspects, Proficiencies, Government Titles and any other criteria for purposes of Interventions or other Interpretations.

“To put it simply: men are neither supposed nor allowed to be dependent. They are expected to take care of others and themselves. And when they cannot or will not do it, then the assumption at the heart of the culture is that they are somehow less than men and therefore unworthy of help. An irony asserts itself: by being in need of help, men forfeit the right to it.”

– Peter Marin, “Abandoning Men: Jill gets welfare – Jack becomes homeless,” APF Reporter, Vol. 14 #3, 1991 (Alicia Patterson Foundation) ¹⁵

“Studies from other policy areas find that how the beneficiaries of policy are depicted in mass media and political campaigns can strongly influence support for policies that aid others. For example, Martin Gilens and Paul Kellstedt found that the disproportionate political and media depiction of welfare beneficiaries as minorities diminished white American support for welfare.”

– Alexandria Guisinger, “American’s views of trade aren’t just about economics. They’re also about race.” Washington Post, August 16, 2017 ¹⁶

Endnotes.

¹ Commentary: The ‘lunette weight’ (or properly, ‘lunette ring weight’) of the M198 Howitzer I was assigned to in the late 1980s was 600 lbs. That is how much weight had to be lifted straight up in order to hitch the gun to the ball tow hitch on the M925 truck. There were no hydraulics, it was done manually. There were six handles at the end of the trails, three on each side, for six men to grab hold and lift together; the lunette had to be lifted at least between waist and chest high to hitch it to the truck (depending on angles, terrain, etc.); the men have to lift and hold while the driver slowly backs the truck hitch under the lunette ring. Sometimes we did it with just four men, one time we did it with four men which included the driver who had to let go and run up to the cab of the truck to back it up.

✓ It was not unusual to do this process half dozen to a dozen times a day and we usually had only 7 or 8 men on the gun, meaning the same men were lifting the lunette weight over and over.

² Commentary: Lt. Dillard was a big man, broad at the shoulders and narrow at the hips (to barrow from Jimmy Dean’s “Big Bad John” (1961)), he worked out three times a day and had been lifting weights since he was 12 years old. NFL linebacker sized, he stood at least 6’3 and bought his shirts in big & tall clothing stores. At a unit beach party, it took about 10 Marine artillerymen to chase him down, tackle him, and carry him down the beach and dump him in the surf against his will (he lost a bet with the commanding officer).

³ Commentary: Alternatively, see the parable of “The Blind Men and the Elephant.” Originating on the Indian sub-continent, the parable has been adapted and used across most of the world’s religions to express pan-religious truth.

⁴ Commentary: GGDM is in fact, an impressive collection of quotes from famous and self-evidently important people, interspersed with my second rate freshman blathering on about subjects that 99.9% of humanity never heard of and does not care about. GGDM is also a cultural artifact of my times.

⁵ Citation: “A diss track or diss song (diss – abbr. from disrespect) is a song whose primary purpose is to verbally attack someone else, usually another artist. Diss tracks are often the result of an existing, escalating feud between the two people; for example, the artists involved may be former members of a group, or artists on rival labels. The diss track as a medium of its own was popularized in the hip hop genre, fueled by the hip hop rivalry phenomenon (especially the East Coast–West Coast hip hop rivalry of the mid-1990s). More recently, entertainers from outside the traditional music landscape have adopted the genre.” – from Wikipedia article, “Diss (music),” May 21, 2020.

⁶ Commentary & Citation: It is implied in Babylon 5 that the Centauri civilization was angry after the alliance bombed Centauri Prime and especially the capital city in “The Fall of Centauri Prime” episode (1998). Londo’s actions are interpreted as representing the anger (and hurt pride) of the Centauri civilization. Similar anger could be an aspect of the United States after the 9/11 attacks or after Pearl Harbor in 1941.

⁷ Citation: Clarence Marsh Case was born in 1874 and died in 1946, age 72 (information and image at Find a Grave, <https://www.findagrave.com/memorial/113359178/clarence-marsh-case>). There is currently no Wikipedia page for him, but he wrote many books.

- ✓ Three books by Clarence Marsh Case, The Social Psychology of Passive Resistance (1915), Non-violent Coercion: a study in methods of social pressure (1923) and Current social problems, an outline for the study of present day issues in the secondary school (1936) are available for free online at the Hathi Trust Digital Library (Los Angeles County, CA) which books I found linked through an online books page at the University of Pennsylvania Library (<http://onlinebooks.library.upenn.edu/web-bin/book/lookupname?key=Case%2C%20Clarence%20Marsh%2C%201874%2D>) through Google.
- ✓ User Galuchat on the Philosophy Forum also located a Doctoral Dissertation (232 pages) by Esther H. Penchef, June 1947, at digitallibrary.usc.edu, which is free to download. According to Google Searches, Dr. Penchef was Emerita Professor of Sociology, teaching and working in academia from 1948-1973 at USC and Los Angeles City College, graduated law school, became an attorney in 1957 and practiced law in California. She is also listed as the editor of sociology books on poverty into the early 1970s.

⁸ Commentary: I ‘rescued’ this book and many others, actually several boxes of books, that had been tossed out in the garbage, in the alley in the rain, at the Lycoming County Museum, where I worked as a volunteer around 1990-1991. The head of the museum was the mother of a young woman who was in my classes at Lycoming College and who sometimes worked part-time at the museum, her father was a professor in the English Department at Lycoming College. Though slightly rain damaged, I have had this book on my shelf for nearly 30 years and have read some.

⁹ Commentary: I was unable to locate the source of Clarence Marsh Case’s ‘orders of natural phenomena’; e.g., a Google search for the term yields sites about classifying weather phenomena. It might be related tangentially to praxeology or developed from it, but I have no direct reference and the concept must necessarily – as a condition precedent – predate even praxeology. I don’t recall encountering the term before and I strongly doubt that it is taught in schools now. Which is sad... Regardless of the origin of the epistemology (or classifications if you like), I immediately grasped it as axiomatic, intuitive, and useful, in that it expresses concisely what we have all naturally known since developing childhood awareness brought us to the realization of life, death, and the inanimate (see further, Keijijōgaku (the Japanese word for metaphysics), *The Next Season, infra*).

- ✓ As mentioned in 3 The Big Bang, p. 19, *supra*, this is a case (no pun intended) where, like much of what is said in GGDM, “you know this stuff already, even if you don’t yet know that you know it.”
- ✓ See further discussion of the Orders of Natural Phenomena in 1 Order and 3 Fallen to Earth, *infra*.
- ✓ Something of the idea in other forms may have been circulating in the first decades of the early 20th Century, compare Mr. Case’s “The four orders are the inorganic, the vital organic, the mental organic and the super-organic, or social,” to the following from an article by G.T.W. Patrick (George Thomas White Patrick) in 1922, two years before Mr. Case’s book: “When nature achieves the molecule, the atom ceases to be the thing of primary importance, worth, or even of reality. When nature achieves the cell, the molecule is eclipsed. When the organism is achieved, the cell is eclipsed. When mind is achieved, the body is eclipsed. Mind is a new reality, gained, achieved, won. It is, in Aristotelian phrase, the form of the body.” (“The Emergent Theory of the Mind,” *The Journal of Philosophy*, Vol. 19, No. 26 (Dec. 21, 1922), pp. 701-708, see full quote in 1 Dreamtime, EN 3, pp. 139-140, *supra*).

- ✓ “I’ve come to realize that there are three categories of truth – personal truth, political truths, and the objective truths that shape our understanding of the universe. The interesting thing about an objective truth is that it’s true no matter what. Imagine that.” – Neil deGrasse Tyson, “Class Trailer” to Master Class program.
 - Mr. Tyson seems to implicitly and intuitively recognize the co-equal existence of ‘truths’ which correspond roughly to Mr. Case’s third order, fourth order, and first/second orders.

I posed the origin question on the Philosophy Forum (Philosophy of Science) in February 2019 (<https://thephilosophyforum.com/discussion/5131/orders-of-natural-phenomenon>):

- ✓ Users Galuchat and Terrapin Station responded that Mr. Case probably invented the idea of the four orders of natural phenomenon, but Galuchat added helpfully, “But in sociological terms, Auguste Comte’s five great groups of phenomena (astronomy, physics, chemistry, biology, and sociology) was a likely influence on subsequent sociologists.” Indeed, Mr. Case does mention Comte in a footnote on the previous page in relation to the discussion that math is not supreme, thus establishing that Mr. Case was familiar with Comte even if he did not mention him in relation to the four orders of natural phenomenon.
- ✓ Galuchat then proposed an alternate modernized classification of natural orders and asked how I would modify them and if they fitted within macrosociology. I responded that I liked Mr. Case’s orders better because they are intuitive and easy for the audience to immediately grasp. User Harry Hindu agreed.
- ✓ I responded: “1) By 1924, intellectuals and scientists understood that astronomy, chemistry and physics were all part of the same continuum. Stars have chemistry, astronomy makes and bows to physics, and there was a whole lot going on there, but it was all in the same ‘spectrum.’ Thus, Comte’s first three categories collapsed into the first order of natural phenomenon in Case’s structure. 2) Mr. Case makes clear in the introduction that the mental sciences were just recently becoming members of the ‘elite circle’ (formerly occupied exclusively by physics and biology) and modern psychology was not yet ready during the time of Comte – Comte died the year after Freud was born. So in Case’s structure, the mental sciences in 1924 were added into the third slot (i.e. the third order of natural phenomenon).”
- ✓ User Galuchat later asked: “Are there natural kinds, or are classifications merely cultural and/or linguistic conventions? And if there are natural kinds, does that imply artificial kinds?”
- ✓ Responding to only his first question, I wrote: “There are natural phenomenon and interpretations. One cannot claim that natural phenomenon are themselves cultural/linguistic conventions, e.g., the Sokal Hoax. But we have interpreted them in different ways – as history shows – that are suitable for the milieu of the times, compare Aristotle to modern physics. Part of the issue is that interpretations have not been accepted as equally factual, instead they have been dismissed as non-objective, illusion, human fallacy. The fallacy has been to try to treat them as facts within the first order, whereas they are actually facts within the fourth order. The same fallacy occurs in reverse when you try to deny that first order facts are facts within the fourth order – i.e. treating physical facts as cultural/linguistic constructs – again, the Sokal Hoax. There is not exactly a symmetry in this arrangement, facts of lower orders cannot be denied by higher orders, but facts of higher orders are not facts in lower orders. It’s sort of like the way time flows in only one direction (I hadn’t actually thought of it this way before I typed this). Time is then probably – is definitely – related to – is probably even the ‘cause of’ – emergences in all the orders. I’ll give your second question some thought.”
- ✓ *Thus a new line of thought, a new connection arose from the conversation:* Facts within the four orders operate like time, they are only true or valid in one direction, like the flow of time in our universe and a connection between time and emergences!

¹⁰ Citation: “The more or less exclusive claims of the other sciences rest upon their use of mathematical, quantitative reasoning, and are inadequate in two ways. In the first place, their mathematical accuracy is only a question of degree, as compared with one another; and secondly, mathematical reasoning is not the only method of exact thinking. No one who has notice at all the procedure of careful students, even in the fields of historical, ethical, or aesthetic values farthest removed from quantitative considerations, will longer cherish the obsolete notion that painstaking observation, systematic classification, and rigid analysis are the prerogatives of workers in any field of human thinking. The same attitudes of mind and method of procedure are now to be met in every branch of investigation, and it is the assumption in this book that it is a mere confusion of terms to give to the word *science*, which, historically and logically speaking, designates just this systematic investigation of reality, any narrow or private interpretation.

Such a private, or at least special, interpretation is met in the reasonings of those who propose to use the word *science* to indicate only those branches of study which seek primarily to arrive at abstract generalizations, laws, and principles.

...But while the authors ... are plainly distinguishing between history and *natural* science, others are less discriminating, so that one can trace in current discussion a tendency to blur this clear and valid distinction between history and *natural* science, by substituting the term *science* in general for *natural* science, and thus making it appear that the historical studies (history proper, archaeology, anthropology, ethnology, etc.) are in sharp contrast as to method with *science*, whereas they are themselves worthy and fruitful branches of science itself.

If one steers clear of this confusion and recognizes that all systematically organized research and knowledge of every realm of phenomena is equally a form of *science*, it is then proper to recognize that there are several different orders of natural phenomena, and two distinct, yet inseparable methods of thinking about them which traverse all these orders. ... The four orders are the inorganic, the vital organic, the mental organic and the super-organic, or social. In every one of these fields of investigation the student may proceed either by the historical method, which seeks to *depict* concrete reality in all its concreteness, or by the analytic, processual method, which tries to give an account in terms of abstract generalizations, mechanisms, processes, laws and principles. ... It is the purpose simply to point out in this place that we have here, not history verses science, but the contrast between the historical and analytical aspects of science itself.” – Clarence Marsh Case, Outlines of Introductory Sociology (1924), pp. xvi-xvii (emphasis in original).

- ✓ Cf. “According to John Bellamy Foster (b. 1953), the great sociological tradition, at least as it has been received from our forebears, *seems as if it were developed almost completely devoid of any concern for or foundation in nature*. Marx, Durkheim, and Weber seemingly develop their theories ‘as if nature didn’t matter’ (Foster 2000, 18).” – Frank Elwell, *Macro Social Theory* (2009), Kindle Edition, p. 80 (emphasis added).
- ✓ In about mid-2019, I discovered praxeology and the Austrian School which I, oddly, had never encountered before. It required only a short time before I realized that the general tone and tenants of Clarence Marsh Case’s arguments in the 21-page intro to Outlines of Introductory Sociology (1924), were similar to and possibly inspired by the methodological dualism of his contemporary Ludwig von Mises; Marsh was born in 1874 while Mises was born in 1881 and Mises had already published four books by the time Marsh’s college sociology textbook was published. I have not the academic or research resources to determine if Mr. Case was familiar with or had read Mr. Mises works or had corresponded with him or his colleagues, or heard him speak, or met him; but I would not be surprised if there was an informal network of friends and acquaintances connecting them (i.e. the six degrees of separation). But the derision and criticism heaped on the Austrian School (and Mises seemed to have annoyed many people) at the time for being non-empirical, non-positivist, non-Keynesian, an ‘unscientific economist’ explains why Clarence Marsh Case’s books, work, and opinions were quickly tossed to the side and forgotten in the mid-20th Century. They don’t teach this in public schools, they don’t teach this ‘unscientific’ idea in undergrad college either; my high school was very STEM and conservative to the point of being reactionary. Yet the idea has not gone away, praxeology still exists within the *second strata* of epistemology (see discussion, 1 Constructural Elements, EN 21, p. 188, *supra*) in several fields, including medicine, economics and sociology.

¹¹ Citation & Commentary: “We are on the verge of becoming the best trained, and least educated, society since the Romans – and reducing the humanities to a type of soft science will only hasten this trend. As the sciences rightly grow, a free society must ensure that criticism of the sciences grows apace. Effective criticism depends on distance, in this case on an unshakeable difference, between the humanities and the STEM fields. That is not to say that STEM researchers can’t or shouldn’t be experts in the humanities, but rather that the work that the humanities do should not be judged by the metrics of hard science. As Aristotle, Plato’s most famous student, suggests at the beginning of the *Nicomachean Ethics*, ‘precision is not to be sought for alike in all discussions.’

Similarly, we should not expect the humanities to be driven or dominated by the objectives of science. Plato teaches us that part of the liberal arts’ enduring mission is precisely to critique these objectives. It ought to be obvious that the study of law, justice, and the arts is one of the best preparations for governing. This goes for governing our polis and equally for governing our technologies and ourselves. If you’re interested in learning about justice, you don’t go to the chemistry laboratory. You go to philosophy class and travel to Plato’s Republic. But if you go to the Republic in search of concrete answers about justice (as many of our students are encouraged to search for the ‘right’ answers in their labs), you will be disappointed. Plato is not famous for answering questions but for staking his life on the chance to ask them. He seems more interested in inviting his readers to ask their own questions and to finish

the dialogue themselves, as if to say that it's more important to learn to think than to memorize others' dogmatic principles. The question about justice that motivates the Republic is posed in a lengthy series of dialogues, and it does not give rise to a fixed doctrine. Plato seems to be suggesting that part of being just is taking the time to think seriously about justice." – John Kaag and David O'Hara, "Big Brains, Small Minds," *The Chronicle of Higher Education*, May 13, 2016.

- ✓ Likely, the title of this article is a play on the title of a January 11, 2008 article by Russell Jacoby, also in *The Chronicle of Higher Education*, titled, "Big Brains, Small Impact," about the decline of the public intellectual in the 1980s.
- ✓ Sociology and the social sciences sit – in the current epistemology of the West – in the twilight between Humanities and Science, to wit: "Although political science, government, geography, anthropology, and sociology may, from certain perspectives, be considered *humanistic* social sciences, for the purposes of the Humanities Indicators, they are categorized as *non-humanities* disciplines. Interdisciplinary studies that link a predominantly social science perspective with humanities disciplines are also considered *non-humanities* studies." – from "The Scope of the 'Humanities' for Purposes of the Humanities Indicators," (<https://www.humanitiesindicators.org/content/document.aspx?i=180>), American Academy of Arts and Sciences (emphasis in original).
- ✓ "Around the turn of the millennium, American society realized a looming crisis: the lack of female representation in STEM fields. But today we are witnessing a crisis of male leadership in a variety of workplaces. From the president to CEOs of major companies to actors and power players in Hollywood, the past several months have exposed the toxic work environments they preside over or worsen in scandal after scandal. Though different in nature, this crisis is of equal importance as the STEM shortage. Yet, to date, no prominent solutions or interventions have been seriously proposed. In contrast, a quick Google search brings up dozens of programs for girls in STEM, but not one national program appears for boys in the arts and humanities...."

How dire is the situation? The latest indicators of the demographics and earnings of public school humanities teachers – most of whom are women and many of whom aren't paid well – underscore that we need more men in the arts and humanities. Although philosophy and religious studies all grant more degrees to men than women, all other arts and humanities disciplines encounter a reverse situation. To make matters worse, The Humanities Indicators report that, 'As of 2015, women earned 61 percent of all master's and professional-practice degrees in the humanities and 54 percent of the doctoral degrees in the field.' And the latest report on public school teachers found that '76 percent of humanities teachers were women, the largest share among subject specialists.' When male K-12 role models barely exist in these disciplines, what message does that send to our young boys and men?" – Christine Hensler, "We Need More Men in the Humanities," *Inside Higher Ed*, October 2, 2018.

¹² Commentary & Citation: According to Merriam-Webster online dictionary, *virtual reality* first appears in English in 1987; I know that I never heard the term growing up.

- ✓ "Finally, we arrive at the six discourse, on the postmetropolis as Simcity, a place where simulations of a presumably real world increasingly capture and activate our urban imaginary and infiltrate everyday urban life. A key concept here is that of the simulacrum, roughly defined as an exact copy of something that may never have existed. ... At the very least, this Simcity discourse needs to be addressed seriously in contemporary urban studies, not just at the micro-scale of everyday life but also in macro-scale analyses of urbanization and the social production of urban space. My own work has increasingly focused on this procession of simulacra and the growing hyperreality of urban life in the postmetropolis, in part because I suspect that this restructuring of the urban imaginary is playing a key role in the emerging mode of social regulation associated with what the French regulation theorist define as the new regimes of capitalist accumulation...." – Edward Soja, "Six Discourses on the Postmetropolis," (1997), the entire paper, written in English and French, is available for free online at http://www.opa-a2a.org/dissensus/wp-content/uploads/2008/05/soja_edward_w_six_discourses_on_the_postmetropolis.pdf.

¹³ Citation: "In more recent decades, students of *biological* phenomenon, apparently well disremembered of their own former exclusion from the circle of the elect, have so far made themselves at home in it that one often hears the word 'science' used, even in faculty discussions and literature, to designate exclusively the physical and biological departments. Recently, however, investigation of mental phenomenon has become so exact and systematic that *psychology* is sometimes recognized by the academic legitimists as falling within the scientific pale, thus leaving the *social* studies, notwithstanding one of them is known as political 'science,' to grope in the outer darkness, along

with *philosophy* in all its branches.” – Clarence Marsh Case, Outlines of Introductory Sociology (1924), pp. xv (emphasis in original).

- ✓ “The denial of purposefulness in man’s attitudes can be sustained only if one assumes that the choosing both of ends and of means is merely apparent and that human behavior is ultimately determined by physiological events which can be fully described in the terminology of physics and chemistry. Even the most fanatical champions of the ‘Unified Science’ sect shrink from unambiguously espousing this blunt formulation of their fundamental thesis. There are good reasons for this reticence. So long as no definite relation is discovered between ideas and physical or chemical events of which they would occur as the regular sequel, the positivist thesis remains an epistemological postulate derived not from scientifically established experience but from a metaphysical world view.... But it is evident that such a metaphysical proposition can in no way invalidate the results of the discursive reasoning of the sciences of human action. The positivists for emotional reasons do not like the conclusions that acting man must necessarily draw from the teachings of economics. As they are not in a position to find any flaw either in the reasoning of economics or in the inferences derived from it, they resort to metaphysical schemes in order to discredit the epistemological foundations and the methodological approach of economics.” – Ludwig von Mises, Theory and History: An Interpretation of Social and Economic Evolution (1957).
- ✓ In school in the early 1980s, more than half a century later, our courses were still called “Social Studies.” See previous discussion of ‘hard sciences’ vs. ‘soft sciences’ (*ut supra*, p. 372) and discussion of Unsolved Problems, 3 Constructural Elements, p. 209, *supra*.

¹⁴ Commentary & Citation: This is what is so frightening about the scene in Conan the Barbarian (1982) where an adept of the nihilistic religion of Thulsa Doom, standing silently in a high wall alcove staring into nothingness, blithely steps to her death when summoned to come to Thulsa. Within the film, it was a 10-second scene to demonstrate Thulsa Doom’s power over his adherents and is then quickly forgotten in the sword and sorcery adventure.

¹⁵ Citation: “Men are allowed to have passion and commitment for their work ... a woman is allowed that feeling for a man, but not her work.” – Barbara Streisand.

¹⁶ Citation: “What do a Christian overnight camp, abstinence-only sex education, and pro-marriage advertisements all have in common? They’ve all been funded with money that used to provide cash assistance for low-income families.

In the U.S., the federal Temporary Assistance for Needy Families program – often known simply as ‘welfare’ – is administered by the 50 states, which have considerable leeway about how to spend the money. The choices states make are unmistakably correlated with race. The higher the proportion of African Americans in a state, the more likely officials are to try to change the way poor families run their lives, rather than simply help them with basic expenses. ...

In a new study published in the journal *Socio-Economic Review*, I find that a state with a higher share of black families is less likely to allocate TANF funds toward the provision of cash assistance, but more likely to allocate TANF funds toward efforts to ‘encourage the formation of two-parent families’ and ‘reduce the incidence of out-of-wedlock pregnancies.’ The stated assumption behind these initiatives is that strengthening the family unit has greater long-term benefits than simply giving money to needy people.

In practice, though, the diversion of TANF funds away from cash support and toward programs meant to influence family formation has likely exacerbated racial differences in poverty. A clear pattern emerges: a black family in poverty is more likely than a white family to be offered a ‘Healthy Marriage Initiative’ in place of direct cash support.

These racial inequities in states’ use of TANF funds turn out to have important consequences for racial differences in child poverty. I find, for example, that closing the racial differences in states’ use of TANF funds would narrow the black-white child poverty gap by up to 15 percent. ...

We often perceive policymakers as defenders of economic opportunity, and social policy as a set of tools to alleviate inequalities. But as [Jamila] Michener’s [Cornell University] work shows, and as the data on TANF suggest, state governments often function as a source of inequality rather than its cure. Rather than narrowing gaps between the advantaged and disadvantaged, social policy can, when deployed unevenly across the country, act to deepen them instead.” – Zach Parolin (<http://zachparolin.com/>), “Welfare money is paying for a lot of things besides welfare,” *The Atlantic*, June 13, 2019.

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See Appendix AGE – Aging Out

“Take full account of what excellencies which you possess, and in gratitude remember how you would hanker after them, if you had them not.”

– Marcus Aurelius, Emperor of Rome, Stoic (b. 121 A.D., d. 180 A.D.)

Something Sublime: ...this way comes... To have true passion for something is to see something sublime. A child, or young person, who has a passion for music, literature, art, history, acting, mechanics, architecture, math, science, filmmaking, writing, programming, sports (if you have talent, and that’s a whole other discussion), sees in the whole of it *something sublime*, even if they cannot themselves reach or touch it in any practical or enduring sense. The sublime is part of the human answer to the Existential Void and this is why it never gets old or goes away, we just invent different words to describe the same phenomenon – perfectionist, virtuoso, inventor, prophet, pioneer, savant, sage, visionary, genius, prodigy, master, polymath.

Conversely, imagine if you woke up one morning and suddenly found you were a house cat. I love my cats, but I would not willingly trade places with them. Being a cat would be like being an infant again, but worse, because you would never be anything but an infant. Thus, ‘Take full account of what excellencies you possess and ...remember how you would hanker after them if you had them not.’ *Id.* The Dunning-Kruger effect, however, suggests Aurelius is wrong...

➤ **Bubbling to the Top:** People who have a sense of the sublime about a subject or object experience Diminishing Returns Phenomenon differently – as to that particular subject or object – than the rest of us. This would be a very interesting area for cognitive study and I am sure it has been studied in regards to professionals, especially highly-paid innovators and athletes, and graduate students.

- ✓ “According to the Law of Diminishing Returns (also known as Diminishing Returns Phenomenon), the value or enjoyment we get from something starts to decrease after a certain point. Let’s say we go to an amusement park and ride our favorite roller coaster five times in one day. The first time is exhilarating. The second and third times are also exciting. But after the fourth or fifth ride, we start to feel sick and bored – we’ve had enough. The law of diminishing returns also applies to performance. Although it’s important to study for an exam or practice for a game, there is a limit to how much time and energy we can invest and still expect to see an improvement. If we practice too much we’ll start to feel burned out and may even start performing poorly.” – AlleyDog.com (psychology student website), “Law Of Diminishing Returns” (unattributed, undated), retrieved June 26, 2019.

This is why, for example, when a baseball player is ‘slumping’ (diminishing performance) they get a ‘day off’ from being a starter and sit in the dugout the entire game unless they are needed to pinch hit, pinch run, or to replace an injured player on the field; they play 162 games in 6 months, plus travelling to a new city every few days, plus charitable events, media appearances, working out in the weight room, and whatever else they do.

- ✓ Can sports be sublime if you don’t have talent for it? I suppose, but then you end up being a baseball historian or stats wonk, instead of playing professionally. But then which is really sublime to you, the sport (‘the game’), or the history, or the stats? It is difficult to separate talent from the sublime, and that is why television broadcast sports are such a part of modern civilization.

- ✓ I liked baseball as a kid and we played every day at recess and backyard ball at home, but I was (obviously) never *that fascinated* by it (not to mention lack of physical talent); if I played baseball three days every week, I'd be soon tired of it (I think I even got tired of it as a kid, somewhat), but I work on GGDM almost every day now or several times a week when I had a fulltime job. Like baseball players, my recovery time, response to Diminishing Returns Phenomenon is different in relation to GGDM; my mind and GGDM are inseparable, I think of things or think about it even when doing other tasks or watching Pirate's baseball.
 - See additional discussion, *The Flipped Side*, 1 Colleges, p. 468, *infra*.

“That film’s feverish commitment to every detail of the universe it created was admirable. From the names and powers it bestowed on its machines and creatures to the thought it put into what urban life and popular culture would look like in a world besieged by kaiju attacks, there was no doubt that it meant something to the people who made it. It was the work of true believers with childlike enthusiasm for the absurd. Del Toro even believed in the themes of personal redemption and collective effort that were baked into the details of the jäger’s mechanics. He got high on his own supply, and not only was that forgivable, it was exactly what a filmmaker was supposed to do in that kind of circumstance.”

– Matt Zoller Seitz, discussing the original Pacific Rim movie, in the review of Pacific Rim: Uprising, rogerebert.com, March 23, 2018

Perfect Proficiencies: When the Culture Power is activated for the purpose of Perfecting Proficiencies, the position may automatically and immediately place two new Proficiencies of their choice on any unoccupied Monads in the Public Space that is adjacent to any other piece (cf. Cultural Aspect Pieces must be placed adjacent to *any Friendly or Naturalized Colony*).¹ The resource cost of Proficiencies is based on the total population of the position at the time the Power is activated, including Conquered, Converted and Naturalized **alien colonies**, population on colony ships, and colonies of all political status (see Colony Politics, *et seq.* 2 Order, p. 538, *infra*). Each new Proficiency costs 1 RP per 100 population factors. A position may indicate to the Concierge that only one new Proficiency is desired, but the cost of the Culture Power activation is the same, regardless of whether one or two Proficiencies are received.

- ✓ Activation of the Culture Power to Perfect Proficiencies is not location specific and cannot fail due to inactive Constructural Elements.

Note that due to relative activation costs, the placement of new Proficiencies will occur before activation of the Census or Taxation Power in the normal Power Activations processing sequence (see Clockwork Universe, 3 The Streams of Time, p. 90, *supra*). Lower cost activations are processed first. The cost of proficiencies is consummate with the size of the position; a position with 1000 total population would be a fairly large position in GGDM (perhaps 5 or 6 large industrialized colonies, and a dozen smaller colonies), for whom the cost of 10 RPs per Proficiency should still be nominal, considering their industrial output.

Like Aspects, if two Proficiencies per activation prove insufficient for game play, the Concierge could find in-game ways to increase the number of Proficiencies placed per Culture Power activation. For example, maybe one extra Proficiency might be allowed if all Government Titles are currently undisrupted and all Colleges are Endowed; or maybe one more if one additional Act is

added to the cost of the Culture Power Activation. But in both cases – Aspects and Proficiencies – *great care should be exercised* in altering the rules set forth here, try it with the rules first!

- **Proficient Pieces:** Proficiencies are similar to Aspects except that they have numbers on them, rather than letters, and the numbers, ranging from 1 to 20, reflect the Proficiencies listed below. Proficiencies never ‘age’ like Aspects and can remain in the Public Spaces indefinitely; they do not have light or dark sides. However, as noted in The Sidereal Stage sections, the cycling of pieces in the Public Spaces is important, and as such, positions probably don’t want Proficiency Pieces to remain for a long time. Proficiency Pieces may be removed by the ‘actualization’ of Fuzzy Groups and some may be lost by Census Power activation.
 - ✓ Dr. Li Wanliang of China who first warned of the coronavirus was arrested with seven other ‘whistleblowers’ for spreading rumors. He died of the virus in February 2020, amid an outpouring of frustration at the government. China has the *medical proficiency* to recognize a potential pandemic, something that is very important to a country so huge, but *political expediency* trumps truth – there is no inoculation against political expediency on either side of this wobbly sphere. This is the danger to any proficiency in GGDM terms or in the real world, e.g., engineers who warned of bridge or pedestrian walkway collapse who were ignored or the 1960 Nedelin Catastrophe.
- **And the Cradle Will Rock:** Each time the *Census Power* is activated there is a 30% chance that each Proficiency will be eliminated from the Public Space due to turnover of generations.
 - ✓ Each time a Government Title becomes *disrupted or changes*, there is a 20% chance that each Proficiency on the Public Space will be eliminated.
 - ✓ Proficiencies *that are no longer adjacent to another piece* on the Public Space **are also lost** (i.e. ripple effect, thus the placement of Proficiency Pieces is important). Research, Census, activation of Fuzzy Groups, removal of stars and planets from the Public Space, and the order in which Power Activations are processed can lead to Proficiencies losses, destroying Fuzzy Groups and destabilizing governments.²

Positions should take care in the placement of Proficiencies on the Public Space, for example, the removal of a Research Group or a star at which the position has only a ship, from the Public Space could cause the loss of Proficiencies left isolated on the Public Space. Care should also be taken in the spacing of events, though the losses may be small, activation of the Census Power in conjunction with a Writ, during a time when a Government Title becomes disrupted or changes – can leave many open Monads on the Public Space!

Loss of Aspects from aging each turn and actualization of Fuzzy Groups, loss of Proficiencies from activation of the Census Power, Government Title disruption effects, and other causes, along with various effects caused by ongoing exploration and caused by entropy effects and the actions of other players (really the same thing), are the mechanics that insure healthy turnover on the Public Space.

- ✓ The title of this section is the title of a 1980 song by Van Halen, “And the Cradle Will Rock” which is probably not related to the 1937 musical, *Cradle Will Rock*, which was the subject of a 1999 historical docudrama of the same name. The question with this song and many other Van Halen songs is, was he celebrating and promoting a type of juvenile delinquency that is not good for our society in the long term – which

is certainly what their fans (i.e. juveniles) and critics assumed in the 1970s and 1980s – or was Van Halen simply writing and singing about an ongoing observable phenomenon – an Aspect – of their times?

“What I find so striking today is not that people dismiss expertise, but that they do so with such frequency, on so many issues, and with such anger,” [Tom] Nichols laments. ‘It may be that attacks on expertise are more obvious due to the ubiquity of the Internet, the undisciplined nature of conversation on social media, or the demands of the twenty-four-hour news cycle. But there is a self-righteousness and fury to this new rejection of expertise that suggest, at least to me, that this isn’t just mistrust or questioning or the pursuit of alternatives: it is narcissism, coupled to a disdain for expertise as some sort of exercise in self-actualization.’”

– Tom Nichols (U.S. Naval War College) as quoted in the Washington Times, July 24, 2017 ³

Proficiencies: Proficiencies represent the systems, organizations, ways, techniques, traditions by which society handles the day-to-day, person to person problems and needs of civilization. For example, keeping order, distributing food and resources, caring for the young, education, assistance, etc. are developed proficiencies. The group of proficiencies is large and interrelated, and in this game is grouped into twenty areas of proficiency, as follows:

Communication Proficiency	Nationhood Proficiency
Customs Proficiency	Police Proficiency
Education Proficiency	Powers Proficiency
Engineering Proficiency	Resources Proficiency
Equity Proficiency	Regeneration Proficiency
Expression Proficiency	Rhetoric Proficiency
Finance Proficiency	Security Proficiency
Integrity Proficiency	Spirit Proficiency
Intelligentsia Proficiency	Urbanization Proficiency
Medical Proficiency	Will Proficiency

Proficiencies are both the bodily functions and life skills of civilization. Many functions of civilization, such as obtaining and processing resources and waste elimination are analogous to bodily functions. Alternatively, think of these as the ‘life skills’ of civilization, while the number of ‘life skills’ we must master to get along in our culture is large – while it takes at least 12 to 15 years – the actual list of ‘tasks’ you must regularly and reliably perform on a daily basis to live in our world – getting and preparing food, feeding yourself, sleeping, communicating, obtaining money – is fairly limited, finite, even if complex and challenging. Development of marketable skills, intelligence, education, and mature ambition takes another ten years.

- ✓ There is *no prohibition* on Aspects having names identical or similar to Proficiencies; they are different functions with Aspects representing a heightened consciousness.

The proficiencies used in this game reflect modernity; other current societies and historical periods may be ‘missing’ some or many of these proficiencies, or more likely, just have a different view of the matter. Like Constructural Elements, the pie could have been sliced many ways, I

chose twenty Proficiencies for the game (and four Constructural Elements); there could have been more or less, or different groupings. Participants may invent new, modify existing, add or subtract Proficiencies to fit their three-eyed alien sophonts. Proficiencies are only objective in the sense that results matter – does the group get done what needs to be done, does the group have the material and resources it needs to carry on? To meet forward expectations?

- ✓ Cultural Proficiencies were probably inspired by discussion of bureaucratic agency proficiency ratings in Dr. Slesinger’s Law & Economics class in 1997.

“...whereas in all other arts that is most excellent which is farthest removed from the understanding and mental capacity of the untrained, in oratory the very cardinal sin is to depart from the language of everyday life, and the usage approved by the sense of the community”

– Marcus Tullius Cicero, *Of Oratory* (55 B.C.), Bk. 1 (trans. E. W. Sutton and H. Rackham) from Patricia Bizzell and Bruce Herzberg, *The Rhetorical Tradition* (1990), p. 201

Communication Proficiency: The systems for transmission, preservation, and transfer of knowledge, directives, culture and news. This is more than just sending orders.

One of the proudest achievements of developing nations is the development of national cinema in their native language as a cultural affirmation – in the same way that in much of the world, translation of the Bible into the local language was an affirmation of unique cultural and linguistic identity (e.g., the Bible was translated into Afrikaans in the early 20th Century). This is so important that the leader-in-waiting of North Korea, Kim Jong-il, in 1978 kidnapped a South Korean film director and leading lady (Shin Sang-ok and Choi Eun-hee) in a bizarre attempt to found a North Korean national cinema, while in 2001 Sudan’s military junta destroyed the country’s budding national cinema – a military sociopolitical scorched Earth against their own nation – because they couldn’t fully control its progenitor, octogenarian Gadalla Gubara – if we cannot control it then we must destroy it!

- ✓ “It was too good to be true, though. In retrospect, the coup was the beginning of the end. In 1989 an army lieutenant named Omar Al Bashir ousted Prime Minister Sadiq al-Mahdi, a relative of Gubara. Many of Sudan’s creative class left the country, but Gubara had too much invested. He kept working on films, even as he found himself under political pressure. The government assigned him a producer to work with – a cousin of Bashir. It went predictably badly. (The rights to Gubara’s 1998 film *Barakat el Cheikh* are now owned by the cousin.) The political climate disintegrated, with fighting and famine, the resumption of the civil war, and the rise of the Islamic parties. [His film studio was seized by the government] ... When he fought the order, they put him in jail. His studio was turned into an army barracks. His children led a campaign for his release, but when he came out he was a broken man. It wasn’t just the blindness – it was the powerlessness. He had spent his whole life making film, building the studio, and now it had been taken from him. ... It was Sara, his youngest daughter, who got him out of jail and eventually won the studio back, or part of it.” – Nadja Kornith, “The Omega Man – Gadalla Gubara and the half-life of Sudanese cinema,” Bidoun (bidoun.org), Issue 20, Spring 2010.

When Americans and to some larger but lesser extent, Westerners, watch films about dystopian futures, we do so with a detached, dismissive, incredulous air of fiction, improbability, it will never happen in my lifetime. In dystopian films featuring authoritarian and fascist governments, censorship is (dear as the issue is to the heart of cinema) first in line of evidence of evils afoot in such films. But here it is in black and white – Sudan in the 1990s, the government first tried to intimidate and co-op the only film studio – the sole representative of Sudanese national cinema – into government political messaging and then finally shut it down and turned the studio into an army barracks when it became too troublesome. Nothing could be more symbolic of oppressive military rule than turning the country’s only film studio into an army barracks, the message had been writ large for all to see.

“True civilization consists precisely of conventions, rituals, and modes of oblique communication whereby the chaos within and the void without may be expressed and contained within the harmonious consensus of shared social objectivity, thus maintaining our bubble of crafted reality, the necessary illusion.”

– Norman Spinrad, The Void Captain’s Tale (1982)

Customs Proficiency: The non-statutory rules of social behavior, etiquette, mores, protocols, and taboos, thought policing.

- ✓ “[Count] Hoyos did not look any closer, but rushed to the station and took a special train to Vienna. He hurried to the Emperor’s Adjutant General, Count Paar, and requested him to break the shocking news to the Emperor. *The stifling protocol that characterized every movement in the Hofburg swung ponderously into action.* Paar remonstrated that only the Empress could break such catastrophic news to the Emperor. Baron Nopcsa, Controller of the Empress’ Household, was summoned. He, in turn, sent for Countess Ida Ferenczy, Empress Elisabeth’s favorite Hungarian lady-in-waiting, to determine how Her Majesty should be informed.

[Empress] Elisabeth was at her Greek lesson and was impatient at the interruption. White to the lips, Ferenczy announced that Baron Nopcsa had urgent news. Elisabeth replied that he must wait and come back later. The countess insisted that he must be received immediately, finally being forced to add that there was grave news about the Crown Prince.... The countess entered the room again to find Elisabeth distraught and weeping uncontrollably. The Emperor appeared outside her apartments and was forced to wait there with Nopcsa, who was controlling himself only with great effort. The Empress broke the news to her husband in private; he left the room a broken man.” – from Wikipedia article, “Mayerling Incident,” captured January 17, 2020.

There was a protracted and hotly contested battle in Allegheny County over property taxes and assessments. The battle was legal, political and played out in the local evening news, and resulted in multiple reassessments and rollbacks to previous assessments. On a local news station’s website, I watched a video in shock and bemusement as a local reporter – in violation of longstanding custom – with a news camera and microphone, accosted the long-serving Honorable Stanton R. Wettick as he was leaving his chambers, and tried to ask him a question about his recent ruling on the legal matter. I smiled when Judge Wettick gave the perfect answer: He said simply, “Read my opinion,” and walked away, leaving the reporter standing looking foolish.

For another example, see the article, “The Weaponization of Awkwardness” by Megan Garber, published in *The Atlantic* on December 15, 2017, relating social conditioning and social custom – to avoid the awkward conversation or awkward silence, to avoid making a scene, to sexual harassment and sexual assault of women in the workplace, and even casual consensual sex.

- ✓ “When Harvey Weinstein told Ambra Battilana Gutierrez, ‘Honey, don’t have a fight with me in the hallway,’ he was attempting to turn centuries’ worth of cultural conditioning – gendered conditioning – against her. He was weaponizing the mandate against scene-making, against disruption, against unruliness. He was grossly blatant about it; often, though, the pitfalls of awkwardness, as a negative imperative, reveal themselves more subtly.” *Id.*
- ✓ “*No one knew what to say.* It’s one of the simplest and most widespread mechanisms that helps open secrets to stay secret for so long: the impulse to avoid making scenes, to avoid making things weird. Women bear the brunt of these forces; men, of course, experience them, too. ... Awkwardness became a cyclical force, weaponized not through malice, but through the convenient delusions of benign neglect.” *Id.*, emphasis in original.

Awkwardness is generally considered juvenile and comic, it is often the main feature of ‘puppy love’ movie scenes.

“But hasn’t this increased investment in higher education brought at least equivalent, if not greater, returns? While the returns on investment in education are difficult to assess, most people would assume that the answer to that question must be yes. But there are ways of looking at the matter that suggest that this investment has not brought greater marginal returns. With increasing time spent in education and greater specialization, the learning that occurs yields decreased general benefits for greater costs.

The greatest quantities of learning are accomplished in infancy; learning that occurs earlier in life tends to be more generalized. Later, specialized learning is dependent upon this earlier, generalized knowledge, so that the benefits of generalized learning include all derivative specialized knowledge. Axiomatically, therefore, generalized learning is of overall greater value than specialized.”

– Joseph Tainter, *The Collapse of Complex Societies* (1988), pp. 103-104

Education Proficiency: The process and systems by which new generations are educated, indoctrinated and accredited.

- ✓ “A developmental task is a task which is learned at a specific point and which makes achievement of succeeding tasks possible. When the timing is right, the ability to learn a particular task will be possible.” – Robert James Havighurst, *Human Development and Education* (1952).

Every step, every section read, of GGDM is a developmental task, so it was for me as the designer as well.

What does it say of a culture when – by virtue of wanting to know, eagerly learning, and trying to understand – one becomes alienated from the general masses of humanity? This was my youth.

- ✓ “Cinema in local languages was regarded as the best way to reach the mostly illiterate population. ... He produced educational films about the tsetse fly, about black magic. The key words were education, enlightenment, and progress, and the medium was part of the message. Gubara always maintained that nothing was more important than cinema. It was more important than building bridges and hospitals, even, because it could teach people to be self-sufficient, to take care of themselves.” – Nadja Kornith in “The Omega Man – Gadalla Gubara and the half-life of Sudanese cinema,” Bidoun (bidoun.org), Issue 20, Spring 2010.
- ✓ “When we arrived at the village, people gathered to greet Gubara. They all remembered cinema vans. One man said he didn’t miss them, now that everyone has television. Gubara, who had lain down on a daybed under a tree, laughed. Another man, more of a cinephile, said that ‘TV is a small place, where people are alone. Cinema was a big place where everybody came together.’” *Id.*

The slow global spread of literacy over the last five centuries has had a profound effect on the course of human civilization (see excerpt The Print Revolution, Writs, *infra*). Mandatory literacy is the bedrock of Western technical and industrial civilization. Soviet and Western military trainers sent to other countries, have often encountered issues with illiteracy, sometimes willful (e.g., Soviet advisors and trainers in Egypt), among the local troops. Failure or decline of largescale literacy would lead to the collapse of Western civilization. The effects cannot be overstated. Imagine going to the grocery store now and not being able to read? GGDM must assume general and widespread literacy among the populations of the Major Races in the game.

I met a man once, in his late 50s, who was illiterate. I was 15 years old at the time, and a bit taken aback, because I had never met an illiterate adult before. It’s not that I had never heard of illiteracy, it’s just that I had not encountered it before – because of public schooling. My maternal grandmother finished 8th grade, my mother was the first in the family to graduate high school and start college; I was the first in the family to graduate from college. Because of my profession, education level, and where and the time in which I live, I probably have not encountered anyone else who was actually illiterate (other than *functional illiteracy* from being an immigrant). I did know a Gunnery Sergeant in the Marine Corps who had difficulty reading, he visibly struggled to work out the words as he was reading a note that had been delivered from headquarters, he may well have been dyslexic instead of having low literacy.

“The ideal engineer is a composite ... He is not a scientist, he is not a mathematician, he is not a sociologist or a writer; but he may use the knowledge and techniques of any or all of these disciplines in solving engineering problems.”

– Nathan W. Dougherty, American civil engineer

Engineering Proficiency: The application of technology to the construction of the things of a society.

- ✓ “At least the king did not deceive himself as to the identity of the victor at Maestricht. He realized that the success had been made possible by an engineering officer, Sebastian le Prestre de Vauban, who knew more about the related sciences of siege-craft and fortification than any other man on the Continent... Maurice and Gustavus had

broken the ice of tradition, but Vauban organized the first engineering corps of uniformed soldiers whose operations were combined with those of other arms.... His capture of Maestricht, a fortress dominating vital inland waterways, served France better at the time than if he had won a victory in the field. A few months later he took Trier after another brief siege, thus gaining control of the river Moselle for the supply of Turenne's forces in Germany. The following year Vauban directed the one defense in which he ever took part, the successful resistance of Oudenarde." – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), pp. 338-339.

- Maurice of Nassau (the "Maurice" mentioned above) was Turenne's uncle; Vauban and Turenne were famous Marshals of France under Louis XIV.

"It's a little hard not to be an elitist when you're making millions of dollars a year." – Walter Cronkite

Equity Proficiency: The sense of fairness and impartiality in a society and the systems and authority for enforcing such as well as ownership of civilization and enforcement of ownership rights and *responsibilities*.

'Equity' in English refers to both the quality of fairness and impartiality and ownership interest, to wit, Merriam-Webster online dictionary at *equity*: **1a:** justice according to natural law or right, **2a:** the money value of a property or of an interest in a property in excess of claims or liens against it, **3a:** a system of law originating in the English chancery and comprising a settled and formal body of legal and procedural rules and doctrines that supplement, aid, or override common and statute law and are designed to protect rights and enforce duties fixed by substantive law.

This duality is essential to understanding the Equity Proficiency in GGDM (and of English Common Law), the one word covers a lot of ground with two distantly related ideas attached, a complex dance. We all have equity in civilization; inequity is usually cited as the world's top socio-economic political problem. Although one aspect of equity is fairness and impartiality, it is not the same as equality, as pointed out by The Education Trust.

- ✓ "There is a common misconception that equity and equality mean the same thing – and that they can be used interchangeably, especially when talking about education. But the truth is they do not – and cannot. Yes, the two words are similar, but the difference between them is crucial. So please, don't talk about equality when you really mean equity. What's the difference? Should per student funding at every school be exactly the same? That's a question of equality. But should students who come from less get more in order to ensure that they can catch up? That's a question of equity." – Blair Mann, "Equity and Equality Are Not Equal," The Education Trust, March 12, 2014.

In this definition, equality is the same resources for everyone, whereas equity is the same results for everyone. Equity and equality are not the same also because equality does not imply ownership rights, but rather, other sorts of rights. Shall we dance?

Do you think you should be wealthy or at least well-off because you are a medical doctor? On what basis can anyone claim a greater right to the material wealth, real estate and services of our

civilization? We seem to have gotten things backwards. Yet this is true of famous athletes, performers, celebrities, artists, writers, producers and directors, and high-end professionals such as engineers, lawyers, accountants, designers, architects, professors, researchers, finance, entrepreneurs, publishers, promoters, and business people.

The one factor that ties all of this together is the idea that elitism is rewarded richly, the rationale that everyone should be able to earn whatever they are worth in the marketplace, that not everyone can be a doctor, engineer, big business executive, publisher, successful writer, etc.; that the love of knowledge, love of art, love of the profession, love of people, our civilization, your legacy, is not a sufficiently constant motivator to draw the ‘right’ people into professions or endeavors in which they will excel. This is true, but sad. Then you die. All are equal in death, death is both equity and equality.

“Glasnost is a tortoise crawling towards Freedom of Speech”

– Alexei Simonov, President of the Glasnost Defense Foundation

Expression Proficiency: The collective means and classifications for expression of ideas and emotions (in human civilizations at least), and the sense of such, music, creativity, poetry, the outlet, the social safety valve.

- ✓ “According to Professor Nicholas Conard of Tübingen University, this suggests that the playing of music was common as far back as 40,000 years ago when modern humans spread across Europe. ‘It’s becoming increasingly clear that music was part of day-to-day life,’ he said. ‘Music was used in many kinds of social contexts: possibly religious, possibly recreational – much like we use music today in many kinds of settings.’ The researchers also suggest that not only was music widespread much earlier than previously thought, but so was humanity’s creative spirit. ‘The modern humans that came into our area already had a whole range of symbolic artifacts, figurative art, depictions of mythological creatures, many kinds of personal ornaments and also a well-developed musical tradition,’ Professor Conard explained.

The team argues that the *emergence* of art and culture so early might explain why early modern humans survived and Neanderthals, with whom they co-existed at the time, became extinct. ‘Music could have contributed to the maintenance of larger social networks, and thereby perhaps have helped facilitate the demographic and territorial expansion of modern humans relative to a culturally more conservative and demographically more isolated Neanderthal populations,’ they wrote.” – Pallab Ghosh, “‘Oldest musical instrument’ found,” BBC News, June 25, 2009 (emphasis added).

Appreciate what the invention of the electric guitar represents. The generation that was immersed in “guitar rock,” “heavy metal,” “hard rock” didn’t see the big picture, and for the generations after, whose music is not electric-guitar centric, the electric guitar is an old instrument already mastered by a bunch of old guys. The world had never had an instrument like the electric guitar, capable of expression in new ways with modern emotion, it was the perfect musical instrument for the late 20th Century in the West, mastered in less than a generation by the greatest players, and combined with modern speakers and other electronic instruments, put the raw emotional power of an orchestra in the hands of a small band. It was an individual instrument like no other that had come before, perhaps once in a millennial event.⁴ Just add lyrics.⁵

- ✓ See also Meeri Kim, “Newborn babies in study recognized music played to them while in the womb,” Washington Post, November 2, 2013, and Jenn Savege, “Babies recognize music heard in the womb,” Mother Nature News, November 4, 2013.

“One of the funny things about the stock market is that every time one person buys, another sells, and both think they are astute.” – William Feather

Finance Proficiency: The systems by which largescale economic power flows, is transferred, and directed. The systems of stored value, capitalization, ownership equity, managerial control of finances.

- ✓ “Despite his founding role, however, Gubara was always something of an outsider within the almost exclusively Francophone federation. He viewed France’s role in supporting, educating, and bankrolling nearly his entire cohort of African filmmakers with deep suspicion. But filmmakers in Anglophone African countries had no support from hardly any films in those countries, period. Eighty percent of African cinema is in French. ... Ironically, perhaps, he applied for funding from the French government. ‘Any producer who loves his work and understands the game will figure out a way to finance his films,’ he explained to me. ‘From my experience the human being is very strong. If you want to achieve something, you can do it. Provided you’re patient.’ The French agreed to provide the 35mm raw stock. The Iranian ambassador offered to have it processed and printed in Tehran. The rest came from Gubara’s savings, plus money from friends and family.” – Nadja Kornith (quoting Gadalla Gubara), “The Omega Man – Gadalla Gubara and the half-life of Sudanese cinema,” Bidoun (bidoun.org), Issue 20, Spring 2010.

“To announce that there must be no criticism of the President, or that we are to stand by the President, right or wrong, is not only unpatriotic and servile, but is morally treasonable to the American public.”

– Theodore Roosevelt, “Sedition, Free Press, and Personal Rule” (1918)

Integrity Proficiency: The sanctity of the system, the measure of honesty and true purpose, lack of corruption. Integrity is also part of the boundary control of civilization, e.g., making sure the police, politicians are separated from the criminals.

- ✓ “They can be more concerned about their election, or their legacies. And I would argue to many of them: your legacy is more important than the next election.” – Charlie Dent, as quoted by Kate Sullivan, “House GOP members are ‘absolutely disgusted and exhausted’ by Trump’s behavior, former GOP congressman says,” CNN, November 29, 2019.

Law Professor Marjorie Cohn (Professor Emeritus, Thomas Jefferson School of Law) published an article in the HuffPost on November 27, 2017, titled, “The Duty to Disobey a Nuclear Launch Order.” The title of the article alone is enough to determine the intent of the article and the intended audience or effect of the article – despite the Congressional War Powers argument tacked on the end.

- ✓ 18 U.S. Code § 2387 states, “Whoever, with the intent to interfere with, impair, or influence the loyalty, morale, or discipline of the military or naval forces of the United States ... (1) advises, counsels, urges, or in any manner causes or attempts to cause insubordination, disloyalty, mutiny, or refusal of duty by any member of the military or naval forces of the United States ... Shall be fined under this title or imprisoned not more than ten years, or both...”

In most parts of the world, Professor Cohn’s article would be called seditious, in many parts of the world, it would not be published. But enshrined in the Constitution of the United States and embedded variously in the laws of most nations of the world (and honored to a greater or lesser extent on whim and circumstance) is the concession that the press is *either* an agency of the government, *or* must be free to speak, even in a seditious manner. This is a choice that each society makes and lives by. Thus where Freedom of the Press, and of Speech, are enshrined in positive law and custom and honored, they shield against governments and officials using threats of sedition to silence anti-government opinions and investigations seeking to expose corruption, influence peddling, fraud and incompetence. When they are not, we know the results already (see also George Orwell, “Freedom in the Park” quote, p. 395, *ut infra*).

- ✓ “The country is rich in oil and diamonds but hobbled by corruption, with grinding poverty, widespread illiteracy and a high infant mortality rate. ... Ms. dos Santos, estimated to be worth over \$2 billion, claims she is a self-made woman who never benefited from state funds. But a different picture has emerged under media scrutiny in recent years: She took a cut of Angola’s wealth, often through decrees signed by her father. She acquired stakes in the country’s diamond exports, its dominant mobile phone company, two of its banks and its biggest cement maker, and partnered with the state oil giant to buy into Portugal’s largest petroleum company.” – Michael Forsythe, Kyra Gurney, Scilla Alecci and Ben Hallman, “How U.S. Firms Helped Africa’s Richest Woman Exploit Her Country’s Wealth,” New York Times, January 19, 2020.

“In 1968 the Viet Cong captured the South Vietnamese city of Hue. After murdering over 5000 of the city’s intelligentsia, the Viet Cong fought US Army and Marine forces for weeks in one of the costliest battles (for US forces) of the Vietnam War.”

– Franklin D. Miles, [Asymmetric Warfare: A Historical Perspective](#) (1999), U.S. Army War College, Carlisle, Pennsylvania (available free online)

Intelligentsia Proficiency: The academia and intellectual of society as a class, the intellectuals of each class, and the media systems that give them influence.⁶

- ✓ Merriam-Webster online dictionary at *intelligentsia*: intellectuals who form an artistic, social, or political vanguard or elite. Intelligentsia is a term most associated with socialist, communist, Marxist thought, but is intended here to represent more generally, the collective intellectual and deep thinking of civilization.

Two views of intelligentsia from Wikipedia article, “Intellectuals,” captured October 17, 2018:

- ✓ “Addressing their role as a social class, Jean-Paul Sartre said that intellectuals are the moral conscience of their age; that their moral and ethical responsibilities are to observe the sociopolitical moment, and to freely speak to their society, in accordance with their consciences.” *Id.*
- ✓ “In Marxist philosophy, the social class function of the intellectuals (the intelligentsia) is to be the source of progressive ideas for the transformation of society; to provide advice and counsel to the political leaders; to interpret the country’s politics to the mass of the population (urban workers and peasants); and, as required, to provide leaders from within their own ranks. The Italian Communist theoretician Antonio Gramsci (1891–1937) developed Karl Marx’s conception of the intelligentsia to include political leadership in the public sphere. That, because ‘all knowledge is existentially-based,’ the intellectuals, who create and preserve knowledge, are ‘spokesmen for different social groups, and articulate particular social interests.’ That intellectuals occur in each social class and throughout the right wing, the centre, and the left wing of the political spectrum. That, as a social class, the ‘intellectuals view themselves as autonomous from the ruling class’ of their society. That, in the course of class struggle meant to achieve political power, every social class requires a native intelligentsia who shape the ideology (worldview) particular to the social class from which they originated.” *Id.*

The massacre at Hué during the North Vietnamese occupation in early 1968 is believed or has been considered to have targeted faculty, staff, and students at Hué University as ‘reactionary elements’ with the intent of destroying the intelligentsia of South Vietnam who opposed the communist. Orders and documents, severe procedures and eye-witness accounts decisively place the Massacre at Hué as a preplanned pogrom to do as much damage as possible to Hué in a short period of time. Thus, when a side in an armed conflict considers it an existential, sociocultural conflict, they may deliberately target the opposing intelligentsia. The South Vietnamese engaged in reprisal killings afterward, and artillery, air-strikes and fighting destroyed or damaged 80% of the city.

Eli: *You know what’s the good thing about no soap?, you can smell a hijacker from a mile away.*

[The hijackers come out of hiding]

Hijack Leader: *I am impressed!, this man can smell us from thirty feet away, now what’s that say about our hygiene! – The Book of Eli (2010)*

Medical Proficiency: The health care systems, including the technology, tradition, and required empathy, alongside social customs such as levels of hygiene, hair, clothing, foods, exercise.

- ✓ “It is clear that we cannot distinguish the sane from the insane in psychiatric hospitals.” – David L. Rosenhan, “On Being Sane in Insane Places,” *Science*, Vol. 179 (Jan. 1973), pp. 250-258.

Rosenhan’s pseudo-patient experiments forever exposed the psychiatric health industry. The industry remains to this day, standing there, hoping that people will forget Rosenhan, stop sending new pseudo-patients, and not notice that psychiatry’s pants have remained down around their

ankles for the last 45 years. It has been repeated much recently that once credibility is lost, it is almost impossible to retrieve, and this goes in law, politics, for professionals or amateurs, and in mental health care. While some procedures were changed as a result of Rosenhan, psychiatry as a whole has made dubious progress in their chosen field. I highly recommend reading the Rosenhan article, which I found available on the internet for free (Wayback Machine),⁷ and Richard J. Castillo's companion to the DSM IV, *Culture & Mental Illness* (1997).

Note that mental health is included under the medical proficiency solely because of two factors:

- 1) That medicine was secularized by the Pope in the 14th century, and
- 2) Mental health became a field of medical study and treatment in the late Victorian Era (Sigmund Freud was a medical doctor).

Without either of these developments, which placed mental states of humanity within the epistemological realm of medicine in modernity, mental states might well have been included under the Rhetoric or Spirit (or some other) Proficiency or it might have required a separate proficiency perhaps called Life, Humanity, or Human Conditions. Aliens may not share our current worldview.

- ✓ If I had been born a century earlier, I would have been a blip in the infant mortality rate. I nearly was anyway, but mid-20th Century doctors figured out what was wrong and knew how to fix it. I have the scar. Although this work is unlikely to be of any importance, the reduction of the infant mortality rates worldwide (one of the most important goals of medicine and nutrition) – it stands to reason – had an incalculable, autocatalytic (or virtuous cycle) effect on human global civilization and is one of the contributing causes of the dizzying sense of acceleration of culture, history, development and technology in the last centuries.

“A nation is a society united by a delusion about its ancestry and by a common hatred of its neighbours”

– Dean William Ralph Inge, *The End of an Age: and other essays* (1948), p. 127

Nationhood Proficiency: Nationalism, the sense of the homogeneous group, a people, not just the state, the unified sense of the sovereign and ethnicity.

- ✓ “In the late 20th century, many social scientists argued that there were two types of nations, the civic nation of which France was the principal example and the ethnic nation exemplified by the German peoples. The German tradition was conceptualized as originating with early 19th-century philosophers, like Johann Gottlieb Fichte, and referred to people sharing a common language, religion, culture, history, and ethnic origins, that differentiate them from people of other nations. On the other hand, the civic nation was traced to the French Revolution and ideas deriving from 18th-century French philosophers. It was understood as being centered in a willingness to ‘live together,’ this producing a nation that results from an act of affirmation. ...

Present day analysis tend to be based in sociohistorical studies about the building of national identity sentiments, trying to identify the individual and collective mechanisms, either conscient or non-conscient, intended or unintended. According to some

of these studies, it seems that the State often plays a significant role, and communications, particularly of economic content, also have a high significance.” – from Wikipedia article, “Nation,” captured November 1, 2018.

Nationhood in GGDM’s interstellar setting is a peculiar thing for participants to explore. It is most like an oceanic nation consisting of widely separated, small islands. It should not be considered to be like a current nation on Earth. But on a certain level, based on human experience, we can assume that all cultures have similar or identical professions, parts, ideas, etc., that there will be identifiable cultural similarities between any two cultures, just as there are differences.

- ✓ Do you imagine that Japan or India doesn’t have professional movie critics? If there is something called art in a society, there are critics. And if a society has technology for making movies, and a concept of art, there are movie critics. But the audience of a critic is limited to those who speak the language of the movie. It is unlikely that the Sentinelese have movie critics, but I am sure they have at least a critic of something.
- ✓ See further Spheres in Six Degrees, 3 Commerce, p. 1220, *infra*.

What I think gets lost in the recounting of WWII is the amazing speed with which the Nazi dream came to a terrible end. It didn’t last a generation; nay, just 5½ years after the invasion of Poland, Germany was in shambles and completely occupied. The allies already had a blue print: The defeat of Napoleon in 1813. The addition of technology, modern arms, existential crisis and national will remade the world into a new norm.⁸

- ✓ “There could be no question on August 6, 1945 that a similar turning point had been reached. For the explosion at Hiroshima gave every indication of being powerful enough to batter down the walls of nationalism – the feudalism of the nineteenth century. Frontiers and fortified belts had already been made anachronisms by twentieth-century bombing planes, and the other barriers could not long stand up against atomic energy. Any doubts on that score were dispelled by announcements that the effectiveness of the new weapon was matched by its economy.” – Lynn Montross, War Through the Ages, (2nd Ed. (1946)), p. 951.
 - See EN 9, pp. 402-403, *ut infra*, for full quote.

“This is a good precedent; not because I want to extol the virtues of hanging people to death. Those of us trying to live our lives with rationality and belief in human rights and liberty know that hangings by the state are not a solution. However, we also know that for the moment, this is the punishment for the crime of murder and it would have set a very disastrous precedent if the man had not been punished for his crime.”

– Saima Baig, nation.com.pk, Karachi, Pakistan, February 29, 2016

Police Proficiency: The monopolistic force that keeps order and physically enforces the criminal laws and public policy.

- ✓ Ms. Baig perfectly summarizes the quandary of policing and punishment.

More pointedly, Max Weber’s “monopoly on the legitimate use of physical force” or “monopoly on violence.” A state is any “...community that successfully claims the monopoly of the legitimate use of physical force within a given territory.” This is the line of struggle, between public perception and tolerance and the police officer’s authority to apply physical violence and give orders to citizens. The ubiquitous presence of video and social media has upset the *status quo* with regard to police actions.

Under what circumstances is the use of force by individuals in our society legitimate? The list is short; self-defense and defense of others in extreme circumstances and, Constitutionally, citizen’s arrest, in *very limited* circumstances. Both of these are merely admissions that the police cannot be everywhere all the time (while ignorance is ubiquitous), and that, given the choice, an exception will be made to prevent serious injury or death.

A significant percentage of the prison population in any country are actual criminals who have committed acts that would be crimes in any country, they are murders, thieves, rapists, kidnapers in all variations, and smugglers and dealers in contraband. When certain regimes are criticized by the media for imprisoning people for their political or religious views, it seems that all prisoners in that country must be political prisoners whose rights are being violated. It took the spurious, *sua sponte* emptying of prisons by the leader of Iraq to remind the world that even in countries with political and religious prisoners, broken judicial and law enforcement systems, a significant part of the prison population are still actual criminals in any place and time.

- ✓ “A thing I would like to know – it is a thing we hear very little about – is what changes are made in the administrative personnel when there has been a change of government. Does a police officer who has a vague notion that ‘Socialism’ means something against the law carry on just the same when the government itself is Socialist? When a Labour government takes over, I wonder what happens to Scotland Yard Special Branch? To Military Intelligence? We are not told, but such symptoms as there are do not suggest that any very extensive shuffling is going on.” – George Orwell, “Freedom of the Park,” Tribune (London, UK), December 7, 1945.

Rhetorical Question: Are people who commit crimes animals before they go to prison or does sending them to prison make them into animals, as Tom Zarek in Battlestar Galactica claimed in “Bastille Day”? Or is this a false dichotomy? Is there a more central question to the entire issue of crime and punishment?

- ✓ Fascinating reading in the sociopolitical evolution and history of modern policing and organized crime are the intertwined stories of Jack Sheppard, Jonathan Wild, and Joseph Blake in early 18th Century London; Wild is the archetypal modern kingpin.

“If a man has two wives, the one loved and the other unloved, and both the loved and the unloved have borne him children, and if the firstborn son belongs to the unloved, then on the day when he assigns his possessions as an inheritance to his sons, he may not treat the son of the loved as the firstborn in preference to the son of the unloved, who is the firstborn, but he shall acknowledge the firstborn, the son of the unloved, by giving him a double portion of all that he has, for he is the firstfruits of his strength. The right of the firstborn is his.” – Deuteronomy 21:17 (ESV)

Powers Proficiency: The way in which powers of society are distributed, balanced, controlled, and transferred, understanding of the nature of political, economic, military and social power.

Succession in monarchy and nobility by primogeniture (in any of its forms and variations) is one of the worst and most disastrous ideas in history.⁹

- ✓ “Primogeniture and ultimogeniture, preference in inheritance that is given by law, custom, or usage to the eldest son and his issue (primogeniture) or to the youngest son (ultimogeniture, or junior right). In exceptional cases, primogeniture may prescribe such preferential inheritance to the line of the eldest daughter. The motivation for such a practice has usually been to keep the estate of the deceased, or some part of it, whole and intact....

The practices are most commonly used by agricultural peoples, especially those *with increasing populations but limited amounts of land*. In such cases it is often important to prevent the partitioning of land into parcels that are too small to support farming. In some cases, the designation of a sole heir has generated territorial expansion by forcing the unwilling sons to fend for themselves, a situation that has obtained at various times among Europeans and the Maori and other Polynesian peoples. In Europe, laws forbidding the partitioning of land and decreeing its devolution upon the youngest or eldest son served as a means of preserving not only the size of the property so affected but also the power and prestige of the aristocracy, which traditionally rested on land ownership. Thus, the practices sometimes governed succession to power and office rather than to tangible possessions.” – Encyclopædia Britannica Online article, “Primogeniture and ultimogeniture,” September 30, 2018 (emphasis added).

Yes, there are some arguments in favor of having immediate hereditary succession, but history over 4,000 years does not support the idea. Primogeniture was sold on a false dichotomy, either succession is determined by primogeniture or there will be civil war for the throne. But even in cases where there was secure succession by primogeniture, there was frequently war for the throne. To let the people decide was dismissed as ludicrous until the monarch or pretenders decided that they needed the people’s support to prevail, at which time they cynically appealed to the people and courted their favor. And this is where modern democracies must take care that the results of democratic governments are superior to those of monarchy and primogeniture systems. When and where they are not, or where the idea is not engrained in the population that democracy is better in the long term, governments become dictatorships, autocracies, and other forms of perversion.

“Although Ramesses III had saved Egypt from conquest, the war was so expensive it drained the Royal Treasury and the tomb builders at the village of Set Maat (modern Deir el-Medina) could not be paid. This led to the first labor strike in recorded history where the workers walked off the job and refused to return until they were fully compensated.”

– Joshua J. Mark, “Sea Peoples,” Ancient History Encyclopedia, September 2, 2009

Resources Proficiency: The ability to produce a continuing supply of new resources, store and distribute resources to those who need them, and to find new resources.

- ✓ “Well, the trigger is always that complexity increases to solve problems. Now, before the development of agriculture, people largely solved their problems by moving. They moved about the landscape in search of the resources that they needed, and they usually had a fairly well-established seasonal round where they would go to different resources in different seasons and obtain what they needed to live.... At some point toward the end of the last Ice Age, it appears that human populations were increasing and the option to move around the landscape was being lost. In other words, the landscape was becoming populated with more and more people and so people shifted to reliance more and more on agriculture. And reliance on agriculture seems to be one of the triggers that generates further increase in complexity.” – Joseph Tainter, podcast interview (transcript) on PeakProsperity.com, by Adam Taggart, June 25, 2017.
- ✓ “There are two aspects to the issue that you’ve raised. One is that sustainability requires that people have the ability and the inclination to think broadly in terms of time and space. In other words, to think broadly in a geographical sense about the world around them and the world as a whole, and the state of the world as a whole. And also, to think broadly in time in terms of the near and distant future and what resources will be available to our children and our grandchildren and our great grandchildren. One of the major problems in sustainability and in this whole question of resources and collapse *is that we did not evolve as a species to have this ability to think broadly in time and space*. Instead, our ancestors who lived as hunter-gatherers never confronted any challenges that required them to think beyond their locality and the near term. And so, our species never evolved an inclination to think broadly in time and space.” *Id.* (emphasis added).
- ✓ “The second problem ... is that technological optimists argue that we don’t really [need] to worry about resources, that all we need are free markets and the price mechanism. That as long as there are free markets that whenever resources start to become scarce, the market signals that it’s time to innovate, that there will be rewards to innovation. And so the assumption is that as a resource becomes scarce, people develop – put effort into developing a new resource or finding more efficient ways of using the existing resource or developing new technologies and so forth. This is a hard argument to counter because up until this point, the technological – excuse me – the technological optimists have been correct. We have maintained the most complex society humanity has ever known, and we have maintained it up to this point.... I have argued that technological innovation and other kinds of innovation evolve like any other aspect of complexity. The investments in research and development grow increasingly complex and reach diminishing returns.” *Id.*

The identity, origin, motive, leadership of the Sea Peoples – subject of the feature quote above – remains a mystery. They were defeated at the Battle of Nile Delta by Ramesses III in 1175 B.C. and vanished. But not before contributing significantly to the Late Bronze Age collapse in the Near East and the Palatial Culture collapse in Mycenaean Greece. They were almost the ‘historical accident’ that would destroy Egypt, and were the ‘historical accident’ that destroyed many less powerful cultures, turning their goods and population into loot to be carried off for momentary wealth, and their coastal palaces and cities to rubble. There is a story waiting to be written

by a good epic historical fiction writer, it could rival Dune. Their main contribution to history seems to be a demonstration of the full extent of naval power, though they failed in land warfare against the Egyptians.

“Once you’re a parent, you’re the ghost of your children’s future.”

– Cooper, *Interstellar* (2014)

Regeneration Proficiency: The social systems and units for insuring the propagation of the species; the future of the species (aka ‘Next Generation’ Proficiency). This should not be confused with ‘what comes naturally’ – the activation of the Census Power – but...

- ✓ “I have no patience with those who say that sexual excitement is shameful and that venereal stimuli have their origin not in nature, but in sin. Nothing is so far from the truth. As if marriage, whose function cannot be fulfilled without these incitements, did not rise above blame. In other living creatures, where do these incitements come from? From nature or from sin? From nature, of course. It must be borne in mind that in the appetites of the body there is very little difference between man and other living creatures. Finally, we defile by our imagination what of its own nature is fair and holy. If we were willing to evaluate things not according to the opinion of the crowd, but according to nature itself, how is it less repulsive to eat, chew, digest, evacuate, and sleep after the fashion of dumb animals, than to enjoy lawful and permitted carnal relations?” – Desiderius Erasmus, “In Praise of Marriage” (1519).

“There are but two powers in the world, the sword and the mind. In the long run the sword is always beaten by the mind.” – Napoleon Bonaparte

Rhetoric Proficiency: “Rhetoric is the art of ruling the minds of men.” – Plato. The traditions and systems by which debate can occur, the public space, consensus, ruling the minds of men; the power of the spoken word over the minds of civilization.

- ✓ “Developing technologies have changed the State of the Union, beginning with its broadcast on radio in 1923 and later on television in 1947.... These technologies shifted the president’s focus from the legislature in front of him to the voting public beyond them. Heightened publicity stoked partisanship, a development emphasized in 1966 with the advent of the opposition ‘response.’ Often delivered in the form of a rebuttal, the out-party’s response allows a partisan critique of the president’s assessment of what is ‘necessary and expedient’ for the Union. Although the response could foster productive argument, in practice neither speaker nor respondent actually engages the other. The opposition speaker writes the response before the president’s speech has been delivered. The opposition party does not so much respond to the president as imagine what rejoinder the waiting audience wants to hear. While the president’s address is directed to the public over Congress’ heads, the opposition response is directed to the public over the president’s head.” – Connor M. Ewing and Charles Zug, “What happened to the State of the Union address? Originally, it helped the president and Congress deliberate.” Washington Post, January 30, 2018.

“No’ is a complete sentence.” – Anne Lamott

Security Proficiency: The systems and organizations that define, hold and enforce the internal boundaries within the system and the boundary between the system and the external universe.

The Security Proficiency can include in part, the police forces and the military, but is also capable of representing other sorts of boundaries, such as ethnic, class and social mobility boundaries. It also can represent the separation of powers within a system, and is thus related to the Powers Proficiency. It is therefore a neutral term in that sense, basically it is the traffic cop within the system for good or ill.

- ✓ “Social Entropy Theory (Bailey, 1990, 1994) views the social system as an entity that seeks to maintain internal entropy at some optimal level below maximum entropy. The role of the boundary is crucial in this task. The societal boundary must be able to open in the proper manner and at the proper time to ensure that adequate inputs of energy and information can be attained from the environment, that refuse or harmful material can be properly extruded from the system, and that needed exports of matter-energy and information can be moved across the boundary. Conversely the boundary must be able to close in the proper manner and at the proper time in order to ensure that the system remains secure from threats outside in the environment (prohibits harmful inputs), and also guards against the loss of valuable internal resources (prohibits harmful outflows). Thus, the functions of boundary maintenance are fourfold: to open in a manner that (1) ensures needed inputs and (2) ensures needed outputs, and to close in a manner that (3) prohibits harmful inputs and (4) prohibits loss of valuable matter-energy or information through harmful outputs.” – Kenneth D. Bailey, “Boundary Maintenance in Living Systems Theory and Social Entropy Theory,” *Systems Research and Behavioral Science*, Vol. 25, Is. 5, pp. 587-597, January 7, 2009.¹⁰

“We also wanted to find out what happened in terms of law, if people came to an impasse. Like sport is ritual war in a very valuable way of redirecting aggression in society. We thought wouldn’t it be great, instead of people going to war, they’d fight it out in Thunderdome. Fight to the death. It had the pageantry of, say, the Law Courts, and the pageantry of church, in a way, because of the kind of religion, a strong enough belief to be a religion, it had to have pageantry to have any meaning. It was a little bit like a circus, and a little bit like a game show – it was all those things combined. Because they’re all, in a way, the same sort of things.”

– George Miller as quoted by Anne Billson, “George Miller Talks about Mad Max, Heroes & Tina Turner: The 1985 Interview,” previously unpublished interview published on Multiglom: The Anne Billson Blog, May 12, 2015

Spirit Proficiency: Those symbols and systems that represent spirit of the civilization (not to be confused with individual spirituality), pageantry, ritual; the systems for public recognition of individual merit and celebration of important historical dates.

- ✓ “I am Aylia, I am spirit now. Good spirit.” – Clan of the Cave Bear (1986).

Use of “spirit” for a proficiency in GGDM primarily refers to *élan* in keeping with the extremely practical sense of the Proficiencies. It is not, however, simply ‘cheerleading.’ Spirit should not be confused with “spiritual,” which refers to the incorporeal, mystical, supernatural experience, but it is also practical to recognize the reality of a continuity of mysticism and desire for mystical experiences in humanity, thus, Spirit in GGDM likely will include some mysticism.

- ✓ “We all know that there is a farce to the pageantry, that the magnification of this temporary lens is skewed.” – Doreen St. Félix, “The Farce, and the Grandeur, of Black History Month Under Trump,” *The New Yorker*, February 2, 2018.

Pageantry is always a farce to someone; military parades are a farce to the pacifist, victory parades are a farce to the bitter losers, 18th century Puritan ministers complained of the secularization of Thanksgiving, that the pending evening feast was a distraction to the flock during the delivery of the Thanksgiving sermon. The thought of my high school graduation ceremony (which I did not attend) seemed a farce to me at 17. The farce of pageantry is the source of much literary satire, and snarky or ironic seasonal television commercials.¹¹

- ✓ “In 1921, U.S. President Warren G. Harding received her at the White House to present her with the 1 gram of radium collected in the United States. Before the meeting, recognising her growing fame abroad, and embarrassed by the fact that she had no French official distinctions to wear in public, the French government offered her a Legion of Honour award, but she refused.” – from Wikipedia article, “Marie Curie,” captured October 31, 2018.¹²

Posthumously, she was entombed with her husband at the Panthéon in Paris in 1995, the first female to be placed there on her own merits, followed in 2015 by two heroines of the Resistance.

“A geohistorical look at the concept of spatial justice would take up back to the Greek polis and the Aristotelian idea that being urban is the essence of being political; it would take us through the rise of liberal democracy and the Age of Revolution, and eventually center attention on the urban crises of the 1960s, with its most symptomatic and symbolic moments taking place here in Nanterre.”

– Edward Soja, “The City and Spatial Justice,” *JSSJ*, January 2009

Urbanization Proficiency: Civilization flows outward from the cities, resources flow inward from the rural areas, the systems of urban infrastructure, the sense of the city, urban agglomeration.

- ✓ “Thinking about space has changed significantly in recent years, from emphasizing flat cartographic notions of space as container or stage of human activity or merely the physical dimensions of fixed form, to an active force shaping human life. A new emphasis on specifically urban spatial causality has emerged to explore the generative effects of urban agglomerations not just on everyday behavior but on such processes as technological innovation, artistic creativity, economic development, social change as well as environmental degradation, social polarization, widening income gaps, international politics, and, more specifically, the production of justice and injustice.” – Edward Soja, “The City and Spatial Justice,” *JSSJ*, January 2009.

- See also Stellar Synekism discussion, 1 Commerce, p. 1183, *infra*.

“U.S. material and battlefield supremacy are not irrelevant to the outcome of American wars, but the outcomes in Vietnam and Somalia suggest that trying to understand war outcomes by focusing on the balance of material factors alone is deficient. The above examples argue that political will is the central variable. The aim of this book is to generate a more thorough understanding of the American national will in war.”

– Jeffery J. Kubiak, War Narratives and the American National Will in War (2014), p. 2

Will Proficiency: The authority and legitimacy for the authority to enforce and pursue public and foreign policy, political and cultural will, ‘national will.’

Discussion of ‘national will’ as *a thing onto itself* seems to have peaked in WWII and faded after Vietnam. It is often, at least in democratic countries, nearly indistinguishable from political will, since the vagaries of political winds dictate the course the country will take in domestic and foreign matters. In other countries, especially of authoritarian ideological types, national will has been equated with romantic nationalism and national mysticism.

- ✓ Oddly, there is almost no discussion of ‘national will’ in relation to NASA or any space program. All of the discussions devolve to national security, presence in space, job creation in small high tech businesses, etc. One could certainly argue that the early space race (on both sides) was driven by *national will* during the Cold War.

Perhaps the fading of ‘national will’ as a concept has some to do with the fading of nationalism as a concept, a realization of the dangers of WWII and the Cold War to humanity’s future.

- ✓ The public policy of the legal enforcement of the last will of the deceased – which has had form in every human civilization from the beginning – is not for the benefit of the deceased, but for the benefit of the living, of order and domestic tranquility of society (and it makes good literature and culturally wills meaning into death) in a peaceful succession of ownership, of generations. Some place too much importance on the wrong side of the issue.

At the bottom of it remains will, which is a thing of the living; what will we will to our children?

“Zathras good at doings, not understandings”

“Zathras used to being beast of burden for others. It is a sad life. Probably will be a sad death. But at least there is symmetry.”

– Babylon 5, “War Without End” (1996) ¹³

Endnotes.

¹ Commentary: The placement requirements for Cultural Aspect Pieces requires colonization so as to place Friendly Colonies on the Public Space, and if engaged in conquest, a ‘reward’ for progressive Naturalization of aliens. The size of the colonies is irrelevant for this purpose. A position that consists mostly of Converted Colonies (see Colony

Politics, *et seq.*, 2 Order, p. 538, *infra*) will have difficulty in the Public Space and probably will also be fragile in Galactic Space.

- ✓ The ‘sit-n’-spin’ positions (see 2 Taxation & Census, p. 309, *supra*) will probably be fairly stable in this regard if all colonization places in their home system are utilized.

² Commentary & Citation: For those familiar with the tabletop tile game Hive (2000), this is sort of a ‘one Hive’ rule on the Public Space, the pieces of a civilization’s consciousness should form an approximate cluster around the central government and Friendly/Naturalized colonies, pieces more than a couple of spaces from the colonies are ‘out on a limb’ and may be lost. On the other hand, a position cannot grow if it never goes out on a limb.

- ✓ I did not consciously emulate the Hive game, but rather, I believe these rules are a natural consequence of thinking about the structure of civilizations simulated by the game rules.

³ Citation: See full quote, The Campaign Against Expertise excerpt, Colleges, *supra*.

⁴ Citation & Commentary: “Guitar culture was pervasive, whether in movie houses (‘Karate Kid’ Ralph Macchio outdueling Steve Vai in the 1986 movie ‘Crossroads’; Michael J. Fox playing a blistering solo in ‘Back to the Future’ and co-starring with Joan Jett in 1987’s rock-band drama ‘Light of Day’) or on MTV and the older, concert films featuring the Who and Led Zeppelin on seemingly endless repeats. But there were already hints of the change to come, of the evolutions in music technology that would eventually compete with the guitar. In 1979, Tascam’s Portastudio 144 arrived on the market, allowing anybody with a microphone and a patch cord to record with multiple tracks. (Bruce Springsteen used a Portastudio for 1982’s ‘Nebraska.’) In 1981, Oberheim introduced the DMX drum machine, revolutionizing hip-hop. So instead of Hendrix or Santana, Linkin Park’s Brad Delson drew his inspiration from Run-DMC’s ‘Raising Hell,’ the crossover smash released in 1986. Delson, whose band recently landed atop the charts with an album notably light on guitar, doesn’t look at the leap from ax men to DJs as a bad thing. ... If there is a singular question in the guitar industry, it’s no different from what drives Apple. How do you get the product into a teenager’s hands? And once it’s there, how do you get them to fall in love with it?” – Geoff Edgers, “Why my guitar gently weeps. The slow, secret death of the six-string electric. And why you should care.” The Washington Post, June 22, 2017.

- ✓ According to other parts of the article, the makers of electric guitars are deeply in debt, e.g., Guitar Center is \$1.6 billion in debt, Fender and Gibson are also in debt and PRS Guitars cut staff; annual guitar sales revenue has dropped about 33% in recent years.
- ✓ Guitar Center has a series of videos of famous guitarists interviews at Guitar Center on their YouTube channel to promote playing guitar to the next generation, e.g., 50 yr. old James Hetfield from 2014.

⁵ Commentary: GGDM is something like Eric Clapton’s original “Layla” (1970), a normal song that turned into a famously long studio jam. “Layla” was Pattie Boyd, George Harrison’s wife, whom Clapton later married. Except that there is no Pattie Boyd here.

⁶ Commentary: I once read an “intellectual singles” ad from an educated young lady seeking an intellectual male, who commented, “the geekier the better.” No, I did not respond to the ad. It was probably fake filler anyway.

⁷ Citation: It is also available free and in English at <https://www.oulu.fi/sites/default/files/content/AOH%20Terveenä%20epäterveissä%20paikoissa.pdf>.

⁸ Commentary & Citation: The speed of the times is perhaps shown by the life of French police officer Pierre Bonny; in 1934 he was considered one of the top police investigators in France, despite allegations that he falsified evidence in a case 11 years earlier. By 1944, he had served three years in jail for corruption (1935-1938), founded and led the French arm of the Gestapo (the *Carlingue*) and was executed by firing squad in 1944. Hero to zero in ten years. Information from Wikipedia articles, “Pierre Bonny,” and “Carlingue,” captured November 1, 2018.

⁹ Citation: For a very good discussion of the historical origins of primogeniture, I recommend watching Ryan Reeves’ May 28, 2014 video “The Merovingians” on his YouTube Channel.

¹⁰ Citation & Commentary: Medieval Compartmentalization of Europe: “At least the Machine Age, which left so many debts to be paid by wars of the twentieth century, can point a moral for the Atomic Age. *For the basic causes of most of the strife since Waterloo may be traced to the artificial barriers raised by nationalism.* This is no new situation in history. *The same conditions, limited by means of communication, prevailed in the Middle Ages. Europe was divided into thousands of idea-tight little compartments – the fiefs ruled by ironclad lords from behind stone walls.* Traders and travelers had to pay tribute to these petty robber barons, who were not far enough advanced to have thought of tariffs, visas, cartels and customs duties. The state held only nominal authority, and the

serf had no more rights than the domestic animals which shared his miserable hut. *The consequence was stagnation tempered by chaos.*

Then came the invention of gunpowder, one of civilization's greatest blessings. Society at last had found a force powerful enough to destroy the compartments which were imprisoning progress, a force constructive enough to let light and warmth into a continent. Feudal stone walls were battered down by cannon balls, and the Renaissance ushered in a new era of nationalism suited to the communications of the age. There could be no question on August 6, 1945 that a similar turning point had been reached. For the explosion at Hiroshima gave every indication of being powerful enough to batter down the walls of nationalism – the feudalism of the nineteenth century. Frontiers and fortified belts had already been made anachronisms by twentieth-century bombing planes, and the other barriers could not long stand up against atomic energy. Any doubts on that score were dispelled by announcements that the effectiveness of the new weapon was matched by its economy. Although an enormous sum had been spent on the original research, future military costs would not be beyond the reach of small countries." – Lynn Montross, War Through the Ages, (2nd Ed. (1946)), p. 951 (emphasis added).

- ✓ Thus, the fief-estate and strict class system of the Middle Ages served as a boundary-control system for commerce, communication, ideas and movement.
- ✓ This text does not appear in the 3rd Edition published in 1960, whose end was extensively rewritten to cover the aftermath of WWII, the beginning of the Cold War and the Korean War. Assuming that Lynn Montross did not live in an intellectual vacuum, this text is valuable as an artifact of the early Atomic Age.
- ✓ The ensuing Cold War erased the optimistic idea that nationalism was finished (and thus the text was omitted from the 3rd Edition), but it is still a good commentary on historical boundary control. The erasure of post-war optimism is reflected in the last chapter added in the final 1960 Edition: "The sequel in Korea."
- ✓ It is sad that this text did not make the later edition because it contains very many interesting and colorable macro-historical ideas.
- ✓ Montross might now be called a globalist, liberal or urban intellectual elite. Despite the quick fading of post-WWII hopes for the world, in some sense, his vision has come true, beginning with the collapse of the Soviet Union and Warsaw Pact in 1989-1990 and the emergence of the internet. Globalism, multiculturalism, and multinationalism progressed to such a degree that it became a defining issue in the 2016 elections; the result in the U.S. and Europe have been framed by pundits as a nationalist backlash to globalization.

¹¹ Commentary: I believe that they should discontinue the halftime show at the Super Bowl. Whatever purpose it had has long been worn out, twisted, and deformed. Everything is now a controversy, everything is parsed for political statements, the simple entertainment value is gone; it is now farce, reduced to overdone art (gobbledygook), pretensions, and a nearly unrecognizable mish-mash of the performers' hits. In 2019, if not in previous years, there was controversy about the halftime show weeks *before* the Super Bowl – because it was being held in Atlanta, NFL players had knelt in protest during the National Anthem, and well ... because everyone wanted to make a statement by not showing (thanks to Channel 11, WXIA-TV Atlanta GA for the video news report) or saying something stupid, or accepting the invitation and then having to publically justify it. It is not just the pundits or the politicized climate of the country that made it so, the performers have contributed equally to the demise of the halftime show.

- ✓ The phenomenon of modern media, especially including social media, celebrity media, and politicized news networks and websites, has become like the stock market in the 1920s before the crash of Black Tuesday, 1929: Everyone is doing (in this case, saying) whatever they want because they can, but few realize that the collective effect of it is detrimental to our civilization and most have been slow to take it seriously. The social and internalized individual controls on behavior, thought, and speech (without need for government oversight, e.g., censorship) have slipped away along with respect for intelligence and education. A price will be paid before society adopts to the new technologies and finds, enforces new rules of behavior.

¹² Citation: This situation is repeated on several websites, including <https://history.aip.org/exhibits/curie/radinst1.htm> and Business Insider (<https://www.businessinsider.com/marie-curie-biography-2015-11>).

- ✓ Considering the things that had happened to her, the anti-Semitism aftermath of the Dreyfus Affair, her embarrassing rejection from the Academy, the scandalous articles published about her in the newspapers, she basically told the French government to 'shove it.' She was about science, not awards or politics.

¹³ Commentary: I don't care much for humanity nowadays, and humanity never cared much for my company either. I am just a fixture. Thus there is a balance to things, even if negative.

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See Appendix CON – Writ & Construction Example

See Appendix DE&A – Disruption Events, Inactive Constructural Elements & Apostasy

See Appendix WR – Writ Examples, Land Grant Writ, Naturalization

“Every age, every culture, every custom and tradition has its own character, its own weakness and its own strength, its beauties and ugliness; accepts certain sufferings as matters of course, puts up patiently with certain evils. Human life is reduced to real suffering, to hell, only when two ages, two cultures and religions overlap... Now there are times when a whole generation is caught in this way between two ages, two modes of life, with the consequence that it loses all power to understand itself and has no standard, no security, no simple acquiescence. Naturally, everyone does not feel this equally strongly.”

– Hermann Hesse, Steppenwolf (1927)

Whac-a-Mole: Solving social problems is like a game of whac-a-mole (or perhaps like sleeping on a lumpy mattress). There is no perfect society and any society that thinks it is perfect has a bigger problem. The most pressing social problems attract the most attention and generate political will and cultural resources to address the problem. The more radical or determinedly the solution is applied, the more likely it will generate unintended consequences and/or create another vexing social problem. Thus, the strategy for solving social problems is one of carefully fencing in the problem, keeping it from spinning out of control, or merging with other problems.

✓ CDIV – Page Not Found!☺

“A movement is pioneered by men of words, materialized by fanatics and consolidated by men of actions.” – Eric Hoffer, The True Believer (1951), p. 134

Fuzzy Groups: A Fuzzy Group is a specific formation of cultural traits and active Constructural Elements on the Public Spaces that represents a *potential* of the civilization at that time and place; a collusion of circumstances, people, and forces that *might* result in any number of events or developments. Depending on the actual outcome (hindsight), any of the pieces in the formation may be part of the group, may not be part of the group, or any continuum in between.¹

➤ **Fuzzy Concepts:** A fuzzy group is a fuzzy concept (see Rudolf E. Kálmán feature quotes, 2 The Big Bang, *supra*) in that it describes something meaningful and useful but inexact about the internal processes of the gestalt structure. It provides a forward-looking, proactive name for the game that biographers, journalists and historians have long played in attempting to holistically describe *in hindsight* the personalities, groups, influences and milieu relating to certain seminal events. Fuzzy Groups are both spatial and temporal at the same time; spatial due to the people and influences that converge in a particular location and temporal because of the strings of events and influences leading up to that moment. Inexactitude is at the heart of the Fuzzy Group; the more closely it is defined, the less useful is the concept, e.g.:

✓ “HIEROPHANY (from Greek hiero-, ‘sacred,’ and phainein, ‘to show’) is a term designating the manifestation of the sacred. **The term involves no further specification.** Herein lies its advantage: It refers to any manifestation of the sacred in whatever object throughout history.” – from Encyclopedia.com article, “Hierophany,” captured October 2, 2019 (emphasis added).

- See also discussion of religious structures in GGDM, 4 Fallen to Earth, p. 1553 *et seq.*, *infra*.

Although not quite on point, see Thorngate's Postulate of Consummate Complexity, 2112 Absurd Words, *supra*. G.K. Chesterton is probably the grandfather of modern 'fuzziness':

- ✓ "THE real trouble with this world of ours is not that it is an unreasonable world, nor even that it is a reasonable one. The commonest kind of trouble is that it is nearly reasonable, but not quite. Life is not an illogicality; yet it is a trap for logicians. It looks just a little more mathematical and regular than it is; its exactitude is obvious, but its inexactitude is hidden; its wildness lies in wait." (from *Orthodoxy*, Ch. 6 (1908)). See top of 4 Government Titles, p. 626, *infra*, for a full feature quote.
 - ✓ Fuzzy group theory and fuzzy sets have been part of modern mathematics and coding theory from the 1960s. Since I am admittedly a math moron (or any advanced quantitative logic), baffled by anything past intro algebra (and it is not likely to change now that I am over 50), mathematical theory was not the inspiration for Fuzzy Groups in GGDM, but for all I know, there may be a transferrable application between fuzzy group theory in the real world and GGDM's peculiar macrosocial ideas. I do admit that at least since the 1990s, I had heard of fuzzy logic – I bought a book on it in the 1990s (Bart Kasko, *Fuzzy Thinking* (1993)) but never fully read it (it's now 2019, I should add it to my bucket list). I may have heard of fuzzy logic in 1989-1991 while at Lycoming College. So any understanding I have about fuzzy anything is in the philosophical range (e.g., the Laws of Thinking) and not mathematical. Very sad but sorta true.
 - ✓ Is an emergence or incommensurability (discussed again in Order of Genesis, 1 Order, p. 522, *infra*) a fuzzy sort of thing where the more we try to define it, the less useful it is as a concept?
 - ✓ I never set out to be the 'structuralist of civilizations,' but here I have arrived. It is the seemingly natural and logical result of the question I posed and the task I set for myself long ago. *Because my approach was via a simulation, I more directly address the macrostructure of civilization than macrosociology does,² judging by reading Professor Elwell's books.³* I would have found it supremely amusing 30 years ago to know that I might one day be called a macrostructuralist, I was not wise as to the end. 'Structuralist of civilizations' is, of course, a made up expertise and a false claim, just like the 'Christian numerologist' huckster mentioned in 3 The Big Bang, p. 15, *supra*.
- Fuzzy Formations: It's a bit ironic that something 'fuzzy' has a specific formation, but it's a necessary concession to the limits of the game format. A Fuzzy Group must consist of:
- ✓ Two identical Proficiencies and one Aspect identical to the one in the center, forming a triangle around, and adjacent to, one Aspect; or
 - ✓ Three identical Proficiencies forming a triangle around, and adjacent to, one Aspect.
 - Thus, it will require at least two Culture Power activations to obtain the cultural traits necessary for a Fuzzy Group – if the Constructural Elements are already activated; planning is also required to make sure adjacent spaces are available on the Public Space.

Finally, at least one of the Cultural Traits Pieces of the Fuzzy Group must be adjacent to a Friendly or Naturalized colony that has an active Ideological Constructural Element and either the Symbolic or Epistemological Constructural Elements active. The colony planet adjacent to the Aspects may or may not be included in one side of the triangle. The Fuzzy Group

formation may be present, but if the active Constructural Elements are not present, there is no Fuzzy Group. Fuzzy Groups may interlock and overlap, share some of the same Cultural Traits Pieces, Fuzzy Groups may come, Fuzzy Groups may go quietly, but the fuzz never fades. The active Constructural Elements used in the formation must be on the same adjacent colony at the same time, however.

- ✓ The competing placement requirements of Cultural Aspect Pieces (see A Bustle in Your Hedgerow, 2 Culture, pp. 365-366, *supra*) and Cultural Proficiency Pieces (see Perfect Proficiencies, 3 Culture, p. 381, *supra*), requires some planning of colony placement on the Public Space, which must also have a Pathway connecting it to a Government Title (see The Claaaw is Our Master, 2 Government Titles, p. 597, *supra*).

Positions should be cognizant when placing Fuzzy Groups, and especially the piece adjacent to the colony, of turnover on the Public Space due to aging of Aspects (see Between the Candle and the Stars, 2 Culture, p. 366, *supra*) or loss of Proficiencies due to Government Title disruption or change or activation of the Census Power (see And the Cradle Will Rock, 3 Culture, p. 382, *supra*). A Disruption Event or *Apostasy* triggered by a Kairotic Moment at the colony that inactivates the required Constructural Elements can also disable, derail, the Fuzzy Group. Thus, like the Cultural Pieces that form them, Fuzzy Groups are a momentary phenomenon.

“There are four emotions that activists often want viewers to feel. These emotions – shock, shame, fear, and anger – are believed to be the catalysts for social change.”

– from Wikipedia article, “Culture Jamming,” captured August 21, 2019

Actualization: The purpose of a Fuzzy Group is Actualization; Actualization is the moment when the *potential* becomes **reality**.⁴ Actualization of a Fuzzy Group does not require an activation of the Culture Power; Actualization may occur at any appropriate time, and a position may Actualize as many Fuzzy Groups in one Regular Turn as desired or possible. When a Fuzzy Group is Actualized, the Aspect(s) and Proficiencies (the Cultural Trait pieces) making up the Fuzzy Group are removed from the Public Space in exchange for a Writ effect (hint, this is an important cycling or turnover mechanism on the Public Space). Additionally, there is a 50% chance that the Ideological Constructural Element on the colony used will become inactive. Actualizing a Fuzzy Group is *the only way to activate Writs*, which provide the effect.

- ✓ Failure to activate the Writ because of Power Activation failure will cause the Fuzzy Group to fail to actualize and the Cultural Trait Pieces are **not removed** from the Public Space.
 - ✓ A Writ is an official Interpretation, see Official Interpretation list in 1 Dreamtime, p. 130, *supra*. Writs are detailed in the next section.
 - ✓ The Culture Power must be activated to create the Writ initially, activation of the Culture Power is never required to use the Writ unless that is part of the conditions of the Writ Interpretation.
- **Feedback Loop:** It can be assumed within the game that positions create and actualize Fuzzy Groups for an end that they view as positive to their civilization or position in the game,

therefore, there is a parallel to self-actualization (see EN 2, *ut supra*). However, it should NOT be assumed that the actualization of Fuzzy Groups is always to the better of civilization – one only need to look to the actualization of the forces in play in Germany in the early 1930s; it is possible that the Concierge (depending on the game and preferences) could Intervene to actualize a Fuzzy Group and produce non-beneficial results (except for the freeing up of Public Space... with the non-productive loss of pieces) or Intervene to change or add to the results of an otherwise ‘positive’ actualization.

- **Soph-Ants:** Thus, in GGDM, a sophont species without emotions (*alterity!*) might not have Aspects, depending on what you think an Aspect represents, see 2 Culture generally, *supra*. If a position has no Aspects, then the position cannot create Fuzzy Groups, which would be a major drawback in GGDM play. However, if some players wanted to play such a position, there may be other offsetting advantages, for example, most will agree that a major part of entropy in our lives as humans and as a human civilization, arise from emotions and emotional reactions; e.g., such positions may not be affected by *Apostasy* (see Alieney *Apostasy*, 3 Disruption, p. 283, *supra*) or Kairotic Moments, *infra*. Intellectuals and literary types generally describe human emotion as both a drawback (when leading to unreasonable behavior, disruptive behavior, and illogical conclusions or destructive processes) and a boon (when leading to achievement, greatness, family love and bonding, social stability, belonging), negative and positive emotions can have both effects and are indistinguishable on that level. But it’s what makes us human they say. A position without Aspects should be worked out ahead of time, perhaps the position gains advantages in RP production, less Interventions (entropy can still happen without emotions, a rusting nail has no emotions nor does air in a room) and/or some other benefits (and liabilities) specific to the situation.

“By placing the authority of the Roman state and the imperial office to police and enforce right belief, Constantine created a model that would have a long and ambiguous history. Councils of bishops, ostensibly informed by the Holy Spirit, would henceforth define what was orthodox. Those who chose to believe otherwise would find themselves branded heretics, and excluded from the communion of orthodox Christians. Bishops and theologians would find an almost limitless number of problems to debate – over the relationship of God the Father and God the Son, over the divine nature of Jesus, over what that meant for the status of his mother, and so on. Each solution opened up a whole new set of problems.”

– Prof. Michael Kulikowski (Pennsylvania State University), “Christians were Strangers: How an obscure oriental cult in a corner of Roman Palestine grew to become the dominant religion of the Western world,” *Aeon*, January 30, 2017

Fuzzy Beliefs: An article I read (but cannot now find to cite here) that was written in defense of organized religion captured this point perfectly: The article argued (in part) *that most people’s beliefs are a psychological mumbo-jumbo of vague spiritual concepts* and needs organized religion to clarify, organize, strengthen and correct spiritual concepts. Thus, in arguing in favor of organized religion (e.g., churches) the writer had to admit that the natural and normal human spiritual life is a bunch of fuzzy concepts and argue that this is somehow bad for individuals,

families, groups, and civilization and organized religion is the better alternative. This seems like a vaguely Bonhoeffer-like argument and I suppose Plato would agree as well.

- ✓ “The middle and late third century also witnessed the first dramatic outpouring of Christian theological works. Some of these theological works focus on detailing heresies – wrong beliefs – of which there was already a rich variety. Because Christianity centred so much on beliefs rather than ritual behaviours, the policing of what did and did not constitute true and acceptable belief has always preoccupied Christian theologians and been a central dynamic in Christian politics.

The rulings (‘canons’) of the first council of Christian leaders to survive provide more insight into the Christianity of this period. Held in the obscure Andalusian town of Elvira, the council shows us a world in which the gathered church leaders found it necessary to legislate against a large number of mundane activities that they determined were prejudicial to Christian wellbeing. The council decided, for instance, to forbid the holding of certain kinds of public office (such as the office of duumvir, effectively the local mayor, as the role might require inflicting punishment or abusing other Christians).” *Id.*, feature quote above.

It is worth noting that following every ecumenical counsel, at least the modern ones, and probably every occurrence from the very first, a faction of the Roman Catholic Church breaks off.

- ✓ For example, following Vatican I in 1869, the Old Catholic Church broke from the Roman Catholic Church and formed the Union of Utrecht;
- ✓ Following Vatican II, in 1962, a group of sedevacantist broke away, some of them formed the True Catholic Church, eventually held their own conclave who elected their own Pope, Pius XIII in 1998 (Lucian Pulvermacher b. 1918 d. 2009, lived in Kalispell, Montana – not to be confused with the 2013 limited television series, “The Young Pope,” featuring a fictional Pope Pius XIII).

This suggests perhaps that the Roman Catholic Church should stop holding ecumenical councils (they have them far less frequently now than in the early centuries)☺; and more importantly, in politics as well as religion, that humans find it easier to believe in *fuzzy concepts* than doctrinal pronouncements; that when fuzzy concepts are clarified, rationalized, and made philosophically consistent, divisiveness and division occurs over the details (e.g., the Marburg Colloquy). This is also consistent with election-year politics. Except in science, engineering, and extremely practical applications where logic, facts and figures are necessary, *humans prefer the fuzzy*.

- Pieces of April: Did Empress Josephine ever really love Napoleon? *Love* is really the ultimate in human fuzzy concepts. How many millions of poems, songs, and other literary works have been written wondering what the significant other is thinking and are they really in love this time? Or what happened to their love? Or passionately professing their new-found love trying to convince the other? Do you know what love is? You do, but no.

Thus, the core problem of exclusive monotheistic religion – see Dream Police, 1 Dreamtime, p. 132, *supra* – is the social version of the very same that has been going on between men and women for thousands of generations since the feeling of ‘love’ was described separately from hetero- or homo- sexual lust and possession of women as sex objects (i.e. ‘permanent bonding’ in anthropology). Since the transference of parental to romantic love began. To a lesser degree, parental love is also questioned periodically, are parents angry to be saddled

with children, do they actually resent their children's success or push them to success to vicariously live what they did not accomplish in their youth?

- ✓ Monogamy, like worshipping the one God, has been taken as a sign of authenticity, as neither existed in ancient Rome who were called unfaithful and polytheistic.

It is thus that one may wonder if God really loves us as the priests have long insisted? We cannot see inside God's head (so to speak) or 'heart' as the old metaphor goes, so God is representative of our unsureness of the affections of both our parents and our romantic love interest. Thus, while Church officials were obsessed with whether individual believers really loved God, they went about insisting that the Abrahamic God loved his creation unconditionally (like a parent), based largely on Noah, Moses and Jesus, even in the face of the destruction of the Second Temple and the Roman genocide and scattering of the tribes.

*"I sang Alleluia in the choir
I confessed my darkest deeds to an envious man
My brothers they never went blind for what they did
But I may as well have
In the name of the Father, the Skeptic and the Son
I had one more stupid question

*We all had delusions in our head
We all had our minds made up for us
We had to believe in something
So we did."*

– Alanis Morissette, "Forgiven" (1995) ⁵

The Happy Hurkle: Happiness is the most basic drive of humanity, both individually and culturally, from the lack of negative stimuli – lack of negative stimuli is a form of happiness – to the more abstract ideals of sapients. If you have to think too hard about that, you are not a human.

- ✓ "Did I request thee, Maker, from my Clay, To mould me Man, did I sollicite thee, From darkness to promote me, or here place?" – John Milton, "Paradise Lost" (1667), Book 10, 743-745.

Everyone has the same singular problem, regardless of how it is phrased and whether they realize it or not: None of us asked to be here. And short of death, we are not allowed to leave. Getting into a car and driving or getting on a space ship and going out there won't change those facts. Our problem is existence. Happiness is a salve.

Some people think that death is the singular thing that all humans have in common (and in fact, all living things); they confuse the symptom with the cause: You cannot die unless you have been alive, here in this universe. Death may be the great equalizer (*omnia mors aequat*), but it is not the cause of the Void, not the problem of humanity.

- **Meta Aspect:** Happiness forms a meta-aspect of all human civilizations and is linked strongly with the supra-legitimacy, security, that is, a lack of external negative stimuli, even if that means taking food from others to avoid hunger – a negative stimuli. Thus it is that security becomes offensive rather than merely a guard of happiness.

- ✓ Meta as a prefix here is used in the usual sense of ‘beyond,’ ‘behind,’ ‘transcendent’ (Merriam-Webster online dictionary at *meta-* prefix at **2:** and **3:**).

Happiness (and its little cousin, love) is the singular obsession of humans individually and because we have convinced ourselves of its existence (mostly without tangible proof), we find it very difficult to explain exactly what it is (or what love is) or why; as G.K. Chesterton observed, “It is very hard for a man to defend anything of which he is entirely convinced.” (*Orthodoxy*, Ch. 6 (1908), see full feature quote, bottom of 4 Government Titles, p. 634, *infra*). G.K. Chesterton was, unsurprisingly, engaged in Christian apologetics, and if the masses are convinced of the existence of happiness, then the function of religion is the mystical happiness of the followers, the connection of petty human need to the greater cosmic order, to raise icons, ideas, images, between us and the Existential Void (e.g., afterlife, ritual burial).⁶

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Most religious text is either history or instructions on and discussion of happiness, or both, and literature follows generally in the same pattern. The struggle between religions and denominations, in a solely religious context, exists between happiness and the Existential Void, but of course, various factors of civilization are usually in play.

- ✓ “If all of Dalrymple’s copious writings have a central theme, it is the destructive power of bad ideas. And for Dalrymple, the most destructive bad idea of all, common to utopian political thinking and some schools of psychiatry, is that we can reshape human nature. To reshape human nature means that we can transcend the limitations of our personalities, avoid both the need to take responsibility for our actions and the necessity to make judgments, and above all, eliminate unhappiness.

As Dalrymple points out, the word ‘unhappy’ has been all but banished from the language. Instead, we say that we are ‘depressed’: If someone admits to unhappiness, it might be that his own ill-conduct, foolish or immoral, has contributed to it, but if he is depressed [he] is the victim of an illness, of something which, metaphysically speaking, has fallen from the sky. ...

Elevating ordinary forms of discontent such as winter blues (‘seasonal affective disorder’) and ingrained personality traits like shyness (‘social anxiety disorder’ or ‘avoidant personality disorder’) into psychological disturbances not only allows us to assume that we can have a life free of unhappiness, it also leads to a tendency to medicalize everything.” – John Broening, “Book Review: ‘Admirable Evasions: How Psychology Undermines Morality,’ by Theodore Dalrymple,” *The Denver Post*, June 4, 2015.

- ✓ “A change in the English language attests to this medicalization of ordinary life: The word ‘unhappiness’ has almost fallen out of common parlance in favor of the medical term ‘depression.’ While Dalrymple does not deny that the term has legitimate applications, its overuse subsumes all human dissatisfaction under medical dysfunction.” – Spencer Case, “Doubting Psychology,” [Review of Dalrymple’s *Admirable Evasions: How Psychology Undermines Morality* (2015)], *National Review*, March 21, 2015.
- **Be Fruitful:** Every religion has a creation story in which is described how some supreme being or force or spirit or whatever is the case, put us here. Maybe it also vaguely describes that or how the rest of the universe was created, but the point of all of them is that we were put here. That is all we are really interested in hearing anyway.

All creation stories describe a situation in which our consent is irrelevant which parallels the fact that we are here, were born into this world, into existence, without our consent. This creates a blame-shifting mechanism that absolves our parents of our birth and absolves us when we become parents, because that is just the way life works, the way it was created for some higher purpose that we don't know, and that religion discourages us from guessing at:

- ✓ This blame-shifting mechanism in creation stories is one of the major services religion provides as the agency of the human happiness meta-Aspect.

Since 1982, in a few states, a child who has an inherited genetic defect or disability that was known in his parents before birth can sue his parents for being born. The key for the 'Wrongful Life' case is the foreseeable, preventable 'harm' of being born, and actual harm from being born. The 2018 Lebanese documentary-like fictional film Capernaum tells the story leading to why a 12 year old boy sued his parents for being born into poverty.

On February 7, 2019, the BBC ran a story about an Indian man Raphael Samuel (not to be confused with the British Marxist historian) who is suing his parents for being born.

- ✓ "In a statement, his mother Kavita Karnad Samuel explained her response to 'the recent upheaval my son has created.' 'I must admire my son's temerity to want to take his parents to court knowing both of us are lawyers. And if Raphael could come up with a rational explanation as to how we could have sought his consent to be born, I will accept my fault,' she said." – Geeta Pandey, "Indian man to sue parents for giving birth to him," BBC.com, February 7, 2019.

Anti-natalism is, of course, a secular philosophy and as is well-documented, and long-noted, secularism has replaced religion in most of the world, it is a pillar of modernity. Although most people still vaguely believe in some sort of creation – usually a mish-mash of religious notions with modern science – the retreat of religion has pushed aside the traditional blame-shifting mechanism, bringing us starkly to the edge of the Existential Void.

- Music Utility: When secularization, new technology and evolving technique, and business models, made popular music emergent in the mid-20th Century, contrary to and not under the control of established religion, when music became the happiness of new youth in the 1950s and early 1960s, it became a threat to established religion (e.g., it was 'devil music'). "Cos rock & roll is my religion and my law." – Ozzy Osbourne, "You Can't Kill Rock 'n Roll" (1981). Some tried later to reincorporate the new popular music into religion with varied effectiveness – anyone remember Stryper?

- ✓ "Utility is a subjective concept. It denotes 'satisfaction' (or 'happiness' or 'contentment'). It rises if and when an individual increases his or her state of satisfaction. Conversely, if and when someone considers himself in a worse state of affairs, his utility decreases. What is more, utility is an *ordinal concept*, meaning that utility cannot be *measured* in terms of higher or lower utility from the viewpoint of an individual; and changes in utility among different people cannot be *measured*. All one can say is that utility is higher or lower from the viewpoint of an individual. [Murry N.] Rothbard explained why this is: 'In order for any measurement to be possible, there must be an eternally fixed and objectively given unit with which other units may be compared. There is no such objective unit in the field of human valuation. The individual must determine subjectively for himself whether he is better or worse off as a

result of any change.” – Thorsten Polleit, “What Can the Law of Diminishing Marginal Utility Teach Us?” Mises Institute, February 11, 2011 (emphasis in original).

Constant music, even the kind I like, quickly loses utility. Within the game of GGDM, even if Happiness is not on the position’s secret Aspect List, it must be considered, like the supra-legitimacy ‘security’ to be hovering in the background above all other considerations of the moment. One might imagine another alien species having a different meta-aspect, but nearly every alternative humans can formulate – work (unless the race is a bunch of bees without free will), cosmic crusade, moral civilization, or whatever other terms are used – generally reduce to the human concept of happiness; that is, if those things were considered meta-aspects of an alien civilization, they would essentially translate to a form of happiness. Perhaps this is because happiness is so vague and poorly defined among humans (the weak case) or because we are simply ‘hard wired’ to seek happiness above all else (the strong case).

- ✓ What is most odd is that I don’t seem to get anything done unless I am angry at the universe. For how many others is this true? What emotes other people? The primitive existential threat reaction, anger and all of the other stress and negative emotions have a relationship to focus that happiness and the joyous can never share. So much more comes from humanity’s negative emotions than positive emotions.
- Neurotic Religion: Is religion possible without being neurotic? Is neurotic religion a modern thing? The late Romans were a bit neurotic about their religion; e.g., the cults, but was it something spread by contact with Abrahamic religions, were the ancient Greeks and Persians neurotic? Now, there are people who will immediately jump in to say that I am assuming without foundation that religion is neurotic – a sort of circular argument – but just go with it for now and follow the line of thought; the idea has been around for a long time, to wit:
 - ✓ “In Obsessive Actions and Religious Practices (1907), his earliest writing about religion, Freud suggests that religion and neurosis are similar products of the human mind: neurosis, with its compulsive behavior, is ‘an individual religiosity,’ and religion, with its repetitive rituals, is a ‘universal obsessional neurosis.’” – from Wikipedia article, “Sigmund Freud’s views on religion,” citing to Peter Gay, Ed., The Freud Reader (1995).
 - “If there is a blurry line between psychology and reductionism, then psychologists have themselves, in part, to blame, because too many of them have been eager and uncritical in their embrace of reductionist accounts of the mind. At the dawn of the 20th Century, many people were enamored with the ideas of Sigmund Freud, who treated everything noble in human thought as disguised impulses toward sex and aggression. Unsatisfied desire was supposed to be the source of much – not to say the root of all – evil. Dalrymple alleges that Freudianism is not only false but harmful because it provides a scientific rationale for destructive self-indulgence. ... Today, neither Freudianism nor behaviorism is taken seriously. Psychology students have difficulty understanding how either came to have such sway over ostensibly scientific minds. But the storm hasn’t passed. Dalrymple wants to persuade his readers that the reductionism that gave rise to both remains as entrenched as ever, and may even be gaining ground.”

– Spencer Case, “Doubting Psychology,” [Review of Dalrymple’s Admirable Evasions: How Psychology Undermines Morality (2015)], National Review, March 21, 2015.

- ✓ “Freud famously showed how religion was merely the result of deep-rooted neuroses and before him Karl Marx demonstrated how it was the consequence of socio-economic injustice. In the 20th century, BF Skinner contended that it was essentially a kind of cosmic behaviourism, primitive societies justifying and enforcing their ideas of good and bad through concepts of ultimate reward and sanction. Today it is popular to argue that religion is an evolutionary phenomenon, the result of (some combination of) our developing minds, recognising agency, fearing death, and needing social cohesion. This is not an altogether happy history – posterity has been none too kind to Marx’s, Freud’s and Skinner’s theories – but there has, at least, been some sign of progress. The direction of travel has clearly been towards seeing religiosity as something intrinsic to human nature rather than something forced upon it by adverse social, political, familial, or personal circumstances. Such deep roots in human nature, coupled with the fact that demographic data repeatedly show that the religious outbreed the irreligious more or less anywhere you go in the world do rather seem to suggest that religion is unlikely to disappear in the near future.” – Nick Spencer, “It seems religion is not a neurotic accretion on human nature,” The Guardian, January 8, 2011.⁷

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A pragmatic view of ancient religious history *is a struggle against neurotic religion* in the form of rituals, offerings and animal/human sacrifices as symbolic acts connecting the people to their deities. In India, it was the evolution away from ancient Vedic sacrificial religions (and the priests who derived their power from it) in stages through Hinduism, Jainism, and Buddhism; in the West, it was the rabbinic struggle in Judaism against the Sadducees (the temple priests), and in this vein, also Egyptian religion and Roman state religion (see Symbolic Constructural Elements, *et seq.*, 1 Constructural Elements, p. 176, *supra*). Once a ritualistic sacrificial religion is established politically in a civilization, what leader can risk opposing it? Any ill event will be blamed on the interruption of the established priestly rituals. Ironically, however, by destroying the Second Temple, the Romans destroyed the Sadducees and forced the Judaism reformation in favor of the rabbinic ideal of prayer and devotion over sacrificial offerings, which carried into Christianity, overwhelmed and outlasted Rome.⁸ The neurotic urge still exists even in Christianity, and has been long exploited by the Church.

- ✓ Neurotic Paradox: “The persistence of neurotic ... symptoms or behaviour despite their distressing qualities and the desire of the afflicted person to be rid of them. For example, a man with obsessive-compulsive disorder may wash his hands many times a day until they bleed, and may consider this behaviour unnecessary and maladaptive, or even ridiculous, yet feel compelled to continue doing it, and this appears paradoxical.” – from the Oxford Index, citing to Andrew M. Coleman, A Dictionary of Psychology (3rd Ed, 2008).

Arguably every religion began as a ‘cult’ (depending on your definition of cult) of unhappy people that gained mainstream support, respectability, power, and became significantly entwined with, and indistinguishable from, their civilization (no religion instantly began with hordes of followers). There is no riddle here. Those ‘susceptible’ to cults (and radical ide-

logies) are those who want external help in shaping a new meaning, new worldview, in opposition to current prevailing worldview, in which they can find a special place, hold, and internalize as faith rather than on the basis of reason and learning. That is, they don't want to question it and they don't want anyone else questioning or rejecting their beliefs; such a desire naturally links to violence (especially in the mainstreaming process of cult to religion) and in some cases, mass suicides when externally threatened.

- ✓ “One interesting side bar of the investigation of [the Order of the] Solar Temple is knowledge of the demographic composition of the group. Cults are typically perceived as largely consisting of young people, and/or people who are overly susceptible or even stupid. Solar Temple members simply don't fit these stereotypes. The typical member was middle-aged and middle class Swiss and Canadian citizens (Introvigne 1996:3). There were also several persons who were accomplished citizens including Camille Pilet, a recently retired director and international sales manager for the Swiss multinational watch company, Piaget. Other members included Patrick Vuarnet, son of the president of an international fashion company and former Olympic champion Jean Vuarnet, and Robert Ostiguy, mayor of Richelieu, Quebec (Introvigne 1996:3-4). There were reports that Princess Grace of Monaco was involved, but Introvigne disputes that in a press release for CESNUR.” – Jennifer Sloan, University of Virginia, “Order of the Solar Temple,” on the WRSP website (<https://wrldrels.org/2016/10/08/order-of-the-solar-temple/>), updated July 24, 2001.
 - The Order of the Solar Temple was a Neo-Templar cult that committed mass suicides in 1994 and 1995 at several locations, some of the victims may have been murdered.

How many sad post-breakup love songs have vowed never to love again? Is the human need for happiness neurotic – in which case a Meta-Aspect or Supra-Legitimacy can be considered the neurotic core of sapience – or is it more like needing food and water (which almost no one calls neurotic unless it is clearly excessive and harmful)?

- ✓ Addiction (and consumerism) is the modern human neurotic paradox, both individually and as a civilization.
- ✓ Love is the human neurotic paradox, especially when we take the forever vows; what could be more neurotic than humans vowing forever?
 - “How can you help it when the music starts to play, And your ability to reason is swept away, Oh-oh-oh, heaven on earth is all you see, You're out of touch with reality.” – The Main Ingredient, “Everybody Plays the Fool” (1972).

Neurotic religion forms the current human vision of love and mating (just listen to our songs, watch our movies); a neurotic religion (and neurotic paradox) of what we think of as our perfect mate. A particular form of neurosis distinguishes Abrahamic religion from those that came before. The language of religion has crossed over into the language of love songs, e.g.:

- ✓ “There's something in my eyes, you know it happens every time I think about a love that I thought would save me.” – Jim Croce, “Operator” (1972).

Countless thousands of popular love songs – just about every other one – have the ‘personal savior’ theme somewhere in the lyrics, stemming perhaps from late Victorian ideals of the

woman as the gentle savior (‘better half’) of each man through marriage and family. One should not miss the forest for the trees here, it is not surprising that the current version of neurotic religion of the mate are related to both the parental god of the Abrahamic religions and the early adult transference of bonding from parental love care to intimate love mate. This is what anarchist free love ideas sought to separate: neurotic love from sexual intimacy and reproductive drive.

✓ See Leap Into the Void (*sacrificium intellectus*) discussion, 3 Kairotic Moments, p. 1448, *infra*.

- Temple Prostitution: Many, if not most, people ‘confuse’ sex with happiness, just as they do morality with happiness, and sex with morality, and all of it with mortality – in the sense that the boundaries are often fuzzy in life. Sex, like morality, seems simple and wonderful in the idea, but is rarely so in actuality. It is not surprising thus that there is a long practice of temple or sacred prostitution throughout history, granting respectability and support to the prostitutes (sometimes making them priestesses), and control to priests, and intertwining sexual release and satisfaction with ritual and cultural sense of happiness and mystical cosmic transformation.

An attempt to revive this practice in a modern context by the Children of God (aka Family of Love) in the 1970s, called “Flirty Fishing” was ridiculed by those who likely didn’t know (or care about) the history of their own religion: It is probable that the early Israelites learned temple prostitution from the Canaanites and continued the practice. Temple prostitution was also known among the Greeks, the Romans, the Mesopotamians, the Egyptians, the Aztecs – each with their own local meaning and form attached.⁹ On the other side, I once read a science-fiction story – and I do not now recall the title – about a society much like ours where there was a profession called ‘socialators’ who were effectively empathic social psychologist and social workers who provided counseling, encouragement and non-gratuitous sex where needed.

✓ “It was that voice, and his hands – pinching my bottom, if I wasn’t careful – that helped me imagine what he must have been like, before. ... I was afraid and a little bit philosophical, so I asked him how he felt about death. ‘I prefer to die than to be weak,’ he said. ‘When you’re old, you’re weak. Sexually. Your knees don’t carry you. What’s the point of living?’” – Nadja Kornith (quoting Gadalla Gubara), “The Omega Man – Gadalla Gubara and the half-life of Sudanese cinema,” Bidoun (bidoun.org), Issue 20, Spring 2010.

- The most common regret of aging is the inability to continue having sex. On the one hand, this must be a truly universal human experience throughout the ages, and in all places, regardless of culture. On the other hand, it is also probably part of our current cultural obsession with sex, sex objectification, sex symbols, heartthrob male and blonde bombshell female celebrities; beyond sex, in old age, we have provided no alternative framework or meaning – only loss remains.
- Fanatics Not from Phili: In the Roman world, if you put a knife to a man’s throat, the reasonable man surrenders. The Romans had never met fanatics before going into Palestine; the fanatic is the quintessential unreasonable man and the one thing the Romans did not understand. Although the end result was disastrous for the Jewish people, Judeo-Christian history

records the lasting triumph of the unreasonable men – the late Roman Empire converted to Christianity and lasted only two centuries more, while the fanatics and unreasonable men continued unabated for millennia beyond.

- ✓ “A reasonable man adapts himself to the world; the unreasonable one persists in trying to adapt the world to himself. Therefore, all progress depends on the unreasonable man.” – George Bernard Shaw.

On the other side of the Abrahamic tree, Muhammed was perhaps the ultimate unreasonable man in the Shaw sense. It is thus that Western Civilization and Abrahamic Tradition contains an underlying veneration for and tolerance of – to varying degrees – unreasonable men and often combined with populism, e.g., Martin Luther, Adolf Hitler. Secularization and science (and the medicalization of mental health) have pushed back – and can be characterized in the sense of a general countermovement – against veneration of the unreasonable man in the West.

“When a man asks himself what is meant by action he proves that he isn’t a man of action. Action is a lack of balance. In order to act you must be somewhat insane. A reasonably sensible man is satisfied with thinking.”

– James A. Baldwin

Human Inaction: The latter point is perhaps best demonstrated by the anti-Nazi intellectual Kreisau Circle in Germany. They were reasonable men, they were content with thinking about how Germany would be reorganized after the fall of the Third Reich (they were arrested as traitors for assuming Germany would lose the war). But they apparently took no actions.

By slight contrast, the Solf Circle of anti-Nazi intellectuals did take some actions, “Solf and her daughter were responsible for hiding many Jews and providing them with documents for them to emigrate safely” (Wikipedia article, “Solf Circle,” June 23, 2019). And the Solf Circle was the group targeted by the Gestapo for infiltration, whereas the Kreisau Circle was arrested afterward simply because of their links to the Solf Circle. Much of the story of the rise of the Nazis in Germany involves people who talked but didn’t act or who tried to act but were ineffective and amateurish in their resistance; this was well-known by the time that James Baldwin began publishing – his first novel was published in 1953 when he was 29 years old. Certainly, he imputed the same upon the racial discrimination and disparity in the United States, foreshadowing the Civil Rights movement.

However, Helmuth James Graf von Moltke, the leader of the Kriesau group (the name of his family estate where the meetings were held), did take some actions from within Abwehr (contributing to the Destruction of the Abwehr, see 1 Special Operations, p. 1275, *infra*), and tried to become a British intelligence agent, but the British wanted deeds instead of talk (from Wikipedia article, “Helmuth James von Moltke,” citing to Robert Marquand, Christian Science Monitor). So minimal were Moltke’s actions that even the People’s Court was unable to convict him on any bit of evidence, so the infamous judge of that court, Roland Freisler, just made up a new crime (*Id.*, citing to Michael Balfour (1972)), called ‘*de novo* treason’ (treason on the whole, without acts) to get a conviction.

- ✓ “In two letters written to his wife in January 1945 while imprisoned at Tegel, Moltke noted with considerable pride that he was to be executed for his ideas, not his actions, a point that had been underlined a number of times by Freisler.” *Id.*
- Axiom of Human Action: “Action is replacing ‘a more satisfactory state of affairs for a less satisfactory,’ and man must make use of means to attain ends. Means, in turn, are always scarce with regard to the attainment of ends. If means were not scarce, they wouldn’t be subject to economizing, and so there couldn’t be any action – and this is, of course, impossible to believe. It is in this sense that human action is purposeful action – that is, making use of means for attaining certain ends. And praxeology remains unconcerned about the content of certain ends or how concrete ends were motivated.” – Thorsten Polleit, “Human Action Is Purposeful Action,” Mises Institute, August 19, 2011 (available free online), quoting Ludwig von Mises, Human Action (1949), Ch. 1.

This is axiomatically true of Power Activations and Combat Orders in GGDM and of Fuzzy Groups and social movements. The primary control is scarcity of actions. The primary motivation is an unsatisfactory state of affairs. Initially, participants must assume that the state of affairs in the beginning of the game is unsatisfactory to the species, even if not evident, so that they must move out into interstellar space, explore and expand, and make First Contact.

- ✓ “Now Aristotle did believe, I think, that if it could be shown that it was a matter of necessity that men acted in one way rather than another, then our ordinary thought about action and responsibility would be undermined. If human actions were necessitated, there would indeed be something radically wrong with our notions of human action; but, he thought, it was quite certainly false that human actions were necessitated. If this is a correct account of Aristotle, we can see one reason why he does not confront the freewill problem. It is because he thinks that it cannot seriously be doubted that human actions are free from necessitation.” – Bernard Williams, Freedom and The Will (1963), p. 3.
- ✓ “The knowledge that human action is purposeful action has nothing to do with psychology. Stating that human action is purposeful action does not take recourse to assumptions about the actor’s concrete motivation. Non-purposeful behavior is, as far as praxeology is concerned, to be classified as external data, part of the general conditions under which human action takes place. It is outside the scope of praxeology.” *Id.*, Thorsten Polleit.

Praxeology discussions of the axiom of human action is the last thing that any malpractice or securities professional malfeasance (e.g., negligence, failure to supervise) defense attorney wants to hear at trial, because from this, it could be concluded (as a corollary?) that human inaction (even negligence) is also purposeful; the choice, the purpose, the act is not to act when action was necessary. Nor would criminal defense lawyers arguing that their client did not know what they were doing or intend to do what they did, and thus could not have had criminal intent be very happy to hear praxeology arguments in court...

“When taking resolute action, you have to be insane.”

– dialogue from the Japanese-language tiaga drama series (with English subtitles) *Yae no Sakura* (2013), Episode 1

Endnotes.

¹ Commentary: As an example, the ‘neocons’ referred to in 1 Constructural Elements might, in hindsight, also be considered a historical Fuzzy Group with social and political elements.

² Citation: This loops back to the discussion at the top of 2 Culture, *supra*, especially of identifying the internal structures of large distributed systems and careful systems storytelling.

³ Commentary: That is, I dance in the center of the campfire while others dance around the campfire. This, of course, is a claim that would be made by any serious theorist, Marx and Kant would have said the same.

⁴ Commentary: Similarly, there is a concept in humanistic psychology of “self-actualization,” (*à la* Maslow, et al.) which bears some parallels but is not entirely congruent with the concept of Actualization of Fuzzy Groups – either as a game mechanic or to the extent the reader sees it happening in the real world. The primary difference in self-actualization in psychology is that it seems to imply or wish – rather magically – that the ultimate end of human individual development is a high moral/ethical state. In this view, humanistic psychology’s “self-actualization theory,” is the latest version of Ancient Greek philosophy and Abrahamic religion (and perhaps *samsāra*), wrapped in the clothing and language of modern psychology. This is a terribly unrealistic view of humanity (considering the pains the ancients took to establish by reason, morality and perfection, and others to preserve their writing through the ages), but ironically, all of the commonly-stated end goals of self-actualization drive my personal obsession in creating GGDM, the years of development and evolution, and the drive to finish – to actualize – GGDM now – for creativity, knowledge, spiritual enlightenment, and the betterment and survival of humanity (not because that is my basic personality, but because that is what I have been groomed to want).

⁵ Citation: “*Jagged Little Pill* received generally positive reviews from music critics. Stephen Thomas Erlewine from AllMusic gave it a very positive review, giving it four-and-a-half out of five stars. He mostly complimented the album’s standout talent saying ‘It’s remarkable that Alanis Morissette’s *Jagged Little Pill* struck a sympathetic chord with millions of listeners, because it’s so doggedly, determinedly insular.’ He concludes, ‘As slick as the music is, the lyrics are unvarnished and Morissette unflinchingly explores emotions so common, most people would be ashamed to articulate them. This doesn’t make *Jagged Little Pill* great, but it does make it a fascinating record, a phenomenon that’s intensely personal.’ Robert Christgau gave it a B+ grade, mainly praising its thematic content: ‘she’s happy to help 15 million girls of many ages stick a basic feminist truth in our faces: privileged phonies have identity problems too. Not to mention man problems.’

David Browne of Entertainment Weekly gave it a middling review, stating that the album ‘is [a hard] swallow. What sounds arresting on a single grows wearing over a full album. Producer-co-songwriter Glen Ballard’s arrangements are clunky mixtures of alternative mood music and hammy arena rock, and the 21-year-old Morissette tends to wildly oversing every other line.’ When listing the album at 45 on the ‘100 Best Albums of the Nineties,’ Rolling Stone commented: ‘*Jagged Little Pill* is like a Nineties version of Carole King’s *Tapestry*: a woman using her plain soft-rock voice to sift through the emotional wreckage of her youth, with enough heart and songcraft to make countless listeners feel the earth move.’” – from Wikipedia article, “*Jagged Little Pill*,” August 21, 2019.

- ✓ Billboard ranked *Jagged Little Pill* the No. 1 album of the 1990s in their December 25, 1999 issue of *Billboard Magazine*. The issue is available for free on Google Books.

⁶ Commentary & Citation: Though I have never personally read any Ayn Rand books there probably are some similar threads in GGDM’s philosophies, especially the Existential Void. Her happiness as the ultimate value (Stanford Encyclopedia of Philosophy has a great article on Ayn Rand) is in GGDM terms, functionally just another way of not looking at the Void. I might have agreed more when I was younger than now:

- ✓ “To our surprise, [Brad] Bird’s response was quite candid: ‘Me being the Ayn Rand guy is a lazy piece of criticism.’ ... ‘I’ve read Ayn Rand, and I think young people, particularly when you’re in your early 20s and it’s you against the world, you should absolutely believe in that very, almost strident individualism. But I think, when you become a little older, you see the limits of that; compromise is not a terrible thing always. There’s bad compromise, but there’s good compromise.’” – Brad Bird, quoted in Ryan Lamble, “Brad Bird Responds to Critics of *Incredibles* and *Tomorrowland*,” Den of Geek, July 9, 2018.
- ✓ Ayn Rand features in the creation of the Nietzschean race in the *Andromeda* television series, the place where they were created is called Ayn Rand Station which orbits over planet Fountainhead. I recall a scene or two during the series in which Tyr Anasazi is seen reading books by Ayn Rand.
- ✓ However, Ms. Rand arrived at her conclusions about happiness, I am sure my approach is different. Ok, I may have read the Virtue of Selfishness (1964) (or part of it) in my youth; I may have also encountered

echoes of the same ideas when I read Anton LaVey's *Satanic Bible* (1969) in the late 1980s or early 1990s. I recall that I was genuinely disappointed with the LeVey book, I thought he would have something profound to say, he seemed to be obsessed with celebrating his birthday, he made a big deal out of birthdays and the rest was gibberish; whatever I was looking for at that time, the book did not meet expectations.

⁷ **Commentary & Citation:** Though “posterity has been none too kind to Marx’s, Freud’s and Skinner’s theories” (*Id.*) (and I don’t think my psychology professor, Dr. Fessler, thought well of B.F. Skinner) they should not be dismissed out of hand, and there is still value in discussing them, like complex television series whose episodes begin with “previously...” I have a selfish motive in pointing this out as I expect my theories to quickly follow those of Freud, Marx, and Skinner, and with considerably less fanfare. Perhaps someone trying to solve a problem a century from now, will find value in GGDM as I did in an obscure 1924 college sociology book by Clarence Marsh Case.

- ✓ Would you go back in time to ancient Greece and tell Plato and Aristotle not to bother with the physics stuff because they are dead wrong and have no chance of figuring it out? Neil deGrasse Tyson might as he stirred up a hornet’s nest by suggesting that philosophy majors make people psychotic, or something like that. Would a physicist from the future come back and tell us not to bother because we have quantum physics dead wrong and no chance of figuring out what happened before the Big Bang? Progress, whether in science, at law, or public policy, requires that we avoid going around in circles reinventing ideas because we don’t know that others before us have already hashed out those arguments; far future post-apocalyptic fiction (e.g., *A Canticle for Leibowitz* (1959), *Thundarr the Barbarian* (1980-1981)) regularly feature the slow progress of rediscovering or reinventing ideas, technology, and knowledge that we take for granted.

⁸ **Citation:** “Animal sacrifice is the ritual killing and offering of an animal usually as part of a religious ritual or to appease or maintain favour with a deity. Animal sacrifices were common throughout Europe and the Ancient Near East until the spread of Christianity in Late Antiquity, and continue in some cultures or religions today. Human sacrifice, where it existed, was always much more rare.” – from Wikipedia article, “Animal Sacrifice.”

⁹ **Commentary:** The discussion of *temple prostitution* centers currently on India because it is the last place it has recently been in practice. However, don’t be fooled, it has a long history, the Israelites, the Greeks, the Romans, the Mesopotamians, the Egyptians, the Aztecs:

- ✓ “The world of ancient Rome, after all, was one in which initiates of one cult bathed in the spurting blood of a freshly slaughtered bull. Those of another passed the night in temples awaiting divine revelation and sleeping with the sacred priestesses.” – Prof. Michael Kulikowski (Pennsylvania State University), “Christians were Strangers: How an obscure oriental cult in a corner of Roman Palestine grew to become the dominant religion of the Western world,” *Aeon*, January 30, 2017.
- ✓ “Having said this, let’s go back to Pre-Columbian Mexico, more specifically, to the golden age of the Aztec empire, between the fourteenth and sixteenth centuries. War was a central factor in the cosmogony of this culture. In fact, because of this focus on war, they managed to rule over smaller groups for a long time. The importance they gave to war was such that they believed that when warriors died, they would go to *Tonatiuhchan*, a heaven that was reserved for those who died in combat or sacrificed themselves, as well as for women who died during childbirth, because they thought their death was just as honorable and required the same strength as going to war. This vision of the world influenced many of their activities, including, of course, prostitution. Aztec prostitutes, also known as *ahuianime*, were mostly associated with *Xochiquetzal*, the goddess of flowers, beauty, love, art, and sex for pleasure, which made her the patron of both artists and prostitutes. This goddess was depicted as a young, beautiful, and cheerful woman who seduced men and inspired the pleasure that’s found in beauty (that’s why she was also associated with art, especially weaving). *Ahuianime* were identified by the way they resembled their patron goddess: unlike the rest of Aztec women, they would wear their hair down or wouldn’t even comb it. They’d paint their faces with a yellowish ink, adorn their bodies with lots of jewelry, and perfume themselves with fragrant herbs and flowers. The sacred link between them and their patron goddess also connected them to the Aztec religion, to the point that they even had a role as priestesses in rituals, especially those involving human sacrifice. This last point is one of the reasons why the Aztec war-centered view of the world gave prostitutes a sacred role as well as protection in their society. More than just giving sexual pleasure, some *ahuianime* were also trained to entertain both soldiers and future victims of human sacrifice with other arts, such as music, dance, cooking, and, according to a research by Geoffrey G. and Sharisse D. McCafferty, some of them even went to war with soldiers to ‘cheer them up’ during battles and motivate those who were scared. Also, during a feast called *Toxcatl*, the *ahuianime*, assuming a role similar to that of *Xochi-*

quetzal, had sex with an impersonator of the god *Tezcatlipoca* who was meant to be sacrificed, and afterwards, they were rewarded with all his belongings.” – Andrea Mejía (staff editor), “The Sacred Role Of Prostitution In The Aztec Civilization,” <https://culturacolectiva.com/history/ahuianime-sacred-prostitution-aztec-culture>, November 3, 2017 (emphasis in original).

- ✓ c.f. “But then it all came crumbling down. On an afternoon in early September 2011, a SWAT team of police officers raided the Phoenix Goddess Temple and two affiliated locations in Sedona. It was the dramatic culmination of a six-month undercover investigation into whether the temple was a house of prostitution disguised as a church – a question that first arose after New Times published a story in February 2011 accusing it of being a New Age brothel. ... For her role in operating the temple, Elise was charged with more than 100 criminal counts of prostitution, maintaining a house of prostitution, illegal control of an enterprise, money laundering, pandering, racketeering, and conspiracy. When the state looked at a session in the Phoenix Goddess Temple, it saw an often topless practitioner ... giving a seeker ... a sensual coconut-oil massage followed by some sort of sex act that usually included a ‘happy ending.’ ... There is nothing technically illegal about two consenting adults having sex, but since seekers usually left money after their sessions, this was a black-and-white matter of prostitution as far as the state was concerned. Elise maintains that seekers were told before a session that there was no guarantee anything sexual would occur and that any money they decided to leave was purely a gift intended to ‘bless the temple’ and ‘further the ministry.’ To her, the charges and the subsequent criminal trial weren’t about prostitution. It was a battle for religious freedom and the ability to help heal men and women through Tantra.” – Miriam Wasser, “The Trouble With Sex: Why Phoenix Goddess Temple Founder Insists She’s a Priestess, Not a Prostitute,” Phoenix New Times, April 13, 2016.
 - Would it be prostitution if the practitioners didn’t receive any tangible benefit or payment for their services? Prostitution for charity and religion? One must assume the State established payment to the practitioners. The mantra of All the President’s Men remains in effect: follow the money trail. I have not heard or read that any woman was charged with prostitution for ‘flirty fishing’ or that they were paid anything material for their evangelistic sexual efforts.

Western civilization has created a *presumption* that no woman wants to be a prostitute or sex worker and that all women who engage in those professions have been forced into it, denied better opportunities, lured by money (which is a sin technically, but one that has been eroded by consumerism and materialism), or are substance abusers. This has been reinforced in the last centuries by scorn of those who practice the professions at the same time that their services, under various disguises (or openly) fulfilled a human need that was not receding – as some thinkers suggested it might when ‘the future’ evolved into a more intellectual or spiritual civilization. Arguments have been made that prostitution, sex work, and other criminal ills (drug use, money laundering, pimping) are only linked because prostitution has been criminalized, scorned, and unregulated (e.g., in some countries prostitution is legal, but it is illegal for a third party to benefit from the proceeds of prostitution, thus criminalizing brothels, pimping and pandering). Like all presumptions, this has not always been the case, it should be challenged regularly: There are women (and men, let’s not be sexist here) who apparently don’t mind the work, or may genuinely like what they do (whether for money or other reasons, such as freedom and rebellion). Technology has provided an additional screen between the sex act and procreation that fed into a mid-20th Century sexual liberation.

This is not to suggest in any way that prostitution would be accepted if legalized, stigma would still attach to the business by long tradition, and it would still be a dangerous business and criminal elements would be attracted to the money, stigma and convenience. Additionally, there is still the institution of monogamous relationships that withstood the mid-20th century spread of ‘free love’ doctrines (most people don’t know that Free Love was a French anarchist idea – Émile Armand – in the early 20th century, but if you think about it for just a moment...) aided by the AIDS epidemic of the 1980s. But any sociologist will point out that we in fact, practice serial monogamy (in and out of marriage), and that less stigma attaches to pornographic film actresses (who also receive money for sex acts, and near-celebrity fame too) and live sexual performers (i.e. dancers, many if not most porn actresses were dancers and/or prostitutes, as are quite a few popular female singers) who are less immediately threatening to a relationship.

- ✓ Did anyone ever get the sense in the 1980s that the Christian fundamentalist were actually deeply pleased and maybe even happy about AIDS? Did they – especially the ones who called Chevy vans ‘adultery wagons’ (probably from the popular 1973 song “Chevy Van” by Sammy Johns) – feel vindicated, vindictive, and supremely righteous, did they think it was divine intervention to save the Christianized ‘nuclear family’ (an early 20th century social sciences term that predates nuclear weapons and is thus, not related)?

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“Each society views its own patterns of marriage, family, and kinship as self-evidently right and proper, and usually God-given as well. Much of the current concern about the fate of the modern family stems from this kind of ethnocentrism. If we assume that there is only one ‘right’ family form, then naturally, any change in that particular form will be interpreted as heralding the doom of the whole institution. It is important to recognize, therefore, that there is an immense range of marriage, family, and kinship patterns; that each of these patterns may be, at least in its own context, perfectly viable; and above all, that, the family, like any other social institution, must inevitably change through time, in our own society as in all others.”

– Ian Robertson, [Society: A Brief Introduction](#) (1989)

All in the Family: Fortunately, not every family has an Archie Bunker:

- ✓ “Ants, bees and wasps, known collectively as the hymenoptera, all share an unusual genetic system in which males carry only half the normal number of chromosomes, receiving a single set from their mothers. But a hymenopteran female, in the more conventional fashion, receives one set of chromosomes each from her mother and father. Dr. [William D.] Hamilton [Oxford University] was the first to point out that the unusual genetics of the hymenoptera have the curious effect of making a female more closely related to her sisters than to even her own children, since she shares three-quarters of her genes in common with her siblings, but only half in common with her offspring. As a result, in order to propagate more of her genes into future generations, she can do better by staying in her mother’s nest and helping to raise sisters rather than reproducing herself.” – Carol Kaesuk Yoon, “Social Castes Found to be Not So Rare in Nature,” New York Times Archives, 1993.
 - “Archie was also known for his frequent malapropisms and spoonerisms. For example, he refers to Edith’s gynecologist as a ‘groinacologist’ and to Catholic priests who go around sprinkling ‘incest’ (incense) on their congregation, whereas he referred to incest itself as ‘committing ‘insects’ in the family.’” – from Wikipedia article, “Archie Bunker,” September 8, 2019.

*“‘One thing for sure is that the **social stability contract** that has worked for so long – that the people tolerate the **authoritarian rule** so far as the government warrants economic prosperity and provides good governance – is broken in a big way,’ [Ho-Fung Hung, a professor in political economy at Johns Hopkins University] said.”*

– quoted in Lily Kuo, “‘They’re chasing me’: the journalist who wouldn’t stay quiet on Covid-19,” The Guardian, March 1, 2020 (emphasis added)

Cohering: Cohere means to hold together, to bring together in principles, relationships or interests, to be consistent. Cohering in GGDM is about creating asabiyyah (Ibn Khaldun).

- ✓ Merriam-Webster Dictionary at *cohere*: **1a**: to hold together firmly as parts of the same mass; **2**: to hold together as a mass of parts that cohere; **3a**: to become united in

principles, relationships, or interests, **3b**: to be logically or aesthetically consistent;
transitive verb: to cause (parts or components) to cohere.

Activation of the Culture Power for the purpose of Cohering attempts to change some inactive Constructural Elements (see, 2 Constructural Elements and 2 Disruption, generally, *supra*) to active status on Friendly, Naturalized and Converted Colonies and ships currently located in a system with a Friendly or Naturalized colony (but not Converted Colony). Social stability contract.

It is my sincere hope that GGDM coheres well.

➤ The ‘Getting on the Same Page’ Meeting: When the Culture Power is activated for the purpose of Cohering, the position must inform the Concierge which one of the three Constructural Elements (Epistemological, Ideological or Symbolic) is to be reactivated throughout the position.¹ Additionally, the position must provide the Concierge with a range of RPs that will be spent on Cohering; 1 RP will automatically be spent per two undisrupted Government Titles held by the position, rounded up (so that five GTs will cost 3 RPs) plus a variable number of RPs will be deducted from the Treasury for successful Cohering up to the limit set by the position. The RPs must be in the Treasury at the beginning of the Regular Turn.

✓ For example, a position with four undisrupted Government Titles wishes to Cohere the Epistemological Constructural Element. The initial cost is 2 RPs for the Government Titles, and the position dedicates another 6 RPs to Cohering.

➤ Status Quo Ante: Active and inactive states of Constructural Elements are an over-simplistic game mechanic, a concession to playability, for a very complex and fluid process. See Artifice discussion, 2 Constructural Elements, p. 191, *supra*. The default choice of most populations is the *status quo*, the world they understand and know; thus, Constructural Elements should be active until something occurs that makes them inactive. One possible definition of the active state of a Constructural Element is passive acceptance of the status quo, whatever that might be in a particular situation. Would Russian-speaking colonists on Mars suddenly decide to invent a new language, new dress, and new customs overnight?

By extension, for game purposes, an active Constructural Element could be defined as the ability of the civilization (represented collectively as the position) to expect and cause a particular population group or ship to act in a way consistent with the desires of the position. An inactive state is whatever would cause that not to occur, for example, local resistance, a different view, inability or refusal to act, apathy and indifference, lack of cohesion, lack of structure, confusion, misinformation, or even bad maintenance, poor manufacturing.

➤ Money Can’t Buy You Love: Unlike in fiction, conspiracy theories, or historical hindsight, the invisible hands that shape public perception are often daft and ham-fisted, and public funds have not solved many social problems. Each inactive Constructural Element of the type chosen at a Friendly, Naturalized or Converted (but not Conquered) Colony, or on a *ship* (or System Boat) owned by the position located in a system with a *Friendly or Naturalized Colony* that has that Constructural Element currently inactive, will be checked to determine if it becomes active again; this will produce variable results throughout the position.

✓ Prior to each Cohering attempt at a colony or ship, a check will be made to see if the Cohering attempt fails due to inactive Constructural Elements (see Power Off, 2 Constructural Elements, p. 193, *supra*), i.e. the target colony or ship fails to obey the Power Activation.

- A failed Cohering Attempt due to inactive Constructural Elements is like trying to parent a teenager who doesn't hear anything you are saying, or trying to instruct someone who does not want to hear or doesn't care. Everyone has experienced the frustration of trying to get through walls; 'talk to the hand.' You just have to keep trying, especially in parenting.
 - ✓ The base chance for any inactive Constructural Element of the type chosen to change back to active is 30%;
 - 10% is added if the position has a Unitary Structural Government Title *and* no currently disrupted Government Titles,
 - 5% is subtracted if the target colony is a Naturalized Colony and 10% is subtracted if the target colony is a Converted Colony,
 - 5% is added if the position has a number of endowed Colleges equal to the number of undisrupted Government Titles, *and* there are no currently un-endowed Colleges.
 - Checks will be made in random order at each ship and colony that currently had the chosen Constructural Element *inactive* until stopped by running out of funds or when all target Constructural Elements are checked.
 - Enlightenment can be applied to Cohering attempts and applied to either check (see 2 Colleges generally, *infra*).
- Cohering Casino: The percentages offered in this game, especially as to social issues, are at best a guess, a number mainly for the purpose of creating a suitable game result. Considering interstellar culture, 20-35% seems appropriate. In wargame design, especially well-studied historical periods and battles, the effectiveness, or combat power, of a unit in battle vs. the enemy can be reduced to a qualitative analysis (see QJM and TNDM, *The Problem of Immersion*, 1 Culture, pp. 352-353, *supra*) – for example, a qualitative analysis article I read once that described why Pompeii could not have won the Civil War against Caesar. The qualitative analysis process has been fairly perfected by military professionals, but even there, there are still a lot of judgments that go into the numbers crunching. In the situations discussed in this game, we are on far less solid ground than military science. As in a war-game, players must accept that the Law of Large Numbers² will operate, and that 'luck' (i.e. outlier results) will run both ways in the short term.³

In a Unitarian government structure, it is not that other or dissenting opinions don't exist, but just that they are less likely (it seems) to be heard publically. At the bottom of this process is that there are simply too many factors that act on public opinion or perception – opinion is often shaped or driven by micro-events reported in the daily news cycle – so the game has to pick a few of the big ones to act as modifiers. The Concierge is free to *carefully* modify as suited to the situation. For example, regardless of your religious beliefs, the execution of a troublesome heretic, possibly Essene, probably Aramaic-speaking preacher in Palestine, was of relatively small importance in the Roman Empire on that day, would have occupied between 15 and 20 seconds on the evening news, and most certainly did not seem at the time to have the vastly outsized importance attributed to it by Christians and subsequent history.

- You Can't Always Get What You Want: One RP will be subtracted from the Treasury for every three ships or 100 Friendly or Naturalized population factors affected by Constructural

Elements that are activated as a result of Cohering this turn. Fractions will be rounded up at the end of the process such that one extra RP might be taken to satisfy the rounding.

Funds dedicated to Cohering cannot be used for any other purpose on the turn of Cohering, even by Power Activations that come later in the Regular Turn Action processing sequence. Funds not used will be returned to the Treasury for the next turn.

- ✓ Continuing the previous example, the position had dedicated 6 RPs to Cohering *after* paying the initial 2 RPs for Government Titles. These funds cannot be used for any other purpose during the Regular Turn. During the Cohering checks, Friendly Colonies containing 57, 60, 80, 120, and 100 population factors have their Epistemological Constructural Element reactivated, and a Carrier and two Cargo Ships have their understanding of things corrected (probably by the local *Chekist*⁴). Thus, 317 populations on five colonies, and three ships were Cohered, costing 5 RPs, a very good result (even at 35% unless there were a lot of inactive ECE to check)! All of the other checks failed or possibly no further checks were needed, the results in any case were random. The remaining RP is returned to the Treasury at the end of the turn processing. The checks would have also stopped if the Cohering had run out of funds.
 - The preceding example does not account for the possibility that a number of colonies or ships may have refused or failed to obey the Cohering Culture Power activation due to inactive Constructural Elements. Failed attempts cost nothing regardless of the cause.
- **Bridge Repair:** “Never let the urgent things get in the way of the important things.” – Coach Kay Yow. With all that is happening and being plotted turn by turn, some inactive Constructural Elements may seem only a minor worry. It is a problem that can sneak up on players, like a bridge that looks safe and normal on top, but has significant rust and concrete deterioration underneath. Constructural Elements will suddenly become a problem, like cracks in a bridge, when a planet that produces a quarter of the position’s RPs during Taxation fails to pay their taxes due to having three inactive Constructural Elements. Or when ships don’t move when ordered, interfering with vital defense, trade and new colonization.

“Americans have often fought bitterly about how large our safety net should be and about the precise forms it should take. But once the country commits to a fundamentally more generous, decent safety net, it becomes an accepted part of society. Poverty, disease and misfortune that had been accepted as normal became rejected as cruel. Once we stopped allowing 10-year-olds to work in factories and fields, we didn’t go back on it. Once we outlawed 80-hour work-weeks at miserly pay, we didn’t reinstate them. Once we made health insurance and Social Security a universal part of old age, we didn’t repeal them.”

– David Leonhardt, “A Vote for Conscience and Courage,” *The New York Times*, June 27, 2017

Social Safety Net: Liberal policies, especially those costing resources into an indeterminate future – i.e. social safety nets – are based on a perception of abundance, even an illusion of superabundance.

This perception or illusion is part of modernity in the West; in previous times when resources were scarce, conservative and even bigoted views prevailed and served as justification in those scrabbling for domestic subsistence.

Modern liberal thinking has been the process of unraveling deep-seated status quo preservation views, i.e., traditional families, nuclear families, religious views, phobias and racism that placed barriers between the haves and have-nots, judgments of a person's worth based on their hereditary economic class and personal wealth, traditional labor relations, attitudes considered heartless by progressives and sentimentalists, etc.

- ✓ “[Lane] Kenworthy argues that over the long term, U.S. welfare and social policy will become more generous as liberal policymakers expand old programs and create new ones and their conservative opponents fail to wholly undo them. Eventually, he said, he is confident that the country will offer its citizens universal health care – despite the likelihood that Republicans will retrench Obama’s reforms.” – Max Ehrenfreund, “Why the Republican plan to repeal Obamacare is so extraordinary,” *Washington Post*, January 17, 2017.
- ✓ A slightly different view: “It is a lot harder to dismantle a bad system than to put it in place. The new beneficiaries treat their newfound largesse as an eternal entitlement. Hence efforts to return to the *status quo ante* of 2010 is treated like a cruel and heartless return to the dark ages.” – Richard A. Epstein, “Memo to GOP – It’s too late for a full scale Obamacare repeal,” *The Hill* (blogs), June 28, 2017.

Now, if you are thinking along with me ... I have asserted previously that interstellar societies have potentially infinite resources available to them. It follows then, that except on local levels where resources might be scarce during certain times, overall, it is expected that the abundance of current modernity would continue and very likely, interstellar civilization would be liberal, especially as to progressive social programs and safety nets.

- ✓ See also Illusion of Superabundance and Great Chinese Famine discussion, 4 Commerce, p. 1231, *infra*.
- Liberal: In these commentaries and throughout GGDM, the terms ‘liberal’ and ‘liberalism’ are of the meaning in the United States during my lifetime, the general understanding of such held by normal people; but liberal doesn’t mean the same in all places and times:
 - ✓ “However, the term ‘liberal’ does not have the same political connotation in all English speaking countries. In Australia it has the opposite connotation to that which it enjoys in the US. While social liberalism is generally associated with the Labor Party, the Liberal Party is a conservative party whose name is based on their objective to liberalise the market economy within Australia. In the UK, the Liberal Democrats occupy the political centre between the rightist Conservative and the leftist Labour parties, though the term ‘metropolitan elite’ is frequently used in reference to Labour politicians too.” – from Wikipedia article, “Liberal Elite,” captured September 23, 2018.

I personally have no sense of what ‘liberalism’ means in other places now, but I learned when I was young that certain hand gestures that are harmless in the United States (like the OK signal) are taken as insulting in other countries or even in other places within the same country (e.g., Winston Churchill’s V signal in *Darkest Hour* (2017)). Politics is probably like

that too; in England, I would automatically be considered a “Republican” (i.e. those in favor of abolishing the monarchy) – an even dirtier term there than here currently (but I would be historically excused there because I am an American).

The Bargain: Progress necessarily implies movement or change toward a goal, ideal, or defined/known or anticipated end point. Without an end point, even if it is only in the mind of the observer, it is just movement without purpose (that is, *non-teleological movement*). Progress can be good or bad, but curiously, is rarely neutral because it is relative to the observer; for example, the progression of a cancer is almost never considered positive, but one could construct a situation where it is positive to someone, for example, the impatient heirs or the undertaker.

Social progress implies that the population, or a significant part of the population believes their society (or more broadly, civilization) is not perfect, and that they expect society – politically and culturally – to move toward some *ideal future*. Thus a utopian society must believe that no further social progress is necessary or possible, and that any change would destroy the perfect society. See *The Devil’s Argument*, 1 Entropy, p. 216, *supra*.

The concepts of progress in a civilization are linked very strongly to *ideology*, which one might define as a set of ideas on what constitutes progress – it would be difficult to imagine otherwise.

- ✓ “[Sen. Bernie] Sanders, [Pete Buttigieg] said, would prioritize ideological purity and pie-in-the-sky policy proposals, while doing nothing to remedy the country’s political divisions.” – Reid Wilson and Max Greenwood, “Buttigieg sounds alarm after Sanders wins Nevada,” *The Hill*, February 23, 2020.
- ✓ Empirical science and technology are almost *inseparable* from modern concepts of progress (and core to modernity), thus another 2020 Democratic candidate is running TV adverts promising to “end the war on science” by the incumbent administration.⁵

There is never agreement on what exactly constitutes social progress; the devil is always in the details, as they say. In the current Western political spectrum (in the U.S. at least), liberals are usually most associated with social progress and grand futures and ideals. Conservatives are not anti-progress, as is sometimes claimed (those few who actually are, are called reactionaries or regressives), but they disagree on what constitutes progress and on the pace of change.

- ✓ “This suggests opposition to humanities degrees is based more on prejudice than on actual job prospects. And it’s also often linked to politics, according to [Matt] Gabriele [at Virginia Tech]. The right-wing media has spent decades demonizing university professors and students; some conservatives seem to fear humanity professors in particular will indoctrinate students or intimidate budding conservatives.” – Noah Berlatsky, “Are millennials really to blame for the decline in the liberal arts?” *NBC Think*, October 10, 2018.
- ✓ “The tragedy is that society ...keeps drumming the genius part out. The problem is that our culture has engaged in a Faustian bargain, in which we trade our genius and artistry for apparent stability.” – Seth Godin.

Everyone thinks there is something that could be positively changed, bettered, or improved about their own lives and about the society or milieu in which they live, everyone wishes something was different or had not happened. Progress happens whether we want it or not; for example, we get older whether we want to or not.⁶ Since death is the known end point of living, aging is con-

sidered progress (that is, the phrase “age progression” is not nonsensical in our language). Progress exists simply because we are sapient. All living things die, not all living things are sapient; if there is no understanding of the relationship between living, the passage of time, and death, or even what is death, then aging is just change, the passage of time, without ‘progress.’

Progress is therefore the default state of sapience. But the direction of progress is dictated by what a society considers important; for example, in a cleric-ruled civilization, progress might be defined by creation of a religious state, religious control of critical institutions and the economy, and individual adherence to the ideals, rituals and doctrinal purity of the religion. For example, the South China Morning Post ran an article titled, “Indonesian TV censorship: cartoons cut, athletes blurred as conservative Islam asserts itself and broadcasters fear sanctions,” on December 31, 2017. The title says it all very clearly, what is happening there, the article that followed is just details. The current Western civilization is based on legitimate secular authority but the goals and ideals against which we define social progress arise from our religious past.

Current Western civilization rests on a bargain, it might be called The Bargain, between liberal drift and oligarchic drift. Every civilization has bargains, and they are usually multisided, interlocking multiple bargains. In the West, The Bargain is that oligarchic drift is tolerated and considered somewhat beneficial as long as a liberal drift counters it – that is, if the social safety net is maintained and expanded and the appearance of social progress continues,⁷ and the government and courts operate to curb the biggest abuses of both, then business and personal wealth accumulation will be tolerated, encouraged and allowed⁸ to influence and dominate the systems.

- ✓ “Multivariate analysis indicates that economic elites and organized groups representing business interests have substantial independent impacts on U.S. government policy, while average citizens and mass-based interest groups have little or no independent influence. The results provide substantial support for theories of Economic-Elite Domination and for theories of Biased Pluralism, but not for theories of Majoritarian Electoral Democracy or Majoritarian Pluralism.” – Martin Gilens and Benjamin I. Page, abstract of “Testing Theories of American Politics: Elites, Interest Groups, and Average Citizens,” Princeton University, pub. September 18, 2014.
- ✓ “The theory of ‘biased pluralism’ that the Princeton and Northwestern researchers believe the U.S. system fits holds that policy outcomes ‘tend to tilt towards the wishes of corporations and business and professional associations.’” – Zachary Davies Boren, “Major Study Finds The U.S. Is An Oligarchy,” Business Insider, April 16, 2014.

Each nation has a tolerance balance; when the oligarchic drift goes too far, a more socially progressive government is empowered, when it is thought that liberal and progressive forces (most recently, “liberal globalization” is the conservative term of derision) are ascendant, *sometimes* the conservative oligarchic drift takes power. But the Bargain cannot be violated.

- ✓ “First, I do think we have to remember ... how many people were lifted out of poverty around the world. I think that the reason that we have seen a rise in populist nationalism and a backlash against globalization is because of the way that it was ... mismanaged in terms of its impact on certain community. I mean, Brexit, for example, is an example of the backlash. And that is because what ... a lot of policymakers forgot is that right around them in their own backyard ... there was an impact that was not being addressed. That is, I think one of the mistakes. ... the other is, you have to go

back to the financial crisis and the extent of the financial crisis. Often, when you have big shocks ... not all the ramifications are felt right away. Some of it comes with a delayed reaction. And I think ... the new sort of sentiment of being anti-E.U., anti-globalization has to do with the fact that inequality has widened in the last decades, and nothing was done about it. We were just moving ahead and thinking about the stock market. ... it's a wakeup call. It's a wakeup call to say, OK, what has gone wrong? How do we reset capitalism? What should be the policies that are more distributive, without losing sight of the benefits of globalization? ...we are ... advocates of free trade and free markets, because we think that that is where the economic benefit is for everyone. But we also have to take into account the pitfalls ... where it needs to be reset and reformed.” – Roula Khalaf, Editor of the Financial Times, Amanpour & Company, PBS, June 8, 2020 (from CNN rushed transcript).

Within GGDM, the tension is this: I have argued regarding the relationship of abundance, modernity and liberalism; I have argued here about a balance tension between oligarchic drift and the perception of social progress. I have also argued elsewhere about the probable great expense of starships, the necessity of starships to hold together an interstellar civilization, and the potential for tyranny and exploitation, and even coup and rebellion by those who crew the starships; the tension between the vast ground populations and the ‘starship elite’ minority who holds the power above and beyond.

- ✓ “The proliferation of billionaire and super-rich political candidates is partially a function of the collapse of the campaign finance legal regime enacted after Watergate. As political parties seek candidates with deep pockets, rising wealth inequality is leaving the super-rich with even more excess wealth, and much of American political culture continues to assume that, due to their success, billionaires are uniquely qualified to solve complicated domestic and international problems.” – Paul Blumenthal, “Bloomberg’s Presidential Bid Comes Amid A Golden Age For Super-Rich Politicians,” Huff Post, November 30, 2019. (Hint: The Roman Republic had the same problem.)
- Secular Revolution: The secular revolution in religious philosophy is that any religious leader or speaker can be stripped of mystical trappings and treated, examined, and criticized as any other philosopher (e.g., Jesus Christ). This tends to infuriate fundamentalist believers. Consider the following disclaimer by Avi Sion:
 - ✓ “Needless to say, the following comments are not an attack on Buddhism, but an attack on the rhetoric of Nagarjuna. Buddhism is not well served by such games. I think of Nagarjuna whenever I read v. 306 of the *Dhammapada*, ‘He who says what is not... and he who says he has not done what he knows well he has done... sinned against the truth.’ For me, he is just a philosopher like any other; his interest in Buddhism is incidental (as is his saintly status in the eyes of many).” – Avi Sion, Paradoxes and Their Resolutions: A Thematic Compilation, FN 99, p. 208.
- Cultural War: Politics can be defined as proxy for culture war. There is ample evidence in our time that many believe this to be true, both in our country and over much of the world; everything is a culture war and one side or both are itching to fight, looking for the right ‘events’ (even if contrived) to push their narrative. The more extreme a group’s political views, whether right-wing fall-off-the-cliff whackos, or left-wingnut looneys, the more likely it is that they believe they are involved in a culture war, which politics is one component.⁹

- ✓ “There is an ominous dark cloud of self-seriousness, legalism, and binary thinking that threatens to suck the Gospel life and joy out of nearly everything. The culture wars, worship wars, confessional and missional wars have made religious life about as morose as a 15-stanza hymn sung too slowly.” – Rev. Craig Donofrio and Rev. Bill Cwirla (“The Manly Doctors of Divinity”), from godwhisperers.org

This entire process, taken as a whole, is what is called in law an *adversarial system*, a truth-finding process where truth is discovered by both sides presenting their best (and opposing) cases. In this view, the actions of politicians are always seen as *playing to their base*, some do it with nuance and subterfuge, others are more ham-handed.¹⁰ In GGDM, this adversarial process will play out on an interplanetary and interstellar scale between conflicting Conflict Checks in Government Titles, competing Power Activations priorities, and later among the spheres of different technologically-advanced species. This is the stuff of space-opera trope and nascent interstellar culture.

- ✓ There is a difference between being a partisan and an ideologue: The former requires loyalty to a party, to a fault; while the latter requires loyalty to an idea, to a fault.
- Losing Coherence: There are plenty of tools in GGDM for participants to introduce local cultural drift and political fragmentation (see Human Drift-course discussion, 3 Entropy, p. 246, *supra*). As a historical example, consider the cultural, religious and political fragmentation of the Mongol Empire in a century, aided by rivalries between the hordes, the devastation of the Black Death, and contact with Islam and Christianity. The rivalries between Mongol groups became religious wars between Hordes that had adopted different religions.

If participants wanted to introduce a society to the game that does not, for example, have oligarchic drift, they would have to look outside of our time and outside of Western Civilization for inspiration. Perhaps the Northwest Native American *potlatch ritual* might be construed as an anti-oligarchic cultural practice; where prestige gained from the potlatch has religious and cultural significance greater than what was given away in material wealth.¹¹

Whatever direction the participants decide their society or the game might take, should be considered in terms of belief systems, for everything we do is backed by our beliefs and meanings. If you wanted to develop a non-oligarchic society, what would be required? In some ways, modern philanthropy by billionaires somewhat counters the perception of wealth accumulation for its own sake detached from social progress. If a non-oligarchic society did exist in the game, what other changes would exist, would it curtail liberal social progress?

“Phillips’ argument is that it takes time for a newly dominant state to use all its resources efficiently, which he defines as ‘..high output or return per unit investment’ (1979: 140). Efficiency ... though, leads to inflexibility in resource allocation. The mechanism is this: a newly dominant state controls a large territorial base, but has not yet developed (or come to depend on) complex institutions that will derive a significant return for this resource base. In such situations, a large proportion of the new resources will always be used in non-critical or low return ways.... But through time social and political institutions emerge that use this resource base more fully (in Phillips’ terminology, ‘efficiently’). Eventually, most resources are allocated to support of ‘efficient’ institutions ... leaving no reserves or flexibility in resource allocation.”

– Joseph Tainter, *The Collapse of Complex Societies* (1988), p. 55

Conquest by Entitlements: Though formulated to describe the process of Mesoamerican culture, this description applies to the history of the United States. The closing of the Western Frontier in 1896 was no small matter; thereafter the ability of the United States, absent an imperialist policy (e.g., The American Empire of 1898-1945), to make up deficits by expansion, was limited to the space and resources within the borders of the United States and what could be imported, which is where the globalization became important concerns.

- ✓ *Entitlements* in the United States and other Western countries have *locked down resources today and into an infinite future*, hampering reserves and flexibility.

The entitlements problem is the modern version of a classic quandry, except that in the modern nuclear-armed, globally enmeshed world, overt military conquest is a deprecated option:

- ✓ “When population in the Preclassic became sufficiently dense that productivity fluctuations were a matter of serious concern, the solution to each local group so affected must have been obvious: raid neighboring groups to make up a deficit. Since the only alternative over the short-term was famine, the development of warfare ... was entirely expectable. Long-term solutions included agricultural intensification and the establishment of a hierarchically managed economy. These were not permanent solutions, however, for the archaeologically-evident pattern of population growth indicates that, with each establishment of a higher-capacity production system, population simply rose further. The military option must have been perpetually tempting.” – Joseph Tainter, *The Collapse of Complex Societies* (1988), p. 171.¹²

By this analysis, the United States and Western civilization has reached a kind of maturity that suggests collapse may occur, unless outside resources are obtained, by which is meant, possibly from space. Entitlements and infrastructure problems may be the best and deepest sounding argument for space exploration and exploitation, to wit:

- ✓ “However, Tainter is not entirely apocalyptic: ‘When some new input to an economic system is brought on line, whether a technical innovation or an energy subsidy, it will often have the potential at least temporarily to raise marginal productivity’ (p. 124). Thus, barring continual conquest of your neighbors (which is always subject to diminishing returns), innovation that increases productivity is – in the long run – the only way out of the dilemma of declining marginal returns on added investments in complexity. And, in his final chapters, Tainter discusses why modern societies may not be able to choose to collapse: because surrounding them are other complex societies which will in some way absorb a collapsed region or prevent a general collapse; the Mayan and Chocan regions had no powerful complex neighbors and so could collapse for centuries or millennia, as could the Western Roman Empire – but the Eastern Roman Empire, bordered as it was by the Parthian/Sassanid Empire, did not have the option of devolving into simpler smaller entities.” – from Wikipedia article, “Joseph Tainter,” captured November 22, 2018, quoting *The Collapse of Complex Societies* (1988).

I did not expect this discussion to become one supporting space exploitation, I surprised myself with the intellectual turn of the argument. But it makes sense in the context of the resource- and diminishing-returns arguments leading to the collapse of classical civilizations; the next frontier – the only resource and living space available, is out there. Return to the top and read it again. ☺

“Much of the news coverage attempted to explain why anyone would have been tempted by Singer’s scheme. A common attribute among the defendants was that many were rich, but not ultra-rich. According to The New York Times, college admissions at certain elite American universities had become so selective that a family would have to make a minimum donation of \$10 million to inspire an admission committee to take a second look at their child. And even for families of such means, there would be no guarantee of return on investment, while Singer was selling certainty. ... The Los Angeles Times explained that there was probably also a social signaling element at work, in that admission to an elite university based purely upon an applicant’s apparent merit publicly validates both the child’s innate talent and the parents’ own parenting skills in a way that an admission coinciding with a sizable donation does not.”

– from Wikipedia article, “2019 college admissions bribery scandal,” captured July 2, 2019
 13[Full Quote]

Endnotes.

¹ Commentary: In a case I worked on, corporate counsel sent an email to an employee who was the subject of a subpoena from the state attorney general to appear and testify; in the email the employer’s attorney wanted to have a “getting on the same page meeting,” meaning he wanted to insure the employee didn’t tell the whole truth (i.e. suborn perjury) during testimony before the state attorney general on the loss of taxpayer funds in investments.

² Citation: Investopedia at *Law of Large Numbers*: “The law of large numbers, in probability and statistics, states that as a sample size grows, its mean gets closer to the average of the whole population.... In statistical analysis, the law of large numbers can be applied to a variety of subjects. It may not be feasible to poll every individual within a given population to collect the required amount of data, but every additional data point gathered has the potential to increase the likelihood that the outcome is a true measure of the mean.... If a person wanted to determine the average value of a data set of 100 possible values, he is more likely to reach an accurate average by choosing 20 data points instead of relying on just two. For example, if the data set included all integers from 1 to 100, and sample taker only drew two values, such as 95 and 40, he may determine the average to be approximately 67.5. If he continued to take random samplings up to 20 variables, the average should shift towards the true average as he considers more data points.”

- ✓ “The LLN [Law of Large Numbers] is important because it guarantees stable long-term results for the averages of some random events. For example, while a casino may lose money in a single spin of the roulette wheel, its earnings will tend towards a predictable percentage over a large number of spins. Any winning streak by a player will eventually be overcome by the parameters of the game. It is important to remember that the law only applies (as the name indicates) when a large number of observations is considered.” – from Wikipedia article, “Law of Large Numbers,” October 6, 2018.

³ Commentary: The choices that designers make. In the card game *Race for the Galaxy* (2008), it is possible sometimes to conquer/colonize two planets in a turn, but it’s never possible to put down two developments in a turn (thus, when you fall behind in a developments race, you will likely never catch up). This was, of course, a choice by the designer that speaks to the perception that even with advanced technology, it is faster and easier as a process to gain planets than to advance social developments. Likewise, in *Race for the Galaxy* there is no individual ability to choose to both develop an ability and conquer/colonize a planet in the same turn – you can do one or the other and hope that someone else plays the other phase – this might have been an interesting use of prestige points, but it clearly was rejected by the designer. If there is a great designer of this universe, our problems are the design choices that were made; one must wonder at the alternatives.

⁴ Citation: “‘We will resist to the end,’ the KGB colonel said. ‘We’ll show them how Soviet soldiers can fight!’ ‘I admire your spirit, Comrade Colonel.’ He walked over to the corner and picked up a rifle. ‘Here, you may take this to the front yourself.’ ‘But—’ ‘Lieutenant Gasporenko, get the colonel a driver. He’s going to the front to show the Americans how Soviet soldiers fight.’ [Gen.] Andreyev watched with dark amusement. The *chekist* could not back down.” – Tom Clancy, *Red Storm Rising* (1983).

⁵ Citation: “But while Ms. Thunberg is merely hammering home the science – that 97 per cent of peer-reviewed climate studies agree with the scientific consensus that manmade global warming is real – Ms. Seibt appears to have

more interest in ideology. Alongside her interest in climate denial, she has voiced concerns about immigration and feminism, and has previously spoken at events run by Germany’s far-right AfD (Alternative for Germany) party. She has denied being a member of the far-right group, but previous reports suggest she is or has been a member of the party’s youth wing.” – Harry Cockburn, “Anti-Greta: Far-right groups trying to turn teenager into climate change-denying version of Greta Thunberg,” *The Independent*, February 25, 2020.

⁶ Commentary: Sometime after 2000, or maybe around 2010 at the grocery store I witnessed a 30^{ish} female leading a much older male through the store; she was teaching him how to shop for groceries. I got the impression somehow that he had just got out of jail, probably had served a long time. Think about it, if a person went to jail in the late 1970s or in the 1980s and served 30+ years, how different the world was when they were released?

⁷ Commentary & Citation: I once read that Chief Justice Earl Warren did not do what President Eisenhower wanted. Conservatives in the United States have consistently sought to pack the court with conservative and pro-business justices as a long term ‘cure’ to what they perceive as a tide of liberalism. But “the only thing new in the world is the history you do not know” (Pres. Harry Truman) and the close of the latest Supreme Court term with two newly-appointed conservative Justices points to some moderation of the new conservative bloc, much to the dismay of the current President’s backers, e.g., Jacqueline Thomsen, “Conservative justices surprise court watchers with swing votes,” *The Hill*, July 2, 2019. And the Constitution, Article 3, grants U.S. judges ‘life terms,’ specifically:

- ✓ “‘Article III federal judges’ ... serve ‘during good behavior’ (often paraphrased as appointed ‘for life’). Judges hold their seats until they resign, die, or are removed from office.” – from Wikipedia article, “United States federal judge.”

This protects them from being removed for political reasons (you can bet President Trump would try to fire them)...

⁸ Commentary: There are some arguments that can be offered in favor of individual wealth accumulation. For example, promotion of the arts, available money for business investments, incentive to individual innovators and inventors, management and job creation, and so forth. Because accumulation of wealth in the West has not been any difficulty for the last few centuries, these are often *weaker* arguments compared to the arguments in favor of curbing individual wealth accumulation. But they are sufficient, in combination with a general sense of wellbeing in the population (and wealth sharing through taxation), to prevent a full scale revolt against the wealthy elites.

⁹ Commentary: Religion, advertising, publishing, college campuses, public school curricula and textbooks, television programming, criminal law, internet and twitter trolling are among the others.

¹⁰ Citation: “There are three criteria for every decision we make: It has to be moral, ethical and legal. Ethical, you have to follow the rules, legal you have to follow the law, and moral you have to follow what you know to be right. And either way, that’s just not right. You’re not going to use ... whether it’s the military, the National Guard, or the police forces to clear peaceful American citizens for the President of the United States to do a photo-op. There is nothing morally right about that.” – Adm. William McCraven (Ret.), *Morning Joe*, MSNBC, June 5, 2020.

¹¹ Commentary & Citation: However, even ‘Big Man’ systems can lead to poor or strange consequences, to wit:

- ✓ “The indigenous societies of Melanesia were typically characterized by a ‘big man’ political system in which individuals gained prestige through gift exchanges. The more wealth a man could distribute, the more people in his debt, and the greater his renown. Those who were unable to reciprocate were identified as ‘rubbish men.’ Faced, through colonialism, with foreigners with a seemingly unending supply of goods for exchange, indigenous Melanesians experienced ‘value dominance.’ That is, they were dominated by others in terms of their own (not the foreign) value system; exchange with foreigners left them feeling like rubbish men.” – from Wikipedia article, “Cargo Cult,” citing to Theodore Schwartz (1976).
- ✓ In any foreign contact, colonial setting – such as possibly any situation in GGDM – the value system of a ‘non-oligarchic society’ can be overwhelmed or corrupted by foreign cargo, contact and exploitation. Traveller RPG had the concept of ‘novelty technological items,’ which were usually high tech items on lower tech or indigenous worlds that were left behind or were bought and imported at great expense, which could not be duplicated locally, and whose technology was not fully understood. Consider for example, a solar-powered charger and flashlight on Endor; among the Ewoks it would be a religious artifact upon which they might build a cult concept of light and enlightenment. Traveller didn’t do well at explaining or exploiting this, but it was there for players who understood. The other danger of non-oligarchic, big man systems is the possible confusion of wealth, indebtedness, with social good and leadership: Does the son of the ‘big man’ get to rape the daughter of the ‘rubbish man’ because of the indebtedness of wealth distribution? I have often wondered if something like this might have played in the rape of Lucretia.
 - ‘Rubbish man reaction’ may also adequately describe how one feels when a non-parental, and even non-related other (especially another who is much wealthier) gives them expensive gifts or is

constantly buying for them (with the implication of such being unearned, i.e., not employment bonuses and expected to be unrequited). I am not sure if this has ever been identified in psychology, but it is a useful tag for the concept. It is also an internal fight between the appearance of social graciousness in accepting, not embarrassing the gift-giver or causing personal conflict, and feeling terrible, inferior inside for doing so and impossibly indebted to the other.

¹² **Citation:** See 2 Government Titles, EN 9, p. 604, *infra*, for full quote.

¹³ **Citation:** “Much of the news coverage attempted to explain why anyone would have been tempted by Singer’s scheme. A common attribute among the defendants was that many were rich, but not ultra-rich. According to The New York Times, college admissions at certain elite American universities had become so selective that a family would have to make a minimum donation of \$10 million to inspire an admission committee to take a second look at their child. And even for families of such means, there would be no guarantee of return on investment, while Singer was selling certainty. ... The Los Angeles Times explained that there was probably also a social signaling element at work, in that admission to an elite university based on ... apparent merit publicly validates both the child’s innate talent and the parents’ own parenting skills in a way that an admission coinciding with a sizable donation does not. In turn, others examined why certain universities had become so selective in the first place. The Atlantic pointed out that college seats are not scarce in the United States, except at a handful of universities which became selective on purpose: ‘Scarcity has the added benefit of increasing an institution’s prestige. The more students who apply, and the fewer students who get in, the more selective an institution becomes, and, subsequently, the more prestigious. And parents are clawing over one another to get a taste of the social capital that comes with that.’ Arizona State University (ASU) president Michael M. Crow described the ‘crisis of access to these social-status-granting institutions’ as a full-blown ‘hysteria.’ It was alleged in court filings that one of the defendant parents had named ASU as a university they were specifically trying to avoid; the non-selective university has been the ‘butt of jokes’ in American television shows for many years, as well as the 2015 film *Ted 2*. The inevitable result, according to Newsweek, was that the most elite institutions had created a situation in which purely meritocratic admissions had become impossible because they were already turning away too many overqualified candidates – former Harvard president Drew Gilpin Faust had once said, ‘we could fill our class twice over with valedictorians.’

HuffPost explained that such anxiety barely exists in Canada, whose four-year universities do not show such extreme disparities in selectivity and prestige, and in turn, most Canadian employers do not rigidly discriminate between job candidates based upon where they graduated. In contrast, selective American universities have evolved into gatekeepers for the highest echelons of certain socially prestigious and financially lucrative industries like law and finance. University of Oklahoma history professor Wilfred M. McClay told Newsweek: ‘I’m not going to pretend there isn’t a difference between Harvard and Suffolk County Community College, but I think this situation where the Supreme Court is made up entirely of Harvard or Yale Law School graduates is wrong. The thing driving the current scandal seems to be that ultimately parents were willing to do anything to game the system to get their kids these advantages, not because the education was better but because the legitimation of social position would be better.’” – from Wikipedia article, “2019 college admissions bribery scandal,” captured July 2, 2019.

- ✓ “[Sciences Po] was founded in 1872 to promote a new class of French politicians in the aftermath of the French defeat in the Franco-Prussian War of 1871, and has since educated, among others, 32 heads of state or government, 7 of the past 8 French Presidents, 3 past heads of the International Monetary Fund, heads of international organizations (including the UN, UNESCO, WTO, IMF, EP and ECB), and 6 of sitting CAC 40 CEOs. The school is also the alma mater of numerous intellectual and cultural figures, such as Marcel Proust, René Rémond, Paul Claudel, and Raymond Aron. ...

Due to its prominent alumni, its selectivity and its alumni’s high profile, Sciences Po is broadly perceived as an elite institution. However, it has been criticized, along with the *École nationale d’administration*, for creating in France an oligarchy that is out of touch with reality, ‘...blinkered, arrogant and frequently incompetent people.’ ...

The institution is partly state-funded, and some, especially institutes of political studies in the provinces, have accused it of receiving a disproportionate share of public money. ... Critics have accused Sciences Po of prioritizing access to professional networks over education and expertise. ... Sciences Po has also been accused of being unduly helped by the media. ‘Almost every French newspaper is run by an alumnus of Sciences Po,’ and most of the journalists in France are alumni from Sciences Po, so it would give the school ‘an unparalleled media coverage’ and permit it to ‘cultivate a culture of secrecy’ about its internal affairs. ... The journalist Ariane Chemin stated in 2013 that, because so many journalists come from Sciences Po, the school has an undue good public reputation.” – from Wikipedia article, “Sciences Po,” captured July 2, 2019.

The Printing Revolution

Extracted from Wikipedia article, “Printing Press” on December 8, 2017

The Printing Revolution occurred when the spread of the printing press facilitated the wide circulation of information and ideas, acting as an ‘agent of change’ through the societies that it reached.¹ (Eisenstein (1980))

The invention of mechanical movable type printing (by Gutenberg et al, approximately 1436 C.E.) led to a huge increase of printing activities across Europe within only a few decades. From a single print shop in Mainz, Germany, printing had spread to no less than around 270 cities in Central, Western and Eastern Europe by the end of the 15th century. (“Incunabula Short Title Catalogue” British Library. Retrieved 2 March 2011.) As early as 1480 C.E., there were printers active in 110 different places in Germany, Italy, France, Spain, the Netherlands, Belgium, Switzerland, England, Bohemia and Poland. From that time on, it is assumed that “the printed book was in universal use in Europe.” (Febvre, Lucien; Martin, Henri-Jean (1976))

In Italy, a center of early printing, print shops had been established in 77 cities and towns by 1500. At the end of the following century, 151 locations in Italy had seen at one time printing activities, with a total of nearly three thousand printers known to be active. Despite this proliferation, printing centres soon emerged; thus, one third of the Italian printers published in Venice.² (Borsa 1976, p. 314; Borsa 1977, p. 166–169)

By 1500, the printing presses in operation throughout Western Europe had already produced more than twenty million copies. In the following century, their output rose tenfold to an estimated 150 to 200 million copies. (Febvre, Lucien; Martin, Henri-Jean (1976))

European printing presses of around 1600 were capable of producing about 1,500 impressions per workday. (Pollak, Michael (1972)) By comparison, book printing in East Asia, did not use presses and was solely done by block printing.³ (Needham 1965, p. 211⁴)

Of Erasmus’ work, at least 750,000 copies were sold during his lifetime alone (1469–1536). (Is-sawi 1980, p. 492) In the early days of the Reformation, the revolutionary potential of bulk printing took princes and papacy alike by surprise. In the period from 1518 to 1524, the publication of books in Germany alone skyrocketed sevenfold; between 1518 and 1520, Luther’s tracts were distributed in 300,000 printed copies. (Duchesne 2006, p. 83)

The rapidity of typographical text production, as well as the sharp fall in unit costs, led to the issuing of the first newspapers which opened up an entirely new field for conveying up-to-date information to the public. (Weber 2006, pp. 387f)

The printing press was also a factor in the establishment of a community of scientists who could easily communicate their discoveries through the establishment of widely disseminated scholarly journals, helping to bring on the scientific revolution.⁵ Because of the printing press, authorship became more meaningful and profitable. It was suddenly important who had said or written what, and what the precise formulation and time of composition was. This allowed the exact citing of references, producing the rule, “One Author, one work (title), one piece of information.” (Giesecke, 1989; 325) Before, the author was less important, since a copy of Aristotle made in Paris would not be exactly identical to one made in Bologna. For many works prior to the printing press, the name of the author has been entirely lost.⁶

Because the printing process ensured that the same information fell on the same pages, page numbering, tables of contents, and indices became common, though they previously had not been unknown. The process of reading also changed, gradually moving over several centuries from oral readings to silent, private reading. Over the next 200 years, the wider availability of printed materials led to a dramatic rise in the adult literacy rate throughout Europe. (Peck, Josh)

The printing press was an important step towards the democratization of knowledge.⁷ (Malte Herwig, 2007; Howard Rheingold, 2009) Within 50 or 60 years of the invention of the printing press, the entire classical canon had been reprinted and widely promulgated throughout Europe (Eisenstein, 1969; 52). Now that more people had access to knowledge both new and old, more people could discuss these works. Furthermore, now that book production was a more commercial enterprise, the first copyright laws were passed to protect what we now would call intellectual property rights. On the other hand, the printing press was criticized for allowing the dissemination of information which may have been incorrect.⁸ (Julia C. Crick; Alexandra Walsham (2004); Nick Bilton (2010))

A second outgrowth of this popularization of knowledge was the decline of Latin as the language of most published works, to be replaced by the vernacular language of each area, increasing the variety of published works. The printed word also helped to unify and standardize the spelling and syntax of these vernaculars, in effect ‘decreasing’ their variability.⁹ This rise in importance of national languages as opposed to pan-European Latin is cited as one of the causes of the rise of nationalism in Europe.

A third consequence of popularization of printing was on the economy. Printing press was associated with higher levels of city growth. (Jeremiah Dittmar, 2011) Publication of trade related manuals and books teaching techniques like double-entry bookkeeping, increased reliability of trade and led to decline of merchant guilds and rise of individual traders. (Prateek Raj, 2017)

¹ Commentary: Some people think of things and forget to write them down. Some other people write stuff down and forget to think.

² Commentary: Italic Type was invented and used by a Venetian printer, Aldus Manutius around 1500. He also left his mark on the printed comma and semi-colon, and vigorously reprinted the lost classical and ancient works for the first time. His Aldine Press continued until the end of the 16th Century, about 100 influential years.

³ Commentary: Note that a movable type press was known to the Song Dynasty in the 13th Century C.E., but as is discussed later, many East Asian inventions, predating those in Europe, were restricted, abandoned and lost, only to be re-imported from Europe later. This is part of a process known as the East-West Technological Inversion.

⁴ Citation & Commentary: “The outstanding difference between the two ends of the Old World was the absence of screw-presses from China, but this is only another manifestation of the fact that this basic mechanism was foreign to that culture.” – Needham, 1965.

✓ “Chinese paper was suitable only for calligraphy or block-printing; there were no screw-based presses in the east, because they were not wine-drinkers, didn’t have olives, and used other means to dry their paper.” – Duchesne, 2006, Man, 2002. The introduction of European olives (and other fruits) to China and other places, is an example of another macro-historical process, the 400-year Columbian Exchange.

⁵ Commentary: For example, Kepler’s “Conversation with Galileo’s Sidereal Messenger,” quoted previously in 2 Sidereal Stage, was published in 1610 in response to Galileo’s *Sidereus Nuncius*, also published in 1610. This is the book that got Galileo embroiled in the famous controversy with the Church – because he said that celestial bodies, specifically the moon, had mountains, irregularities, like the Earth, and was not a perfect spherical heavenly body. Independent observations by others soon confirmed his claims; this begins the necessity of independent verification to scientific claims. Francis Bacon published his famous book, *Novum Organum Scientiarum*, around 1620 C.E.

⁶ Commentary: And here would be an interesting point for discussion. It is implied that the loss of the author's name is inherently bad. But it is not clear why this is? What is important about the author's name if we still have the written work? The importance of authorship in printed works, both for reference and for the commercial value of the name, arising from the printing revolution parallels generally the egocentric, individualism drift of Western Society and later, civilization globally, in the last 500 years, the first technological empowerment of individualism. Before the printing press, could modest Erasmus have put or even envisioned his name on 750,000 works?

⁷ Commentary: I admit that when I read the story of Diderot, I was disappointed that he signed the letter of submission and gave oral deposition against his publisher and printer to escape incarceration in 1749. He also swore not to write any further offensive materials. But maybe he was crazy like a fox. Diderot, through his writings and his 20 year labor, the *Encyclopédie* (banned in 1759), began to wrestle the privilege of knowledge and learning away from the elite and wealthy, the aristocracy, and royalty and hereditary nobility, and to redefine the notion of the nation. He also gained the odd patronage of and strange friendship with the enlightened despot, Catherine the Great of Russia, which probably restrained the French persecution of Diderot since his entire library was her property and he was her caretaker in France. He started the information age, which is now a ubiquitous reality of governments everywhere, thanks in large part to the U.S. Government – first with the need for machines to calculate the Census and naval gunfire tables, and later, ARPANET (U.S. DoD research network), which morphed into the internet.

⁸ Commentary: Yes, Mr. President, American media can print whatever stories they want, without your approval.

⁹ Commentary: The Great Vowel Shift began in the English language around 1350 and continued through the period of the printing revolution, into the 17th Century. The printing press was brought to England around 1470. Because printing standardized spellings and punctuation, while oral pronunciations shifted, many English words are not printed on paper the way they are pronounced by native English speakers.

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“The cause returned is, the slave absented himself, and departed from his master’s service, and refused to return and serve him during his stay in England; whereupon, by his master’s orders, he was put on board the ship by force, and there detained in secure custody, to be carried out of the kingdom and sold. So high an act of dominion must derive its authority, if any such it has, from the law of the kingdom where executed. A foreigner cannot be imprisoned here on the authority of any law existing in his own country: the power of a master over his servant is different in all countries, more or less limited or extensive; the exercise of it therefore must always be regulated by the laws of the place where exercised.

The state of slavery is of such a nature, that it is incapable of now being introduced by Courts of Justice upon mere reasoning or inferences from any principles, natural or political; it must take its rise from positive law; the origin of it can in no country or age be traced back to any other source: immemorial usage preserves the memory of positive law long after all traces of the occasion; reason, authority, and time of its introduction are lost; and in a case so odious as the condition of slaves must be taken strictly, the power claimed by this return was never in use here; no master ever was allowed here to take a slave by force to be sold abroad because he had deserted from his service, or for any other reason whatever; we cannot say the cause set forth by this return is allowed or approved of by the laws of this kingdom, therefore the black must be discharged.”

– Lord Mansfield (William Murray, 1st Earl of Mansfield), King’s Bench, 1772, judgment on Writ of Habeas Corpus issued in the matter of *Somerset v Stewart*, 98 ER 499 ¹

Writs and Rights: *Somerset* was a major test of slavery in the Courts of Justice, Kings Bench. Mr. Somerset was freed, as no law of the Kingdom supported his detention. Slavery was abolished in England by the Slavery Abolition Act of 1833.

- ✓ In later rulings and commentary however, Lord Mansfield seemed to equivocate and back away from his ruling in *Somerset* creating confusion as to its precedential value at Common Law.

However, there were enormous humanitarian and economic issues and repercussions with how the 1833 abolition was accomplished; chiefly that *slave owners* were compensated by the government for their freed slaves (making many of them very rich) and second, that the freed slaves were required to continue working – without compensation – for their prior owners for a period of time after.

- ✓ The freed slaves were neither compensated by their former owners or the government for their lifetime of slave labor, thus entrenching for generations wealth disparity between former owners, former slaves, and their descendants.
- ✓ Further, the Act exempted slaves in territories owned by the East India Company, where slavery was finally abolished by the Indian Slavery Act of 1843 (probably because competitors complained that slaves gave the East Indian Company an unfair advantage).

- ✓ Finally, the British did not abolish debt-bondage, such that many slaves freed instead became debt-bonded, indentured servants to their former masters.

There were two paths to go in ending slavery; the rule of law (e.g., England) or the rule of force (e.g., The U.S. Civil War). We know how slavery ended in the U.S. where it was *entrenched* as positive law in the highest legal document of the nation, The Constitution; the drafters were certainly aware of the 1772 *Somerset* opinion as the case garnered great notoriety.

- ✓ Because of the way the issue was resolved in the United States – the Civil War – the slave holders were not compensated for emancipation of the slaves (the government did not ‘purchase’ the slaves to free them) and the South was ruined, not only in capital losses, but also male population loss in war casualties (the legendary impetuous for Western Frontier mail-order brides) and infrastructure damage. Some call that justice. The slaves were also not compensated, nor was the issue likely raised at that time. Many of them ended up working for the same masters, but under slightly different arrangements (e.g., sharecropping).

Carl Sagan in *Cosmos* expressed the view that Athenian ‘democracy’ was a hypocrisy in view of limited participation and Athenian slavery. This was not a new or novel view, this same idea must have occurred to intellectuals when the U.S. Constitution was ratified with a provision allowing slavery to exist, “It’s like déjà vu all over again,” as Yogi Barra said. Thus, it might also seem, in the macro-historical sense, or ‘grand scheme of things,’ an epic cycle of pragmatic ethics completed when democracy reasserted in the West and clashed with and eventually abolished the age old institutions of slavery. The Athenian issue was finally resolved 2,000 years later, where democratic republic exist, slavery is a dark hypocrisy:

- ✓ The only way to say that a democracy claiming to have equal rights before the law and basic humanity can have slavery is to say that slaves are not humans, not citizens. This is the basis of modern racism in the U.S. (and elsewhere most likely); it also requires willful ignorance and abrogation of empirical evidence to the contrary.
- ✓ Whenever someone says that X would not happen anymore because people’s beliefs and/or the social system has changed, *that is pragmatic ethics* by implication.

*“Red white and blue, gaze in your looking glass,
You’re not a child anymore,
Red, white, and blue, the future is all but past,
So lift up your heart, make a new start, And lead us away from here”*

– Styx, “Suite Madame Blue,” (1975)

It is Written: A Writ is a formal written document (usually legal) which expresses the intent of the issuer (usually one with sovereign or judicial authority) in the form of a command or mandatory process (a warrant is a type of writ, and is more commonly known and usually associated with criminal judgment, whereas writ continues to be used in civil judgment and appellant procedure).

A Writ must also necessarily contain the identity of the issuer and by what authority it is issued. From that may be deduced larger issues, such as the basis of that authority (hereditary, popular,

derived), the philosophical and social beliefs of the issuing authority and those supporting the authority (actions of authority are necessarily an expression of those backing the authority); and an identity of who we think we are, what kind of people are we?

Who Are We?: A Writ is an official Interpretation issued by a position using an activation of the Culture Power for the purpose of Issue Writ, which, through the use of the inherent sovereign power of the issuing position, develops and/or exercises a cultural ability that tends to define or becomes part of the overall cultural identity of the ruling native population type of the position (that is, does not include conquered or converted population and may not include naturalized population).

- ✓ For example, if the members of a nation (or at least those supporting the current state) proactively tend to think of themselves as ‘a caring, compassionate, charitable’ people, then the actions of the state will eventually reflect it (or else the state loses legitimacy) with the development of organizations and/or an exercise of authority that is compassionate, caring, and/or charitable (in their view).

When the two factors come together – 1) the internalized sociocultural identity of those who grant and support the authority and 2) the exercise of the sovereign power of the state – that is the essence of the Writ Interpretation.

- **Nothing Fuzzy About It:** The *issuance* of a Writ does not require the actualization of a Fuzzy Group. All that is required is the activation of the Culture Power for the purpose of Issuing Writ costing two Acts. Additionally, as described later, a Writ may not be used as an Interpretation to satisfy any of the Power Activation Interpretation requirements *on the Regular Turn it is issued*.
- **Tabula Rasa:** Activation of the Culture Power for the purpose Introduce Writs does not depend on Constructural Elements and thus cannot fail due to inactive Constructural Elements. One activation of the Culture Power for the purpose of Issue Writs allows a position to issue a number of Writs equal to or less than the current number of undisrupted Government Titles. This is not the same as activation of Writs which are limited by the number of Fuzzy Groups that a position can, and is willing to, actualize in a Regular Turn and activation of the Culture Power for the purpose of Issue Writs is not required to activate established Writs.
- **Behind the Bookshelf:** As mentioned in *A Bustle In Your Hedgerow*, 2 Culture, pp. 365-366, *supra*, a Writ improves the chances of exposing the Aspect with which it is associated, especially on Regular Turns where the Culture Power is activated to Expose Aspects and a Writ associated with that Aspect is also activated. I can see you scheming now...
 - ✓ “Before we had pundits and memes and Twitter rants, books were the chief vessel for sharing new ideas. Some of these books have helped sparked [sic] full on rebellions, with people marching in the streets and overthrowing entire governments. Some have inspired major policy changes, or shifts in cultural perception. All of them have made a profound difference in the world. And yes, I know that Thomas Paine might not carry quite the same punch these days. But these are the books that have inspired people to revolt for generations. Some of them are frightening relevant to our modern world, but all of them prove that the written word can make a real, tangible difference.” – Charlotte Ahlin, “10 Books That Inspired Revolution, Because The Written Word Is A Powerful Tool,” *bustle.com*, November 11, 2016.

“Those who are out there protesting believe a grievous religious injustice has been done. Those at the top may have other reasons, those following do not.... However, one thing is a fact: the complete failure of the government to establish the writ of the state.”

– Yasmeen Aftab Ali, “Cost of Politically Expedient Procrastination,” Pakistan Today, November 27, 2017 ²[Definition]

Endnotes.

¹ Citation: See, <http://www.commonlii.org/int/cases/EngR/1772/57.pdf>.

² Citation & Commentary: The ‘Writ of the State’ seems to be an elusive term peculiar to Pakistan, or at least to Pakistan’s media, as I have found usage in articles from 2014, 2015, and 2017 in Pakistani media but nowhere else. The nearest to a definition that I have found – being on the outside looking in through a peephole – is the following:

- ✓ “Writ is like respect, it has to be commanded, not demanded. Unfortunately, the state in Pakistan has been weakened to an extent that it has become a burden. Only the writ of the khakis is intact; that is why their role keeps expanding.... In a democratic order, writ of the state is established with the support of the masses.... In non-democratic set-ups, coercion is used to establish the writ of the state, but in return the basic needs of the citizens still have to be met.... Manipulated democracy is the worst form of government. Politicians who gain power through tainted ballots cannot establish the writ of the state as they misuse the same apparatus to stuff the boxes.... An abusive state has neither writ nor respect; service to the people is the only way to respectability.” – Dr. Farid A. Malik, “The Writ of the State,” The Nation (PK), October 7, 2015.
- ✓ Although Dr. Malik compares writ to respect, in the end he treats them separately, thus indicating that while they have the same properties, writ is not synonymous with respect; writ of the state then appears to mean some sort of legitimacy in Dr. Malik’s analysis.

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See Appendix CON – Writ & Construction Example
See Appendix WR – Writ Examples, Land Grant Writ, Naturalization

“The law makes it illegal. A writ makes it right.” – Arthur Tugman

“HABEAUS CORPUS: A writ by which a man may be taken out of jail when confined for the wrong crime.” – Ambrose Bierce

Habeas Corpus Monkey-us: Animal rights activists have attempted to use *Habeas Corpus* cases to free animals kept privately, in laboratories or zoos, the latest example being the New York court case by Nonhuman Rights Project for two privately-held chimpanzees (June 8, 2017, the Appeals Court ruled that chimpanzees are *not persons*, see discussion of personhood, *Alien Persons*, 2 Diplomacy, p. 1110, *infra*). Similarly, in the 9th Circuit, a case brought by PETA was argued (with much tongue-in-cheek humor and many in-court puns) as to whether Naruto, “a free-living crested macaque who snapped perfectly framed selfies in 2011 that would make even the Kardashians proud” (Linda Wang, “No monkeying around: Court weighs if animal owns its selfies,” Associated Press, July 12, 2017) holds copyright on selfies it snapped with a camera that have been published in a British wildlife book. The case sought royalties on the selfies for a wildlife fund.

Form of the Writ: Writs are created by the players and submitted to the Concierge with the position’s Actions. The Writ must contain the following elements when it is sent to the Concierge:

- **Issuer:** The Writ must contain the identity of the issuing position.
- **Power:** The Writ must contain the name of the Power to which it relates, whose activation may be used to activate the Writ. Note that the Culture Power must be activated to introduce the Writ, but the Writ itself may be subsequently activated by another Power indicated on the Writ.
- **Aspect:** The Writ must contain a specific Aspect to which it relates. The Aspect chosen for the Writ must be part of the Fuzzy Group that is *actualized* to activate the Writ. Note that having and/or activating a Writ containing a specific Aspect slightly increases the chances of successfully exposing that Aspect for the remainder of the game (see *A Bustle in Your Hedgerow*, 2 Culture, pp. 365-366, *supra*).

Some well-known historical examples:

- ✓ Where anti-Semitism has long been established, political parties and governments have easily ‘pushed the buttons’ to arouse anti-Semitism for political and economic purposes (e.g., see the Black Death discussion, 1 Disruption, p. 252, *supra*);
- ✓ Where patriotism (a relatively modern concept) exists, governments and political parties can arouse nationalism (or maybe the other way around, since the two are so bound), especially when combined with a perceived threat to cultural identity and religious beliefs (see *Romantic Nationalism*, *National Mysticism*, 3 Government Titles, p. 618; see also Hermann Goering’s comments, 6 Diplomacy, EN 13, p. 1180, *infra*).

History often develops a problem with relation to Aspects: the Scottish Wars of Independence evokes in the modern reader ideas of nationalism and patriotism that simply did not exist at the time; it is certain that the Scottish participants did not feel nationalism or patriotism in the way that we do, they were fighting for feudal loyalties, feudal realms within, and

against foreign invaders (whom their leaders invited by making Edward Longshanks Lord Presumptive of Scotland), not Scotland as a nation-state, and once this is understood, much of what happened – on all sides – begins to make sense. The key Aspects transition from feudal realm to modern nation-state is the transition of the population from feudal subjects and burghers to modern citizens (Subjects & Citizens, 2 Government Titles, p. 599, *infra*).

- **Proficiency:** The Writ must contain a specific Proficiency to which it is related. The named proficiency must be part of the Fuzzy Group that is *actualized* to activate the Writ.¹
 - ✓ Writs are part of the process of defining Aspects in GGDM. Is a perception the same as an Aspect? For example, the ‘perception of a crime wave’ has been a major driving force in politics for a very long time, with various governmental reactions ranging from indifference to draconian, it was the impetuous for the creation of modern regular police forces (e.g., the perception of a crime wave in early 18th Century London). But reaction to the perception is what drives socio-politics, ranging from a concern for order and orderly worldview to personal fear of being the victim of a crime. Fear makes people willingly fork over tax dollars for police and military protection, which then becomes a Proficiency (18th Century London established the Police Proficiency College). Thus, a roundabout link is established between Aspects and Proficiencies through the need to solve a perceived problem (e.g., Joseph Tainter’s complexities).
- **History:** The Writ must be based on a specific historical event (in the game) or on a Fundamental Reality or existing Government Title of the issuing position; i.e. it must have some context in the game and that context must be reasonably related to the Aspect and Proficiency chosen for the Writ. This also serves to preserve in-game historical circumstances.

Since there are three different basis for the history of a proposed Writ, creative and engaged players should not find it difficult to cite a historical basis for the Writ. The Writ is part of the story of the position.
- **Body:** The body of the Writ contains a statement which is deemed to be absolutely true or false at the time the Writ is activated (regardless of what the players believe is true).
- **Directive:** The Writ must have an effect when it is activated, and that effect is part of the Writ. The effect must bear a strong relation to the rest of the Writ.

This is what the Writ is all about, this is where the rubber meets the road. Good Writ writers will start with the Directive and work backwards, just as politics often starts with what we want to do and builds a rationalization to do it through debate, campaigns for office, and events. A Writ is a mandate to do something.

 - ✓ For any object (sovereign ship or colony) to be affected by a Writ, the target must have an active Ideological Constructural Element at that moment. See Body Politic, 2 Constructural Elements, p. 191, *supra*. This will not block Writ activation, however.
- **Conditions Precedent:** Certain social, historical, or cultural conditions must exist for the Writ to be activated. These conditions will be part of the Writ and will be checked upon activation of the Writ. If the conditions do not exist, then the Writ activation will fail, but again, the Concierge may choose to construe the requirements somewhat liberally but refuse to accept patent nonsense. The most useful Writs are the ones with predictably recurring conditions.

“The overlap in the Venn diagram of things that men hate for women to wear and the things that I love to wear, it’s almost a full overlap on the Venn diagram, which is unfortunate for me.” – Mindy Kaling

Venn Diagram: One way to visualize Writs is as a Venn diagram where the Directive is the overlap area in the middle. Returning to the Hazy Overlapping Middle discussion in 2 Culture, p. 370, *supra*, the Fort Douaumont situation offers some elements of a potential Writ:

- ✓ [Interview] “To the French public, this was a great victory. [Fort] Douaumont was a great symbol. It was of no military significance whatsoever, but it was a symbol. It had to be recaptured. And it was seen in France as being a great victory. In Germany, it was seen as a terrible defeat. The reality is, it didn’t matter tactically. It was all about perception.” – Major Gordon Corrigan (British Army, Gurkha Rifles), Under Siege television series (2008), Episode 4.

In the previous discussion, Fort Douaumont was identified as a nominal Symbolic Constructural Element of the French sovereign and national identity that became also an Aspect of the moment during the Siege of Verdun in 1917.

- ✓ Notably, Constructural Elements are not part of the Writ format, but of course, play their part in Power Activations and Fuzzy Groups which can affect the Writ.

As a historical basis for the Writ, the Aspect might be whatever was associated with it in 1917 during the defense of Verdun, it would be related to the Combat Power, the Proficiency might be Nationhood, Security, Spirit, depending on the slant of the Writ’s directive. Conditions Precedent might either be an ongoing Ground Combat in defense of a Friendly colony or a recent successfully concluded defense of a Friendly colony in Ground Combat.

Michael: *My father made him an offer he couldn’t refuse.*

Kay: *What was that?*

Michael: *Luca Brasi held a gun to his head, and my father assured him that either his brains or his signature would be on the contract.*

– from *The Godfather* (1972)

Negotiable Instrument: Because the Writ is not published, and because the Writ cannot be activated on the Regular Turn it is issued, there is some time for the Concierge and issuing position to work out the balance and finalize the form of the Writ, if it is not acceptable as first issued. The Writ must be finalized before the next Regular Turn of the issuing position so that it can be available for activation on the position’s next turn. There is a limit, given that the Concierge is involved in tasks running the rest of the game, to how much negotiation will be allowed to finalize a Writ. The Concierge reserves the right to ultimately reject the issuance of the Writ if no consensus can be formed. In the rare event that a Writ is rejected, no compensation will be made to the issuing position.

- **Suspended Writ:** At the judgment of the Concierge, a Writ may be suspended at any time. A suspended Writ may not be activated and *does not* enhance the chances of exposing the Aspect to which it is associated (see *A Bustle In Your Hedgerow*, 2 Culture, pp. 365-366, *su-*

pra). A Writ will be suspended when it is no longer legitimate to the position, when it is being abused, or any other game reason. For example, a Writ that is closely tied to a Government Title (e.g., in the History section, *ut supra*) may be suspended if the Government Title is disrupted, abandoned, or voluntarily removed, however, it is also possible that such a Writ might continue with the current Titles long after the originating Title is lost to history.

- ✓ For example, the Writ of Habeas Corpus was invented by early legislatures and judges to curb the abuses of the absolute monarchy. If democracy fails, what happens to the Writ of Habeas Corpus?

Writs may also be suspended during or after a Reformation (and rarely) following a Kairotic Moment. A previously suspended Writ may also be restored by the Concierge, it does not ‘disappear’ upon suspension (it is instead, deprecated).

*“The Moving Finger writes; and, having writ, Moves on: nor all your Piety
nor Wit Shall lure it back to cancel half a Line, Nor all your Tears wash out a
Word of it” – Edward Fitzgerald, Rubaiyat of Omar Khayyám ²*

White Wash: Should anyone ask me to change GGDM, especially to retract some of my statements, to make it softer, more acceptable for educational or palatable for public purposes, this would be my answer also. Should anyone consider altering my work after I have passed, “*The Moving Finger writes; and, having writ, Moves on...*”

If you want to add your own pre-apology insulation commentary, to distance yourself, to disparage me before presenting or discussing my work, feel free, that’s on you. But don’t whitewash my words. It seems likely to me that Omar Khayyám (1048 to 1131) was pressured to not publicly express his rational religious skepticism, and putting himself in God’s place, probably asked what if the fanatics asked God to change the world he created? The portion of the Rubaiyat of Omar Khayyám quoted above is likely what he imagined as God’s answer, and therefore, his answer to the same demands.

- ✓ **The Doctor:** You can let me do this! **River Song:** If you die here, it’ll mean I’ve never met you! **The Doctor:** *Time can be rewritten!* **River Song:** Not those times. *Not one line!* Don’t you dare! It’s OK. It’s OK, it’s not over for you. You’ll see me again. You’ve got all of that to come. You and me, time and space. You watch us run! – Dr. Who, “Forest of the Dead,” (2008) (emphasis added).

Holy Writ: Writs are secret and will not be published or shared with any other position. As such, it is necessary that the Concierge stand as the final, unquestioned judge and interpreter of Writs. The following are some rules and factors to be considered when a Writ is submitted:

- **Consistency:** A Writ must be internally consistent and reasonable, and make sense to the Concierge within the current context of the game. Specifically, there must be a reasonable relationship between the Power, Aspect, Proficiency, History, Body, Directive, and Conditions Precedent in the Writ. There must also be a specific relationship between the Body and the Directive. The Writ is a whole package, woven of threads of a civilization.
- **Cultural Identity:** One test of the Writ will be whether the Writ as a whole constitutes an expression of cultural identity, and that it is generally consistent with the other established identity factors of the position, such as Government Titles and Fundamental Realities.

- **Circular Conditions:** A Writ may not satisfy its own condition precedent by activation; the conditions must be present before the Writ can be activated. A Writ may not use the activation of another Writ as a condition precedent. Finally, a Fundamental Reality or any effect from a Fundamental Reality may not serve as a condition precedent to a Writ, thus, Writs are of limited use in counteracting unfavorable Fundamental Realities.

“The bell in the Independence Hall tower rang at 9 a.m., and Mark Sanford took a deep breath. He grabbed a giant check for ‘one trillion dollars,’ stood next to a tiny wooden lectern, and asked me if I was ready for him to kick off a news conference announcing his bid to challenge President Donald Trump in the 2020 Republican primary. It didn’t really feel like a news conference. I was the only reporter there. ...

And when it began, the only others around besides his two aides were a family 30 yards away with a selfie stick and a group of students from Paris who wanted to know why he had such a big check. (Answer: It represented the burden of the national debt.) ... He shot me a peace sign, packed up his giant check, and headed for Harrisburg.”

– Anna Orso, “Mark Sanford kicked off his presidential campaign against Donald Trump in Philly. One person showed up.” Philadelphia Inquirer, October 16, 2019

Cost of the Writ: The activation cost of each Writ is the simultaneous *successful* activation of the appropriate Power and the actualization of a Fuzzy Group (not a Zietrice) composed of the Aspects and Proficiencies as indicated on the Writ. See 4 Culture, p. 404, *et seq., supra*. The Concierge recognizes that the actualization of a Fuzzy Group is a considerable cost. Additionally, there must also be a cost in resources (i.e. RPs) for each Writ effect. A lot of people talk about doing this or that, but without the commitment of resources, it’s all just lip service:

- ✓ “With the people and facilities we have today, we could put a human on the Moon or even on Mars within the next 10 years, if only we invest in it. But grandstanding, lofty promises, and a dearth of funding will yield the same results they always have: a nation whose greatest dreams go unfulfilled. What we can accomplish as a species is limited only by what’s physically possible and what we invest in it. Our ambitions to venture beyond low-Earth orbit are achievable, but only if we make it so. Unless there’s a plan to increase NASA’s funding to sufficient levels to send humans to worlds beyond our own, America is never going to get there.” – Ethan Siegel, “Sorry America, We’re Not Going Back to the Moon,” Forbes, December 19, 2017.

The Concierge will take into account the balance of the cost and effect of the Writ. Players and the Concierge may agree on other creative costs-effect arrangements for a Writ (for example, environmental pollution) which make sense in the context of the game.

- ✓ Failure to activate the Writ either because of Power Activation failure or by not meeting the Conditions Precedent (*ut supra*, p. 439) will cause the Fuzzy Group to fail to actualize and the Cultural Trait Pieces are *not removed* from the Public Space.

“This day, much against my will, I did in Drury Lane see two or three houses marked with a red cross upon the doors, and ‘Lord have mercy upon us’ writ there; which was a sad sight to me, being the first of the kind that, to my remembrance, I ever saw. It put me into an ill conception of myself and my smell, so that I was forced to buy some roll-tobacco to smell to and chew, which took away the apprehension.” – Samuel Pepys Diary, June 7, 1665³

“Methought it lessened my esteem of a king, that he should not be able to command the rain.” – Samuel Pepys Diary, July 19, 1662⁴

Endnotes.

¹ Commentary & Citation: Reputation for extreme proficiency can sometimes be a liability: In the Man in the High Castle series, the Resistance knew the truck driver must be an infiltrator spy because the truck escaped from the raid on the resistance headquarters and the Nazis were never ‘sloppy’ so they must have intended the truck to escape. This is not a new shtick in movies, I have seen or heard this reasoning before; it could be applied in the game story – especially insurgencies and Special Operations – if the participants are feeling devious.

² Citation: The *Rubaiyat of Omar Khayyám* is an English translation of the poems of Omar Khayyám (1048 to 1131) a Persian polymath poet, mathematician, skeptic, and astronomer who lived in Greater Khorasan.

³ Citation & Commentary: “Then to the King’s Theatre, where we saw *Midsummer’s Night’s Dream*, which I had never seen before, nor shall ever again, for it is the most insipid ridiculous play that ever I saw in my life.” – Samuel Pepys Diary, September 29, 1662. Shakespeare was not loved by all; Mr. Pepys’ diary gives us an honest, clear window into what many contemporary people may have thought of his plays and works; it helps to dampen the symbolic glow applied by high school and college English literature instructors.

- ✓ Shakespeare died in 1616, *Midsummer Night’s Dream* was written in about 1595/1596.
- ✓ Samuel Pepys’ reaction to *Midsummer Night’s Dream* is rather comical considering that he is a man of many mistresses and dalliances, certainly not a man of propriety, but more one of lecherousness. He recorded his extramarital encounters in detail and in code in his diaries, a practice of many prominent men which obsessive historians have labored over the last century to decode.

⁴ Commentary & Citation: Taken out of context, the reader cannot determine whether this was stated seriously or with sarcasm or humor by Mr. Pepys (1633-1703), but it works either way.

- ✓ I once heard or read a story about King Cnut the Great (995-1035 A.D.), whose foppish and fulsome courtiers whispered to him that he was the most powerful king in the world and that he could even stop the tides on command. King Cnut (not one to suffer fools, surely) had his throne carried down to the beach, upon which he sat and commanded the waves to cease. When they did not, he had the courtiers executed for lying to the king. Perhaps this story was circulating in some form in the time of Samuel Pepys, or his comment is sarcasm about the claims of divine right of kings, divine province of kings, current in his time, an idea which originated probably with James IV of Scotland, and reached its height during the long reign of Louis XIV of France, during Samuel Pepys’ life.
- ✓ Ironically, a few days after I located this Pepys quote, there was an article reporting that the state media of North Korea suggested either that the weather parted for the North Korean leader or that the leader of North Korea can control the weather, in relation to his recent pilgrimage up Mt. Paektu (see, Kim Hjelgaard, “North Korea’s Newest Claim: Kim Jong-un can control the weather,” USA Today, December 11, 2017). The New York Post referred, that same day, to the claim that Kim Jong-un climbed the 8,700 ft. Mt. Paektu as “Big Fat Dictator tells Big Fat Mountain Climbing Lie,” reporting the same nature and weather claims, adding that the mountain (an active volcano) showed “joy” and “warm welcome” to the “illustrious leader.”
 - Personality cult is just obnoxious. No writ can cure that social ill. But Mad Max can.

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See Appendix CON – Writ & Construction Example
See Appendix WR – Writ Examples, Land Grant Writ, Naturalization

“A book is made from a tree. It is an assemblage of flat, flexible parts (still called ‘leaves’) imprinted with dark pigmented squiggles. One glance at it and you hear the voice of another person, perhaps someone dead for thousands of years. Across the millennia, the author is speaking, clearly and silently, inside your head, directly to you. Writing is perhaps the greatest of human inventions, binding together people, citizens of distant epochs, who never knew one another. Books break the shackles of time – proof that humans can work magic.” – Carl Sagan

“The older I grow, the more I am convinced that there is no education which one can get from books and costly apparatus that is equal to that which can be gotten from contact with great men and women” – Booker T. Washington

My Voice In Your Head: Since it is impossible for us to have contact with the great persons of history, the voice in our head from reading the book must suffice. It is somewhat sad that our primary public education relies on politically correct secondary sources (called ‘textbooks’) and that reading the actual works, and having as instructors some people who are actually writing the next works, is reserved now for college and especially, graduate school.

- ✓ As for me, my ears ring more than half the time. I wish all those voices in my head would slow down so I can comprehend; it sounds like music played at hyper-speed.

Writ of Error: A Writ is not a ‘quick fix’ for a problem in the game. A Writ may not be activated on the Regular Turn it is issued, even if the Power listed in the Writ is the Culture Power or the Power listed on the Writ is otherwise activated. One activation of the Culture Power may not be used to both introduce Writs and activate a Writ whose listed Power is the Culture Power; those are two separate actions. It is not necessary that the Power listed on the Writ be activated in the Regular Turn it is introduced, the only required Power Activation is the Culture Power, to introduce the Writ.

- **Writ of Extent:** A Writ may not be used as an Interpretation to satisfy the Interpretation requirement of any Power Activation on the Regular Turn it is introduced. Thereafter, the proper activation of the Writ (by actualization of the Fuzzy Group) may satisfy the Interpretation requirement for *any one* activation of the Power to which the Writ is tied, on the Regular Turn that they are activated together. If the Writ cannot be activated because the conditions precedent are not met, then the issuing position will have to use a News Event to satisfy the Interpretation requirement for the Power Activation. One should be provided just in case.
- ✓ Use of Writs from time to time has an additional effect of defeating ‘card-counting’ players who may be using News Events to track other position’s Power Activations.

“A reader lives a thousand lives before he dies, said Jojen. The man who never reads lives only one.”

– George R.R. Martin, *A Dance with Dragons* (2011)

Writ of Prohibition: A Writ, emulating from the sovereign power of the nation-state (i.e. position), necessarily only applies to the native and naturalized alien population factors of the position issuing the Writ at the time of the activation. Writs will never *beneficially* apply to Conquered or Converted populations (but can be used to their local detriment), however, it is possible that Writs may beneficially apply to Naturalized populations, depending on circumstances.

- **A Writness to History:** Writs never expire in the sense that once they are created, they are permanently part of the game and part of the history of the issuing position; however, it may be that the conditions precedent for the Writ become impossible, or that the Writ becomes no longer useful for whatever reason.
 - ✓ For example, no one would claim the right of *jus primae noctis* (a likely fiction in any case) but it is remembered here and there, most recently in the movie Braveheart (1995). And *tithe* to the Church is now voluntary, whereas in the past, it was collected as a tax. You do pay taxes either way, it's just a matter of to whom?
 - ✓ The exception to this rule is Articles of Incorporation, which is a Special Writ used to create Corporations and MegaCorporations. Those Special Writs do expire like a Royal Charter, see 1 Corporations generally, *infra*.

Writs, once accepted, are unchangeable, and also cannot be copied or 'stolen' by others (since they are secret, and since they apply to a particular issuing nation-state). Unlike Patents, there are no 'pregame' or 'existential' Writs allowed.

- **A Cultural Writness:** Writs are primarily an Interpretation of the cultural identity of the civilization represented by the sovereign power of the position. As such, the effect of Writs should be primarily cultural and internal to the position, and can only apply to the eligible populations controlled by the position when the Writ is activated.

Therefore, Writs may not be used to instantly create new colonies where none existed previously, or to create instant huge warfleets (or ships, defenses, or Technological Devices), and may not be used to create new technologies, which are the sole province of the Patent process. Writs cannot be used to change the natural laws of the universe and may not be made to act like or substitute for another type of Interpretation (which is like using a wish to get more wishes, it would tear a hole in the universe). Writs are not *dues ex machina*, see Keep the Sand in the Sandbox, *et seq.*, 2 Dreamtime, p. 147, *supra*, for guidance. The Concierge will immediately reject, or at least look very sternly upon (and you don't want that...!), any attempt to 'abuse' the Writs Interpretations in these ways.

- **An Unbearable Writness of Being:** The effects of Writ activation on the previous turn may be used in some circumstances to satisfy a legitimacy requirement of a Government Title (meaning that the government must continue to support the Writ to remain legitimate). A well-crafted Writ may be used to increase RPs and/or population over the long term; while Writs that create instant wealth and population will be suspect and *may not* be accepted.

But there are some historical precedents, most notably the Expulsion of the Jews from Spain in 1492 via the Alhambra Decree which accomplished one of the greatest robberies in history by forcing the Jewish population to leave Spain, prohibiting them from taking with them any gold, silver, or minted money, or other items of high value. The expelled population was forced to sell land and anything they couldn't carry away at very cheap prices or just leave it behind to be taken by the locals, the Church, and the government. But Spain paid a deep and

lasting price for this in loss of skilled workers and population; the Sultan of the Ottoman Empire was so delighted that the Ottoman Navy was sent to transport the exiles to Greece.

Similarly disastrous was the French Edict of Fontainebleau in 1685 which caused the flight of the large French Protestant (Huguenots) population to England, Prussia and the Low Countries, who benefited from the influx of human capital. Conversely, situations such as the Nazi Plunder of Europe are more appropriately covered in the Looting rules (see, Looting, 3 Commerce, p. 1210, *infra*).

“I find television very educating. Every time somebody turns on the set, I go into the other room and read a book.” – Groucho Marx

Alternate Writs: There are many valid views of nearly any subject; all views contain a version of or a part of the truth. Technologies and special abilities allow players to ‘break’ the basic rules of the game. Most modern games consist of a set of baseline rules, where special abilities and/or technologies (or skills or spells) can be developed (or acquired) by players at a cost (hence the strategy is making the right choices); the eventual acquisition of which gives players a ‘special ability’ which amounts to an exception to the rules. Another way to think of Writs, then, in a game-mechanical view, is that they allow positions to ‘grant’ to themselves a (secret) special ability (with the necessary consent and oversight of the Concierge, at a cost) which they design, create, invent, and customize.¹ The constant against which all Writs are measured is a standard *cost*, in the form of a Power Activation required (a Power Activation shouldn’t be for the sole purpose of using the Writ, which is wasteful), a Fuzzy Group actualization, and some RPs.

“It is what you read when you don’t have to that determines what you will be when you can’t help it.” – Oscar Wilde

The Print Revolution: The print revolution is so fundamental to the current state of human civilization that players must undoubtedly assume that some similar process has occurred in the pre-history of any Major Race before the game. Again, it may be possible to construct a situation where technology developed absent widespread literacy, consumerism, and availability of information; but the base assumption must be that a print and information revolution preceded the 1st Era of the game (see Childhood’s End, 1 Eras, p. 754, *infra*).

✓ If you skipped it, you should read The Printing Revolution excerpts, this section.

“The books that the world calls immoral are books that show the world its own shame.” – Oscar Wilde, [The Picture of Dorian Gray](#) (1890)

Endnotes.

¹ **Commentary:** There’s usually a way around anything... On the September 15, 2017 edition of MSNBC’s 11th Hour, linguistics Prof. John McWhorter of Columbia University extensively discussed President Trump’s ‘oddly adolescent’ language habits. In the process, he essentially did what psychiatrists have been ethically forbidden to do since the infamous Barry Goldwater campaign, which resulted in the ‘Goldwater Rule’ prohibiting them to offer a professional psychiatric opinion unless they have examined the person and permission has been given. He is not ethically bound by the professional rules of psychiatrists, of course, and no one would mistake his for a professional psychiatric opinion, but still...

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See Appendix PUBS – Expansion of the Public Space Selected Summary

“Third culture kids have a unique place in any society to which they belong. Theirs is a confusing and quite often debilitating condition. They are confronted with cultural walls or pitfalls at every turn. Unable to completely relate to their parent’s culture and yet at the same time labelled as ‘different’ from the mainstream culture they are encouraged to belong to, they are basically cut adrift and left to float in a sort of ‘twilight zone’ state. They form a cultural hybrid, a blend of cultures that can be interesting, but also confusing and frustrating to them. This condition is exacerbated growing up in a country like Canada.” – Nick Voci, The Vancouver Sun, April 22, 1994 ¹

Third Culture: The Merriam-Webster online dictionary article, “What is a Third Culture Kid,” defines a third culture kid as “a child who grows up in a culture different from the one in which his or her parents grew up.” The concept seems to fall somewhere between an emergence and a cultural xenogenesis. This term, for example, could have been used to describe the first and second generations of Native Americans who grew up on Tribal Reservations and went to government-run English-speaking public schools (à la Frank Waters’ The Man Who Killed the Deer (1942)). The term could apply to largescale future shock, culture shock, or more mundane situations, such as orphans adopted to another country, immigrants whose parents arrived from Old Europe, people who moved to different parts of the world with their parents during their youth, or children with multicultural parents.

“Third Culture” is a term that is used in many unrelated contexts, and thus you may have heard it before; “Third Culture Kids” is however, a specific usage enough to be defined by Merriam-Webster dictionary. Another use of ‘Third Culture’ is provided by Edge, to wit:

- ✓ “The third culture consists of those scientists and other thinkers in the empirical world who, through their work and expository writing, are taking the place of the traditional intellectual in rendering visible the deeper meanings of our lives, redefining who and what we are. It is a large enough umbrella to also include the ‘digerati,’ the doers, thinkers, and writers, connected in ways they may not even appreciate, who have tremendous influence on the emerging communication revolution surrounding the growth of the Internet and the Web.” – from Edge.com “About” page, <https://www.edge.org/about-edgeorg>, captured October 31, 2018.²

Bernays’ digital ‘invisible hands’ but impliedly, the humanities ‘non-empirical thinkers’ – religious, philosophical and literary intellects – are excluded and to be replaced. In all cases, ‘third’ is a term intended to differentiate whateveritis from whateveritwas, e.g., the people of the Renaissance might just have called themselves the ‘Third Age of Mankind’ (a tag line from the television show, Babylon 5) instead of Renaissance, if they had the mind to do so. Instead they went with classical ages (the old world), middle (the Middle Ages) and new spring (the Renaissance).

Zeitrice: A Zeitrice (“zeit-trice”) is an inside out or reversed Fuzzy Group consisting of *three Aspects and one Proficiency* having the same triangular arrangement as described previously for Fuzzy Groups (see Fuzzy Formations, 4 Culture, p. 405, *supra*), but instead, a Symbolic Constructural Element is required on an adjacent Friendly or Naturalized Colony plus one active Ideological or Epistemological Constructural Element.

There is only one form of the Zeitric formation; a Zeitric *cannot be formed* by use of two Aspects and two Proficiencies. Using three legally-placed Aspects, a Zeitric may be somewhat more difficult to form than a regular Fuzzy Group. A Zeitric represents potential profundity.

- ✓ “Zeitric” is a nonsense word formed from “zeit”—German for time, era (invoking Zeitgeist), and “trice” an obsolete English noun meaning, “brief instant” (as a transitive verb, “hoist, pull” a sail), imported into English from Dutch in the 15th Century. See Merriam-Webster online dictionary at *trice*. One favorite made up game word is Scott Pardee’s game title “Chebache” which is **C**hess, **B**ackgammon and **C**heckers. It’s a good game.
 - ✓ Merriam-Webster online dictionary at *profound*: **1a**: having intellectual depth and insight, **2b**: coming from, reaching to, or situated at a depth, **3a**: characterized by intensity of feeling or quality.
- In a Trice: The ‘actualization’ of a Zeitric is by the process of Reification. Reification is the process by which something abstract becomes concrete and real (e.g., Frank Elwell, “a reification of method over substance”).
- ✓ Merriam-Webster online dictionary defines *reify* as: to consider or represent (something abstract) as a material or concrete thing; to give definite content and form to (a concept or idea).

Reification, the process of *reifying*, is a word primarily encountered in psychology. Probably the best psychology examples of the process of reification are paranoia and phobias. Fear, especially irrational fear, is the world’s best reification agent. This is the operating principle of tyranny, terrorism, criminal extortion, politics, and psychological warfare.

Reification does not require a Power Activation. Whenever a Zeitric is Reified, all of the pieces forming the Zeitric are removed from the Public Space and a special type of News Event called an Exposé’ (“ex-pos-say” not to be confused with Exposing “ex-pos-ing” Aspects or exhibitionism³) is posted. The Exposé’ does not require and is not related to any Power Activation, *may not be used* to satisfy the Interpretation requirement of any Power Activation, as it is not a direct result of a Power Activation, but is still an official Interpretation as a News Event. An Exposé’ is always a non-adverse News Event – it cannot directly affect any position except the issuer. The Exposé’, like a Special Bulletin, *is static*, it cannot be modified by any position after it is issued.

A Reification, game mechanically, is a fusion of a Fuzzy Group and News Event. One of the primary differences between an Exposé’ and a News Event is that the former costs the position pieces from the Public Space, like an Actualization.

- Reification: Whenever a position desires to Reify a Zeitric, a proposed Exposé’ News Event must be sent with the position’s Actions. The Exposé’ will not be posted, and will not take effect, until **after** the Concierge has processed the position’s Regular Turn actions (therefore may require some guessing and prediction). Each position may Reify one Zeitric per Regular Turn, but will likely only do it a few times during the game, or possibly not at all. There is no requirement that any position submit an Exposé’ during the game, rather, it should come as a natural result of thinking about the game, in the game.

Religion (or at least Christianity) as it is practiced today, is really about reification of the mystical, divine spiritual – the challenge of making the abstract concepts of divinity ‘real’ in

the daily lives of ‘the flock.’ This is quite the opposite of pre-Judeo-Christian mythopoeic religions (Greek, Roman, Egyptian, Mesopotamian mythologies) which projected (deified) the natural world, and the worst and sometimes best of human behavior and family relationships onto pantheons of deities, in order to exemplify and justify their existence.

- ✓ See More Than a Feeling, 1 Temporal Technology, p. 808 *et seq.*, *infra*, for further discussion of mythopoeic thought.

*“Diary of a madman
Walk the line again today
Entries of confusion
Dear diary, I’m here to stay.”*

– Ozzy Osbourne, “Diary of a Madman” (1981)

Dear Diary: Diaries and daily journals (and private letters) are the Exposé’ of history up to the late 20th Century, e.g., Joseph Stilwell, Samuel Pepys, Erasmus, Albert Einstein, Anne Frank.

- ✓ “This apparently inconsequential diary by a child, this ‘*de profundis*’ stammered out in a child’s voice, embodies all the hideousness of fascism, more so than all the evidence of Nuremberg put together.” – Jan Romein in his article “Children’s Voice” on Het Parool, April 3, 1946.

The habit of personal daily journalism has fallen off in recent decades; what will in the future tell historians about our private, personal thoughts? Where will we tell our personal stories for posterity, after all of the characters have gone home?

“The unexamined life is not worth living.” – Socrates

Diary of a Madman: The Exposé’ News Event is the deep think or deep blue statement by the position during the course of the game. Like a Writ, an Exposé’ must have specific form and parts:

- ✓ *The Place*, the Exposé’ must begin with a list of the Aspects and Proficiencies to be used in Reification (using coordinate locations on the Public Space).
- ✓ *The Facts*, nothing but the Facts (e.g., Dragnet (1951-1959)). The Exposé’ must contain an enumerated list of current facts about the position which are to be exposed. The Exposé’ must reasonably relate to one or more **Fundamental Realities**, in addition to any other game facts, however, the ‘reasonably related’ qualifier is a liberal judgment call by the Concierge. The facts should be written in simple sentences, in the present tense, without qualification (‘no ifs, ands or butts’). These facts must be verifiable by the Concierge looking at the issuing position’s information and Public and Diplomatic Space (see Diplomatic Spaces, 2 Diplomacy, p. 1116, *infra*); the facts can only relate to the internal information of the position. Reference may be made to Galactic Space if absolutely necessary, but the Exposé’ is entirely an internal matter.
- ✓ *The Dirt*, the Exposé’ must include a blurb for publication as the News Event. The blurb should be written in a faux investigative reporting style if possible and must expose the facts in the previous section, which, when published, will become public

knowledge. The section can be written in a slightly tabloid style if desired, it can have a headline, it can be written in character if that works, be creative and fun with it, but not deceptive and useless.

There is some artistic license to dressing up the facts for the Exposé' blurb but not such as to obscure the facts for the audience – the other positions – who do not have access to the internal information of the issuer. The blurb cannot be used by the issuer to dodge or mitigate the exposure of facts required by the process of Reification.

- **Spinning Top:** The Facts presented in the Exposé' must be Absolutely True for game purposes and must also be literally true. Within this, there is room for maneuver, however.
 - ✓ For example, the statement, 'The Three Eyes *does not have four Government Titles.*' The Concierge can look and verify this as objectively true at that moment. But as a statement in the game it is not very informative, because it still means that the position must have one, two or three Government Titles; it does not mean however that the position has five Government Titles because if it has five Titles, then it has four Titles as well. See Crack in the Temple, 1 Beginnings, p. 27, *supra*.
 - That is, if I have five one-dollar bills, then it is both true that I have one dollar bills and that I have four one-dollar bills. It may also be true that I have six one-dollar bills, but that is uncertain, and not indicated by the statement (however, in GGDM, a position may not have six Government Titles by operation of the rules).

The point of an Exposé' in the real world is to publically expose objective facts – usually facts that someone wants to remain hidden – and to draw conclusions therefrom – which process is intended to lead to positive change. If it turns out that there is nothing there, then the investigative journalist moves on to something else; thus in GGDM play, the Exposé' should involve minimum gamesmanship with the facts, which would be a form of bad faith (or even fraudulent) toward the game.

Because the Concierge verified the facts in the Exposé', players can take them as true (at least at the moment of publication) and thus the Exposé' constitutes 'free intelligence' to the other positions in the game. However, the Exposé' should – most importantly – also enhance play of the game overall by providing facts to work with in making the story; as mentioned in Red Purge, 3 Dreamtime, p. 161, *supra*, an adverse News Event (affecting another position) can be and is frequently a 'shot in the dark.'

- **The Little Secret:** The final part of the Exposé' is an effect that the position desires from the Reification. This part *will not be published*, it is between the position and the Concierge only. The Reification must contain a single, restricted, one-time effect that is *reasonably related* to the effort and cost of the Reification, the Aspects and Proficiencies used, and especially the Facts that were exposed in the News Event. The effect should apply only to the position that issued the Exposé'; it cannot be used to *directly affect* another position.
 - ✓ **However**, acts done by every position every turn indirectly affect other positions (e.g., see the James D. Fearon "Security Dilemma" feature quote, 2 Combat, top p. 964, *infra*). Thus, the Exposé' may and probably will indirectly affect other positions by the resulting change to the issuing position.

Each Expose' is a singular, one-off, non-repeatable event, unlike a Writ which can be activated any number of times during the game. Thus the effect of the Reification can be a little more or a little different than the scope of the Writ, but should not be abused.

- ✓ For example, suppose that the Warren Commission investigation had come to the conclusion that Soviet leader Nikita Khrushchev had initiated or been somehow involved in the assassination of U.S. President John F. Kennedy? *If* that were thought to be true, what choices follow? *If* the government thought that a foreign power had been involved in the assassination of the President of the United States, what could they do? They can either expose it publically or hide it. *If* the information were made public, a situation would be created where the Soviets would be called out on account which may very well lead to war, as one would expect if the leader of one country is assassinated by the services of another. Thus, the truth had to be suppressed to avoid confrontation and possible war. The truth of one murder would be hidden so that everyone else, and future generations, could live. The generational war cycle would be broken; this was the second act of the Cuban Missile Crisis (with the Bay of Pigs being the opening prelude). A drama is three acts.

If humanity is considered one position in GGDM terms, and issued the Expose' (representing the 'real' conclusion reached by the Warren Commission), then the sudden removal of Nikita Khrushchev on October 12, 1964 (i.e. the removal of a Government Title without disruption) might be the secret Reification effect of the Expose'.

- Khrushchev was ousted less than 11 months after the assassination of President Kennedy, plotting had begun in March 1964, about the time that his possible involvement might have become known to the West. Or maybe it's just a historical coincidence, like the Protestant Coincidence.
 - Calling out the Soviets in 1964 would have been counterproductive to the containment strategy:
 - "But I would like to record my conviction that problem is within our power to solve – and that without recourse to any general military conflict.... Soviet power, unlike that of Hitlerite Germany, is neither schematic nor adventunstic. [sic] It does not work by fixed plans. It does not take unnecessary risks. Impervious to logic of reason, and it is highly sensitive to logic of force. For this reason it can easily withdraw – and usually does when strong resistance is encountered at any point. Thus, if the adversary has sufficient force and makes clear his readiness to use it, he rarely has to do so. If situations are properly handled there need be no prestige-engaging showdowns.... For those reasons I think we may approach calmly and with good heart problem of how to deal with Russia." – George Kennan, U.S. Ambassador to the Soviet Union, Long Telegram, February 22, 1946.⁴
- Edge of Reality: After the Expose' is posted, there is a 5% chance that each Fact in the Expose will add one Monad to the Public or Diplomatic Spaces (see Diplomatic Spaces, 2 Diplomacy, p. 1116, *infra*) of the issuing position and a 3% chance that each Fact will allow

one Monad in the issuer's Public or Diplomatic Spaces to be swapped to a new location in the other space (that is, from Public to Diplomatic, *vice versa*).

- ✓ A separate die roll is made for each fact for both possibilities. So one die roll is made for each Fact for the possibility of adding a new Monad, and one die roll is made for each Fact for the possibility of moving one Monad.
- ✓ The chances are not added together, each roll to add a new Monad has a separate 5% chance and each roll to be allowed to move a Monad has a separate 3% chance of success. If you had 5 Facts in the Exposé', the chances *would not be* 25% and 15% for each Fact; they would be 5% and 3% for each of the five rolls.
- ✓ Adding or moving Monads allows the issuing position to slightly reshape their reality and/or slightly expand their reality that is represented by the Public Space. It is the choice of the issuing position where the Monads are moved or added and whether on the Public Space or on a Diplomatic Space.
- ✓ New Monads can be placed adjacent to any Monad on any 'edge' of the Public or Diplomatic Space and any Monads to be moved must currently be empty and maybe moved to any 'edge' location on the Public or Diplomatic Space.

As the edges of the Public Space and Diplomatic Spaces wrap around to meet as discussed above, see also *Over the Edge*, 1 *The Sidereal Stage*, p. 108, *supra*, players should be cognizant that they are actually just inserting Monads into a circle at the locations that appear to be edges when seen in a flat top-down projection. Thus, they may inadvertently push things on the Public or Diplomatic Space out of adjacency.

- ✓ See discussions, *Shared Spaces*, 2 *Diplomacy*, p. 1118, and *Mental Space*, 3 *Reformation*, p. 1402, *infra*. Exposé', colony Conversion and Naturalization (4 Order), Technological Era advancement (1 Eras), and Reformation (3 Reformation) are the only means to add Monads to the Public Space.

The chance of being able to receive new Monads is nominal in any case. Don't bet your grocery money on those odds! Thus the possibility of adding or moving Monads should not enter into the Concierge's judgment about the balance of the Exposé'. When it happens, it's a bonus. Positions may use Enlightenment for rerolls in this case (see 2 *Colleges* generally, *infra*).

- **Point of Know Return:** The entire Exposé' will be subject to approval by the Concierge, however, the standards of approval by the Concierge will be liberal because this sandbox, this story is for the players. Like other News Events, posted Exposé' form a history, standard or *stare decisis* against which later Exposé' (and position actions) may be judged. Like Special Bulletins posted by the Concierge, Exposé' may not be subsequently altered by follow-up News Events posted by other positions, nor may it be subject to Diplomatic Protests.
 - ✓ The Exposé' represents the argument that some normally secret game position information must be sometimes made public for the purpose of cohering the game story. The carrot is what the position may gain by doing so, and what the game may gain in enjoyment. An Exposé' can function in a manner similar to an Aspect, except on the scale of the game story. The Concierge may sometimes – carefully – accomplish the a similar end with creative Prose Interventions Special Bulletins.

- ✓ Within the design process of GGDM, the Exposé' is a strange creature feature; unlike much of the rest of GGDM, the Exposé' was not directly intended to simulate something in civilization, instead, *it is a creature solely of the game mechanics*. Simply, one day 10 or 15 years ago, I thought, what if I reversed the Fuzzy Group? The development then became a sort of Writ, sort of News Event called the Exposé'.⁵ The name, Exposé', does suggest that something related to the real world is being simulated, but with a unique GGDM cant. There are probably some examples of real world Exposé' in GGDM; I am no journalism student, but perhaps the 1991 Peter Marin feature quote at the bottom of 2 Culture, p. 374, *supra*, is an example.

“Is man at heart any different from the spider, I wonder: man thoughts, as limited as spider thoughts, contemplating now the nearest star with the threat of bringing with him the fungus rot from earth, wars, violence, the burden of a population he refuses to control, cherishing again his dream of the Adamic Eden he had pursued and lost in the green forests of America...”

– Loren Eiseley, “The Hidden Teacher” (1969)⁶

Endnotes.

¹ Citation: Quoted in Merriam-Webster online dictionary article, “What Is A ‘Third Culture Kid?’”

² Commentary: In 2018, I sent Edge.com an email asking what they considered the “second culture” so that I could understand their systemic basis for the “third culture” claim. I received no response. Of course. From this, I might conclude that they have no basis and that it’s just a sexy hollow term for the claims they are trying to make.

³ Commentary: Or as the old saying goes, ‘about as accidental as an exhibitionist’ fly being open’!

⁴ Commentary: The Long Telegram is one of the most important, original historical documents available to the public without blackouts. It is well worth reading in its entirety, we need to read it again and think about it. The document is available free online from the National Security Archives. General Patton, one of the main proponents of attacking the Soviets – who insisted that he could have captured Berlin and Prague before the Soviets, had died in December 1945 under circumstances that conspiratorial types consider suspicious. The British had gone as far as to begin operational planning (“Operation Unthinkable”) for an attack on the Soviets on July 1, 1945. By early 1946, cooler heads had prevailed, and the containment began: “To speak of possibility of intervention against USSR today, after elimination of Germany and Japan and after example of recent war, is sheerest nonsense. If not provoked by forces of intolerance and subversion ‘capitalist’ world of today is quite capable of living at peace with itself and with Russia.” – George Kennan, U.S. Ambassador to the Soviet Union, “Long Telegram,” February 22, 1946.

✓ “Self-preservation is not a bad foundation for victory...” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 454.

⁵ Commentary: The Exposé' was rewritten and repurposed in 2018 and moved from 4 Culture to 4 Writs. Originally, an Exposé' was vaguely a part of the process of Reformations and Kairotic Moments, both of which were also completely rewritten in 2018. The original Exposé' did not fit into the rewritten Reformation rules.

⁶ Citation & Commentary: **Doctor Who**: Exactly. The forest. It’s in all the stories that kept you awake at night. The forest is mankind’s nightmare. – Dr. Who, “In the Forest of the Night” (2014).

✓ Picture Pandora, the lush habitable moon of a gas giant orbiting Alpha Centauri in the movie Avatar (2009). Loren Eiseley may have had influence on it... testing, testing for echoes. Echoes. Echoes.

Excerpt of Washington Post, Daily 202 article, July 24, 2017
Featuring quotes from Tom Nichols book, The Death of Expertise: The Campaign against Established Knowledge and Why It Matters (2017)

[Tom] Nichols, a professor of National Security Affairs at the U.S. Naval War College in Rhode Island, believes the “death of expertise and its associated attacks on knowledge fundamentally undermine the republican system of government.”

“The abysmal literacy, both political and general, of the American public is the foundation for all of these problems. It is the soil in which all of the other dysfunctions have taken root and prospered, with the 2016 election only its most recent expression,” Nichols writes. “Americans have increasingly unrealistic expectations of what their political and economic system can provide. This sense of entitlement is one reason they are continually angry at ‘experts’ and especially at ‘elitists,’ a word that in modern American usage can mean almost anyone with any education who refuses to coddle the public’s mistaken beliefs. When told that ending poverty or preventing terrorism is a lot harder than it looks, Americans roll their eyes. Unable to comprehend all of the complexity around them, they choose instead to comprehend almost none of it and then sullenly blame experts, politicians and bureaucrats for seizing control of their lives.”

Professionals in every industry report that laypeople increasingly challenge their know-how. “No area of American life is immune to the death of expertise,” writes Nichols, who worked for the late Republican senator John Heinz (Pa.) early in his career. “Doctors routinely tussle with patients over drugs. Lawyers will describe clients losing money, and sometimes their freedom, because of unheeded advice. Teachers will relate stories of parents insisting that their children’s exam answers are right even when they’re demonstrably wrong. Realtors tell of clients who bought homes against their experienced advice and ended up trapped in a money pit.”

... “What I find so striking today is not that people dismiss expertise, but that they do so with such frequency, on so many issues, and with such anger,” Nichols laments. “It may be that attacks on expertise are more obvious due to the ubiquity of the Internet, the undisciplined nature of conversation on social media, or the demands of the twenty-four-hour news cycle. But there is a self-righteousness and fury to this new rejection of expertise that suggest, at least to me, that this isn’t just mistrust or questioning or the pursuit of alternatives: it is narcissism, coupled to a disdain for expertise as some sort of exercise in self-actualization.”

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See Appendix COL – College Charters Examples

See Appendix PAT1 – Power Activations Tables 1 – Power Activation Costs

See Appendix PAT2 – Power Activations Tables 2 – Normal Sequence of Power Activations

See Appendix PAT3 – Power Activations Tables 3 – Scenes, Planets & Stars

“In Persia and China they [the Mongols] were soon overthrown and absorbed, and they lasted longer in Russia only because the environment suited a return to barbarism. Unlike the armed zealots of the Prophet, who gave more than they took, and who came in time to be praised by the vanquished, the men of Jenghiz Khan appear little better than bandits and slave drivers. The world of the thirteenth century might have benefited by the spread of Chinese culture, but the Mongols themselves had derived only lessons in the craft and guile of conquest. Except for the sword they came empty-handed, and within a few generations they followed the Goths and Vandals into that limbo awaiting the conqueror who has nothing to offer save force.”

– Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 157 ¹

Nothing to Offer: The Islamic State, like their forebears, e.g., the Mahadist State of Sudan (1885-1899), quickly followed the Goths and Vandals and the Dodo... The problem with the Islamic State is that they failed to convince anyone who wasn't already convinced, they added only the force of arms to arguments and medieval religious fantasy that the intelligent majority considered suspect and/or had repudiated. Those under their rule just nodded and hunkered down, hoping to survive the apocalyptic battle sought (and obtained) by the extremist.

- ✓ “Groups like ISIL can't destroy us, they can't defeat us. *They don't produce anything.* They're not an existential threat to us. They are vicious killers and murderers who perverted one of the world's great religions.” – President Barak Obama (2015) (emphasis added).

Religious fundamentalism is a state of conviction into which more moderate people wander over time due to events and their perceptions. Religious fundamentalist rarely convince anyone who isn't already a religious fundamentalist; thus they are usually arguing instead to reassure themselves. The more extreme their fundamentalism, the less convincing their arguments. For those who are not wandering in that direction, their arguments have one of two usual effects, depending on the environment: Either they impel others to try the things they are arguing against – that is, in the opposite way, or they create fear and intimidation in non-fundamentalist when fundamentalist have power.

- ✓ Failure to convince people under your rule without resorting to naked threat or force of arms is a failure of legitimacy leading to failure of sovereignty, see 2 and 3 Government Titles generally, *infra*. At what point does 'sovereignty' become hostage-taking of entire populations? See The Day I Became History discussion, 5 Government Titles, p. 643, *infra*. See also Pacification Theory discussion top of 6 Combat, p. 1020, *infra*.
- **The Hordes:** The story of the Hordes is much more complicated than presented by Montross and anyone familiar with the intricate and protracted history of the Hordes in Russia, the Middle East, and China may be repulsed by gross oversimplification. Montross, of course, was trying to make a sweeping point in a macro-historical sense and it does appear to be true that the Hordes did very little to spread traditional Chinese culture or technology; the Hordes fragmented and fought each other, many converted to Islam, some converted to Christianity,

those in China became Buddhist, and some of the later intra-Horde fighting were tinged with religious conflict.

The Vandals, on the other hand, disappeared much more quickly; the Vandals were Arian Christians who took over significant Roman territories in North Africa and were intolerant of other religious beliefs, but soon found themselves on the wrong side of both the power struggles with the Byzantine Empire and religious struggles against Trinitarians and Orthodoxy, while their successive leaders lacked the drive and ingenuity of the great King Genserich.

“But when I have allowed that they may debate these subjects in their holes and corners, to pass an idle hour, it is to the orator none the less that I shall entrust and assign the task of developing with complete charm and cogency the same themes which they discuss in a sort of thin and bloodless style.”

– Marcus Tullius Cicero, *Of Oratory* (55 B.C.), Bk. 1 (trans. E. W. Sutton and H. Rackham) from Patricia Bizzell and Bruce Herzberg, *The Rhetorical Tradition* (1990), p. 208

Orator of Military History: Among the plethora of excellent military history writers of the latter half of the 20th Century, Lynn Montross, historical writer for the U.S. Marine Corps, is the most underappreciated, unrecognized Western post-World War II military historian. The influence of his work can be seen in Dupuy & Dupuy’s *Encyclopedia of Military History*, including Montross-like commentary sections and the same L.K. Hartzell illustrations used in *War Through the Ages*. According to the University of Syracuse special collections, he corresponded with popular American Civil War history author Bruce Catton.² I began reading Mr. Montross’ *magnum opus* (3rd Ed.) when I was 15 years old, and had read it three times by the time I graduated high school (i.e. not reading the books I was supposed to be reading). It is probably the seed of my peculiar macro-intellectual view.

I still marvel at his monumental work of macro-historical prose, whose style and tone is said to have been influenced by Edward Gibbon’s *The History of the Decline and Fall of the Roman Empire* (pub. 1776-1789). His historical voice, his analysis, have a polished, ethereal quality that is both grand, sweeping, and also pragmatic and practical. He was a wordsmith. Aspiring writers as well as macro-historians, military historians and military cadets should read Montross.

Lynn Montross, in a sense, seems to be Cicero’s orator in the field of military history.

- ✓ “Wordsmith,” first used in 1873 according to Merriam-Webster, was probably coined to equate writing to the other working professional crafts, a problem confronted by Robert E. Howard, see THINKING AS RECREATION, 5 Fallen to Earth, p. 1578, *infra*. It is a term still commonly used in law firms referring to letter- and legal-brief writing.
- **Empirical History:** Trivia-obsessed empiricism is the dominant history today; trivia being easily confused with the search for ultimate causes. Like the social sciences, early 20th Century historians felt conformist pressure to become strictly empirical to become respectable.³ Six years after Mr. Case’s comments (see Aspects of Sociology 2 Culture, p. 371, *supra*), J.B. Bury dismissed non-empirical history, so ‘the struggle is real’ as the millennials say:
 - ✓ “I may remind you that history is not a branch of literature. The facts of history, like the facts of geology or astronomy, can supply material for literary art; for manifest

reasons they lend themselves to artistic representation far more readily than those of the natural sciences; but to clothe the story of human society in a literary dress is no more the part of a historian as a historian, than it is the part of an astronomer as an astronomer to present in an artistic shape the story of the stars.” – J. B. Bury, “The Science of History,” *Selected Essays*, 1930 (text available on Google Books).

It might be fair to say that Lynn Montross (who is quoted throughout GGDM) was a writer first and historian second. His historical narrative is sweeping, and often assumes the reader is familiar with the facts from other sources; e.g., I did not obtain any great understanding of the (confusing) events of the Thirty Years War from reading *War Through the Ages* in high school, my understanding began to develop with the factual chronological presentation in Dupuy & Dupuy’s *Encyclopedia of Military History*. Whether or not this is a damning criticism of Montross is another issue; but it probably explains generally his lack of popularity and appreciation in the modern military and historical cohorts.

- ✓ Professor Elwell has essentially accused modern data- and questionnaire-driven sociology of the same, of being “thin and bloodless.” The legacy of GGDM might be similar to that of Lynn Montross. In the microsociology, social psychology, data-manipulation, questionnaire-design (see Frank Elwell feature quotes, 3 Fallen to Earth, pp. 1529, 1539-1540, *infra*) cohorts of sociology, I and my opus might be considered to be something else first – perhaps primarily a science-fiction game design, pseudo-scientific mysticism, or humanist philosophy first – and macrosociology second, as an afterthought (if at all). Thus, GGDM will not be taken seriously by professional sociologists as a work of or anything similar to macrosociology.

“Towards the end of the third century, an emperor named Diocletian (r. 284-305) had finally proved able to stabilise imperial government after 50 years of regime change and violence. In 293, he established a college of four emperors, all senior generals unrelated to one another except by marriage. The idea was to ensure that one emperor would always be on hand to deal with any outbreak of violence and to prevent rebellion or civil war. Diocletian intended for himself and his senior colleague to retire, after which their junior partners would bring two new emperors into the imperial college to replace them. The goal was to ensure a handover of power at a convenient and peaceful moment so that the framework of government would remain undisturbed. But Diocletian’s intentions were thwarted by rivalries, in which Christianity played an important role.”

– Prof. Michael Kulikowski (Pennsylvania State University), “Christians were Strangers: How an obscure oriental cult in a corner of Roman Palestine grew to become the dominant religion of the Western world,” Aeon, January 30, 2017

College Bound: A College is the entire recognized, organized body of knowledge and professional organization in a civilization dedicated to advancement of a particular purpose. A College is also the social and government recognition of the body of knowledge and professions, sanction, and a resource commitment. A Writ is not required to found or Host a College.

- **First Lesson:** In addition to the normal references to institutions of higher education, Merriam-Webster online dictionary provides the following at *college*: **1:** a body of clergy living

together and supported by a foundation, and **4**: company, group, specifically: an organized body of persons engaged in a common pursuit or having common interests or duties.

- ✓ The Oxford Living English Dictionary has the following at *college*: 2: An organized group of professional people with particular aims, duties, and privileges.
 - ✓ McMillan online dictionary at *college*: 2 [countable] used in the names of some organizations whose members belong to a particular profession, especially a medical profession.
 - ✓ Finally, the KJV Dictionary, taking its definitions from the Webster’s American Dictionary of the English Language (1828) offers the following in part at *college*: “In Russia, the denomination, college, is given to councils of state, courts or assemblies of men intrusted with the administration of the government, and called Imperial college; the college of foreign affairs; the college of war; the admiralty college; the college of justice; the college of commerce; the medical college. In Great Britain and the United States of America, a society of physicians is called a college. So also there are colleges of surgeons; and in Britain, a college of philosophy, a college of heralds, a college of justice, &c. Colleges of these kinds are usually incorporated or established by the supreme power of the state.” This is the College in GGDM.
- Foundation: Colleges must be Founded by an activation of the Culture Power for that purpose, which costs *three Acts and a Scene*. Each activation of the Culture Power for the purpose of Founding a College may only be used to Found one College.

At the time of Foundation, a position must provide the following basic information: College Mission, Initial and Per Turn Endowment, and Host Colony location. This information taken together forms the College Charter; each Charter must be unique. The Scene used in the Foundation must be on the planet where the proposed Host Colony is located. A College Charter is not an ‘official interpretation’ in the game (i.e. it is not a Writ) and thus cannot be used to satisfy the Interpretation requirement of the Culture Power Activation.

- ✓ As Taxation only requires three Acts, while activation of the Culture Power for the purpose of College Foundation requires *three Acts and a Scene*, if the two Powers are activated in the same Regular Turn, Taxation will occur first and may provide the funds necessary for College Foundation. But there is a possibility that one or more colonies may fail the Taxation Power Activation then ... uh oh! In the Marines, we used to call this ‘kiting a check,’ i.e. writing a check and hoping it doesn’t hit the bank before the next paycheck is direct deposited.

Foundation of a College is the most expensive Power Activation in GGDM. All else comes before, including Census and Taxation (see *Clockwork Universe*, 3 *The Streams of Time*, p. 90 and *Life, Taxes, Death, and Taxes*, 1 *Taxation & Census*, p. 296, *supra*). It is also taxing in RPs to endow Colleges. Whether it is the best expenditure of resources for the position is a long-term strategic question.

While it is possible to Found a college by use of an Expose’ (maybe Hari Seldon explaining to Emperor Cleon I that the Galactic Empire is doomed) if the stars align correctly – check with the Sidereal Astrologers College first – the College will still need a simultaneous Initial Endowment. Although GGDM does routinely allow players to create ‘something from nothing,’ Founding a College with Initial Endowment from an Expose’ would require a very big

Expose’ and the *careful* judgment of the Concierge. See *The Little Secret*, 4 Writs, p. 450, *supra*.

- ✓ A College Charter is not a Writ, it does not have Writ form or Writ function game mechanically (see Writs generally, *supra*), nor does it have an expiration like an Article of Incorporation (a Special Writ, see *Someone Stole the Stage*, 1 Corporations, p. 1247, *infra*). Admittedly there may be some conceptual overlap. While the College Charter does have a form and rules, it is not an ‘official interpretation’ and does not need to be ‘accepted’ by the Concierge as long as it is in correct form (see *Official Interpretation and Flavors of Fact*, 1 Dreamtime, pp. 130, 134 respectively, *supra*).
- **Mission:** The Mission of the College must be definable in game terminology. Each College may only have one Mission, and the Mission must be one to three words naming a Power, Aspect or Proficiency, Constructural Element, or some other game-specific term, such as “ships,” “defense bases,” “orbital shipyards.” The first three are commonly called Power Colleges, Proficiency or Aspect Colleges, and Constructural Colleges, respectively, while the latter are called Special Colleges.⁴

Colleges are typically named by their Mission, for example, the “Combat College”⁵ (Power College) or the “Police College” (Proficiency College) or the “Ship College” (Special College), whatever the case may be; a position may not have Colleges with duplicate Missions.

- ✓ From the movie, *John Paul Jones* (1959): In Paris, Benjamin Franklin said to John Paul Jones, “These are honors few people have achieved. (referring to his medals) Nevertheless, in this kingdom and as of now, quadrants of nobility take precedent over ability, courage, or for that matter, intellect.”
- ✓ ...Later, John Paul Jones is ‘loaned’ to the Russian Empress as a naval ‘advisor.’ Rear Adm. John Paul Jones follows the Russian Chamberlin through the ante-chamber outside the court of Russian Tsar Catherine the Great; the ante-chamber is full of men in high ranking military uniform. John Paul Jones’ assistant (looking around) said: “There are a lot of generals and admirals!” (clearly wondering why the Empress of Russia needs their assistance with so many military men standing around). Chamberlin: “They’ve never heard a shot fired, save for a salute given on her Imperial Majesty’s birthday. *Boudoir* promotion.”
- **Humanities:** Could a position Found a Special College named after itself, as the name of the position is a specific game term? It would be difficult to argue against it when we have this vast group of pre-interstellar academic disciplines called the Humanities. To wit:
 - ✓ “The humanities can be described as the study of how people process and document the human experience. Since humans have been able, we have used philosophy, literature, religion, art, music, history and language to understand and record our world. These modes of expression have become some of the subjects that traditionally fall under the humanities umbrella. Knowledge of these records of human experience gives us the opportunity to feel a sense of connection to those who have come before us, as well as to our contemporaries.” – from “What are the humanities,” Stanford Humanities Center, Stanford University, captured November 23, 2018.

Just substitute the name of an alien sapient species. See meta-consciousness discussion, In the Mirror, I Meta Me, 2 Constructural Elements, p. 195, *supra*.

- **Endowment:** The Endowment is the initial and ongoing resource commitment to the College. A College with no Endowment does not generate anything and will eventually “close” if not Endowed for three consecutive Regular Turns (i.e. “bankrupt”).
 - ✓ The Initial Endowment is the commitment of resources (RPs) currently in the Treasury to fund the College. Obviously, the Treasury must have sufficient funds for the Initial Endowment and those RPs are subtracted from the Treasury at the time of Foundation.

“An institute for advanced research with no funds for research. It’s a provocative concept.” – Dr. Harry Wolper (Peter O’Toole), from Creator (1985)

Campus Life: While Colleges do represent the entire body of professional knowledge and commitment on a particular subject or group of subjects throughout a civilization; Colleges do need a “place,” a Host Colony (aka “campus colony”).

- ✓ The colony designated to Host a College must be a Friendly or Naturalized Colony (see Colony Politics, 2 Order, p. 538, *infra*) with at least ten population factors.
 - ✓ An eligible colony may Host any number of Colleges as long as it has ten population factors *for each*.
 - ✓ The location of a College on a Host Colony has no effect on the colony as the College is publicly funded by the interstellar government, except that a colony Hosting a College may never voluntarily remove population such that it has less than ten population factors per College hosted (i.e. minimum population is locked).
 - ✓ A colony does not become a “specialized colony” (see 4 Expansion, p. 925, *infra*) by Hosting a College, but it is possible to create “specialized” College Host colonies.
 - ✓ If the Host Colony of a College is captured, operation of the College is suspended, but no funds are lost from the current Endowment. If the Host Colony is recaptured, operation of the College re-commences on the next turn. If a Host Colony cannot be recaptured within three Regular Turns (Turn Cycles), the College will “close” and half of the Endowments will be lost, while the other half are returned to the Treasury.
 - ✓ Ownership of Colleges is non-transferable as the College is related to (and a product of) the specific cultural milieu and the interstellar government that created it.
- **Frat House Flop:** The ten population factors per College is a somewhat arbitrary – no – actually is an obviously arbitrary baseline. In fact, any removal of a large percentage of population from a colony hosting a Capitol, College, MegaCorporate Headquarters or any colony with a large industrial and shipbuilding output, should result in “brain drain” of that colony.
 - ✓ Merriam-Webster online dictionary at *brain drain*: the departure of educated or professional people from one country, economic sector, or field for another usually for better pay or living conditions.

Brain drain is almost impossible to quantify and because of the dualistic nature of the representative structures in this game, the effects of brain drain (aka ‘capital flight’) are better left to Concierge Interventions than some convoluted section of rules. Historical examples include the expulsion of the Jews from Spain, mass emigration to the New World, flight of the

German Intellectuals from Nazi Germany, exodus of the Huguenot craftsmen from France, and the current exodus of professionals from India. Ghost towns remain.

- ✓ “The Host World of a College must have an active Epistemological Constructural Element; if it becomes inactive, the operation of the College is suspended.” (see Skool Tyme, 2 Constructural Elements, p. 190, *supra*).

Although the rules do not require that the Host World must have an active Epistemological Constructural Element at the time of Foundation of the College, it would be a sub-optimal situation, since Cohering is random (see Money Can’t Buy You Love, 5 Culture, p. 422, *supra*). An inactive Epistemological Constructural Element (among others) may however, prevent Cohering Attempts at the Host World of the College, a snowballing effect.

“But there is little discussion of the way that massive college costs effectively keep students beholden to their parents throughout college and, with massive debt, potentially far beyond that. ‘Students are infantilized by the university and by their parents,’ [Matt] Gabriele [at Virginia Tech] says. ‘They’re not treated like they’re financially independent.’ A big part of being an adult is being financially responsible for yourself – which is impossible for young people struggling to find work while paying loans and healthcare costs. All of which means they have less financial independence and are more at the mercy of their parents when choosing majors.”

– Noah Berlatsky, “Are millennials really to blame for the decline in the liberal arts?” NBC Think, October 10, 2018

Student Loans: At the end of each Regular Turn after Foundation, *whenever actions are processed for the position*, the College will operate automatically (positions cannot choose not to operate an Endowed College, except by skipping their Regular Turn) and the “Per Turn” Endowment (provided on the Charter) will be subtracted from the current Endowment of the College.

- ✓ Therefore, to continue operating the College, additional resources (RPs) will need to be committed to the Endowment by activation of the Culture Power for the purpose of *replenishing the Initial Endowment up to its original level*.
- ✓ A College can never be ‘over-endowed,’ that is the Initial Endowment serves as the limit for future endowment replenishments.
- ✓ Activation of the Culture Power for the purpose of Endowing Colleges requires one Act and may be used to Endow *any number* of Colleges in a single Regular Turn.
- ✓ A position with multiple Colleges should specify which College Endowments are to be replenished.
- ✓ Activation of the Culture Power for the purpose of Endowing Colleges allows a position to add RPs to the Endowment of *any number* of previously-founded Colleges in the same Regular Turn. The RPs are immediately subtracted from the Treasury, which must have sufficient funds and RPs committed to Colleges cannot be retrieved.
- ✓ If the Treasury is insufficient to meet endowments in a Regular Turn, all RPs will be taken and distributed approximately equally to the Colleges listed. A position might

intentionally do this if it simply wants to dump all remaining RPs into the Colleges (but cannot meet all of their Initial Endowments) to keep them running and wait for Taxation to replenish the Treasury later.

Colleges can seem like a ‘black hole’ into which the Treasury flows. Positions are encouraged to think of them in the very long term.

RPs committed to the Endowment of a College do not need to be located on the Host World of the College to replenish the Endowment (i.e. do not count against turn GDP of the Host World).

- ✓ “Millennials, we’re told, are shallow careerists who don’t understand the value of a liberal arts education. The truth though is that in many cases it’s not students who are abandoning the arts and humanities, it’s their parents. And thanks to skyrocketing college costs, parents arguably have more power over their kids’ choices than ever before. The number of English majors has fallen by almost 50 percent since the end of the 1990s. And many writers, like history professor Benjamin Schmidt at the Atlantic, have expressed concerns in recent years that the next generation of students doesn’t understand the importance of a broad, liberal arts education. When I started asking people about this phenomenon on social media, however, I heard a different story. People were reluctant to go on the record for fear of embarrassing their parents or straining their relationships. But current and former students told me their parents had absolutely forbidden them to pursue interests in the humanities, on pain of losing financial support.” *Id.*, feature quote *ut supra*.
- Dynamic Sessions: There is a dynamic between the Initial and Per Turn Endowment of Colleges and activations of the Culture Power to Endow Colleges. The smaller the Initial Endowment, the more that later activations will be required to replenish the College, but conversely, less RPs will be required each time. Larger Initial Endowments will require more RPs each time, but less Power Activations later. Per Turn Endowments also regulate the frequency of the need to replenish Colleges.

The intent is that a College Endowment should be automatically completely replenished, so the determination of the Initial Endowment level is very important. The Concierge may also decide that Colleges can be replenished to any amount (reducing somewhat the importance of the Initial Endowment level) to a minimum of what is needed for one Regular Turn of College function (this would be offset by more required activations of the Culture Power due to smaller Endowments). This could change game play significantly.

- ✓ “It’s about the relentless economics in which we came of age and the lasting skepticism those economics have, I believe, instilled in us. Take our \$1 trillion-plus in student loan debt. No one told us that our education would be part of a massive cash grab orchestrated by high education fat cats. Once this becomes clear, however, you start to question other things as well. It’s not a coincidence that the first generation to carry so much debt so young is the one that occupied Wall Street (as well as a few old hippies, it must be said)...

Just as millennials were supposed to be entering the workforce, we were hit with the biggest financial crisis since the Great Depression. We were sold on the idea that getting a so-called good education would set us up for success in the working world. We could have everything our parents had, if we only followed their example and pulled

ourselves up by our bootstraps. They were giving us the map to financial freedom, and most of us listened. It might have worked, too, if the price of that education didn't rise to become completely unaffordable at the same time unemployment doubled from five percent to 10 percent. But our student loans didn't go away just because the job market did; instead of being given the roadmap to financial freedom, we were given a map that drove us straight into a trap. While our income potential declined, basic living expenses didn't, and it set our generation back years from where we 'should have been.' From where we were told we would have been." – Catherine Baab-Muguirra, "Failure to launch: Why so many American millennials feel adulthood is a lie," NBC Think, July 8, 2018.

"It's a damn poor mind that can only think of one way to spell a word! That quote, ascribed to Andrew Jackson, might have been the motto of early English spelling. The concept of orthography (a term that derives from the Greek words orthos, meaning 'right or true,' and graphein, meaning 'to write') was not something that really concerned people until the introduction of the printing press in England in the second half of the 15th century. From then on, English spelling became progressively more uniform and has remained fairly stable since the 1755 publication of Samuel Johnson's Dictionary of the English Language (with the notable exception of certain spelling reforms, such as changing 'musick' to 'music,' that were championed by Noah Webster)."

– from Merriam-Webster online dictionary Editor's Note at *orthography*

Amended Charter: The Charter for the College cannot be changed except by Amending the Charter (aka changing the tune). This includes the Host Colony; if the Host Colony is lost for any reason, and cannot be regained, it may be necessary to Amend the Charter to Host the College on a new Host Colony before the College "closes." Any change in the Faculties or per turn use of the Endowment would also require an Amended Charter. A College Charter may only be Amended if the College currently exists, "closed" Colleges cannot be "re-founded" by activation of the Culture Power for the purpose of Amending the Charter. Activation of the Culture Power to Amend a Charter requires two Acts and one Scene on the Host World to Amend one Charter.

- **New Mission:** Amendment of the Charter should not allow a College to change its Mission because a College represents the entire body of knowledge and professionalism on a subject across civilization. It is not impossible however, but the implications would be profound. One possibly relevant historical example, the 18th and 19th century decline (and near extinction) of the teaching of classic rhetorical theory in primary education; to be replaced by teaching standardized grammar, spelling and composition in primary school – for social cohesion and to integrate immigrant populations (my rhetorical theory class was in graduate school). This is the classic problem of human history, in 1377, Ibn Khaldun called it 'asabiyyah' (social cohesion) and wrote about nomads and city dwellers. In some other cases, charitable organizations, schools and businesses whose original purpose has been achieved, or became non-viable, have successfully rebranded themselves with a new mission or model (e.g., the non-profit March of Dimes mission evolution and name changes in 1958 and 1976). It is suggested that any change of College Mission by Amendment should at least bear relationship to the previous mission and be a special event in that position's story arc.

“Slowly I began to realize that the bells and the confinement, the crazy sequences, the age-segregation, the lack of privacy, the constant surveillance, and all the rest of the national curriculum of schooling were designed exactly as if someone had set out to prevent children from learning how to think and act, to coax them into addiction and dependent behavior” – John Taylor Gatto

Gradgrind: John Tyler Gatto is the nightmare sort of problem for any institution. If a non-educator had made the same criticisms, they would have been dismissed with, “Well, he’s not a public school teacher, so he doesn’t know what it’s like.” But they named him Teacher of the Year.

Just as GGDM will be by sociologists, philosophers, professors, public intellectuals, and game designers (if they think it matters). It’s the same reaction that we hear to any criticism of the police; you are not a police officer, you don’t know. But Mr. Gatto was not only a public school teacher, but they gave him an award, said he was the best. To say he is wrong is in some degree, to repudiate their own award criteria. I can imagine stunned silence and furious seething reaction to his award acceptance speech after which he resigned.

John Gatto’s ‘realization’ follows more than a century after Dicken’s satire and produces U.S. Marine Corps training-depot ready high-school graduates. I was one. Dickens-style satire of fact-based, utilitarian education systems were the staple of dystopian and totalitarian state of the future science-fiction stories well into the 1970s at least, and can even be seen in traces now.

- ✓ “Again and again, the trouble with the ‘utilitarian economist and Commissioners of Fact’ satirized by Dickens is not so much their basic aims as the detailed arrangements they thought necessary to achieve them – the fanatical tidy-mindedness which had so little sense of freedom, the room for free movement that we need as organic, sentient beings. ... Why did Dickens dwell so much on the educational forms taken by the new fanaticism? Partly because it was there, among the young, that one could see most strikingly how the still plastic human being was forced into an iron mould; partly because the schooling systems favored by go-ahead cotton masters were themselves like living satires on Utilitarianism in practice, even before Dickens had recreated them in the mode of satire. The Gradgrind model school with its regimen of pure fact is in no way an allegory or symbol of what a cult of fact would run to if carried to an extreme. ...

The fact is that the first two chapters of the novel are an almost straight copy of the teaching system in schools run by the two societies for educating the poor. In the Manchester Lancastrian School a thousand children were taught in one huge room, controlled by a kind of military drill with monitors and a monitor-general, and taught by methods derived from the Catechism. Groups of facts, mechanically classified, were drummed in by methods that might have been meant to squash forever the children’s urge to find out or understand anything for themselves.” – David Craig, Senior Lecturer, University of Lancaster (now listed as Professor Emeritus on the University website), Introduction for Charles Dickens’ Hard Times (The Penguin English Library edition), May 1968, pp. 21-22.

- ✓ Note 2 to the Introduction: “No doubt in practice the Bell or Lancaster kind of schooling system tended to loosen up somewhat. Once inspectors began to visit

schools from 1840 on, they found that great numbers of them, so far from being over-organized, were filthy, battered, stinking holes, with dozens of pupils absent and the teachers often reading the papers or dozing. But the utilitarian systems were at the same time in full swing. The rigidly ranked hundreds of children can be seen in prints (e.g., Mary Sturt, *The Education of the People*, 1967, plate 2a; Brian Simon, *Studies in the History of Education, 1780-1870*, 1960, plate opp. p. 129). The Bell and Lancaster systems, in Dr. Sturt's judgment, 'dominated the educational scene' for the first thirty years of the nineteenth century and 'the results of their work and rivalry endured beyond that ... The system of instruction became continuously more elaborate and more inhuman.' Middle-class opinion was quite solidly in favour: the Lancastrian system was copied in Edinburgh High School, discussed approvingly in the House of Commons, and picked out for praise in the *Edinburgh Review* (Stuart, op. cit., pp. 21, 31; Frank Smith, *A History of Elementary Education 1760-1902*, 1931, p. 74). The atrocious punishments and the more ludicrous drills are the worst side of what was an earnest attempt to do something about the barren wilderness of elementary education but, as with the New Poor Law, the tidying-up was done at the expense of humanity, e.g., the reading and writing drills, including the kind of catechism satirized by Dickens were 'elaborate methods for destroying meaning' which, according to one inspector, caused the children's 'faculties' to be 'stunted in their growth and they sink into inert listlessness.' The utilitarian systems were also aimed at reinforcing the *status quo*: Lancaster used to set his best pupils to write rebuttals of Tom Paine's arguments and defenses of revealed religion (Sturt, op. cit., pp. 21, 31-2)." *Id.*, pp. 317-318.

- See discussion of context and Pink Floyd's *The Wall* (1979), *Wall of Understanding*, 2 Dreamtime, p. 152, *supra*.

The U.S. Marine Corps uses the Lancastrian system to drill 'knowledge' into recruits' heads in basic training (a highly regimented, isolated shock treatment for kids just out of high school), and continues to try (with less success) in later training during the Marine's enlistment. 'Understanding' is a lower level priority in Marine Corps basic training; factual knowledge and effectiveness at doing are naturally emphasized.

- ✓ Such training is, of course, necessary for what Marines do. In terms of understanding the problem, it is important to understand the combat organization nature of the U.S. Marine Corps, and the nature of combat operations. The process was potentially reinforced historically by the experience of 'McNamara's Morons' (discussed in 4 Colleges, p. 502, *infra*) in the late 1960s; I went to boot camp just a generation later.

"In college I learned how to learn from other people. As far as I was concerned, writing in college didn't consist of what little Annie had to say, but what Wallace Stevens had to say. I didn't come to college to think my own thoughts, I came to learn what had been thought."

– Annie Dillard quoted by Lawrence Malcolm, "Lunch with Annie Dillard," April 30, 1982 (free online)

Bobbing Lights: I wish I had figured that out in college 25 years ago. I was a non-traditional student and as you can imagine, quite full of my own thoughts. GGDM was begun before then and I spent considerable college time (and over the summers) working on GGDM.

Inactive Constructural Elements have no effect on activations of the Culture Power for the purposes of Endow Colleges (*ut supra*) or Doctrinal Template (see Combat Formations, 4 Colleges, p. 503, *infra*), as they are non-localized Power Activations.

- ✓ Activations of the Culture Power for the purpose of *Founding Colleges* or Amending Charter are subject to the *Host World's* Constructural Elements and might fail due to inactive Constructural Elements. If the attempt to Found a College fails, no RPs are taken from the Treasury for the Initial Endowment and the position can try again later.
- **Non-Traditional Students:** I have thought that ‘traditional student’ is a mistake anyway. They graduate high school and immediately go to college. They come into the freshman undergraduate year with a high school attitude (e.g., “Why do I have to go to school, why can’t I just do whatever?”), pushed by parents, family and society, and they bring the high school attitude to college with them. That is, they show up with a few inactive Constructural Elements and don’t do what they are supposed to do, leading to wasted RPs.☺

Non-traditional students are those who want to be there, who have worked their way back to college, or at least, had a couple of years of mental separation from high school, instead of more of the same. The question is frequently asked, “why are non-traditional students happier?” The answer is in front of you. In terms of value for educational dollar, non-traditional students get much more. But are still, ironically, treated as children by the system (*ut supra*).

“Asymmetric Advantage: an asymmetric advantage goes beyond a normal advantage of knowledge into the realm of having asymmetric information and knowing things others do not. ... Asymmetric advantage is based on knowing something that creates value or has an edge that others don’t. An asymmetric advantage is protected and maintained through the distinctions between knowledge of a concept vs. actually being able to do it.”

– Mike Shell, “Asymmetric Advantage,” Asymmetry Observations (asymmetryobservations.com), captured June 26, 2019 ⁶

Asymmetric Advantages: Human talent in all endeavors is one of those most elusive and hotly-debated topics and the favorite subject of biographies, history lessons and literary fiction.

Sometimes it is argued to be genetic, biological sex, or bio-developmental (e.g., pitch perception, relative and perfect pitch may be tied to a lobe in the auditory cortex which is slightly enlarged, if you don’t have it by the time you are four years old, you will likely not be a musician); sometimes the argument is based on environmental factors (talent seems to run in families or groups), and a whole lot of it involves actual interest, will (tied to approval, sanctioning and the sublime) and a lot of effort – no one gets a free ride in any *merit- or market-based system*, children of professional sports stars, famous actors or writers often try to follow but don’t make it, don’t live up.

- ✓ For the converse, see discussion of the Affair of the Poisons and Prince Eugene of Savoy, 3 Special Operations, p. 1308, *infra*.

The effect, regardless, is that people who have talent, skill and have developed it through learning, practice and encouragement, seem to be taking a shortcut, seem to grasp important concepts intuitively, while the rest of us are still trying to figure out what is the problem or where to start – rather akin to some sort of emergent behavior or an alpha particle escaping the potential energy well, suddenly appearing outside (i.e. quantum tunneling). They can ‘feel’ their subject in the way that a mathematician feels – almost *groks* – the processes and equations, that a fighter pilot feels his combat jet, that Wolfgang Amadeus Mozart felt his music, or as the analogy went, the way that Wesley Crusher in Star Trek TNG had an intuitive feel for warp fields (ST TNG: “Where No One Has Gone Before,” (1987)). They have perhaps an asymmetric advantage.

The degree of personal difficulty in learning something has long been associated with talent or lack of talent, for example, in fantasy stories where the student learns quickly and exceeds the master, e.g., Ged in Ursula K. Le Guin’s Wizard of Earthsea (1968), Sauron and the Elven-smiths and the Númenórean in the Lord of the Rings works, Red Sonja and the Sword Master in the 1985 movie, or even Paul Atreides in Dune (1965).

- Talent: Merriam-Webster online dictionary at *talent*: **1a**: a special often athletic, creative, or artistic aptitude, **b**: general intelligence or mental power: ability, **2**: the natural endowments of a person, **3**: a person of talent or a group of persons of talent in a field or activity, **5** *archaic*: a characteristic feature, aptitude, or disposition of a person or animal.

- ✓ “The toughest thing I know of in baseball is evaluating talent.” – Steve Blass (World Series Pitcher and Pirates Broadcaster), June 22, 2019.

Talent is sometimes not called by name, but other words are substituted for it; it is perhaps in the sense of 5 above that Robert E. Howard used ‘race’:

- ✓ “Howard’s attitude towards race and racism is debated. Howard used race as shorthand for physical characteristics and motivation. He would also employ some racial stereotypes, possibly for the sake of simplification.” – from Wikipedia article, “Robert E. Howard.”

- Family Business: I was intrigued many years ago when I heard in a science history documentary about the Swiss family Bernoulli who produced eight highly regarded (or genius or ‘academically gifted’) mathematicians over three successive generations in the 17th and 18th Centuries. And I thought, ‘Wow, isn’t that interesting?’ Was it genetic? Was it environmental? Was math just the family business?
 - ✓ Because of their long outsider status and transient lifestyle, children of circus performers have traditionally learned the craft from their parents. I suppose that now there is some place you can go to school to learn to become a circus high wire act, but that would be a modern invention. Karl Wallenda was born into an old circus family and learned his craft from his first employer (sort of an apprenticeship). While countless families have plied the circuses for generations as their business, the Wallendas are the most famous family act in modern times. The current Wallenda family, who performed at the last show ever of the Ringling Brothers and Barnum & Bailey Circus in 2017, is now in the seventh generation.

The Bernoulli family also includes notable astronomers, physicists, painter, architect, designer, geographer, art historian, archeologist, and social campaigner. This is the family after which the Bernoulli Numbers, Bernoulli Distribution, and Bernoulli Principle are named.

Similarly, the Dupuys represent at least *three generations* of military officers, military historians and analyst;⁷ and of course, the phenomenon is best known in music, e.g.:

- ✓ The three generations of the Doruzka family (David Vaughn, “Three generations of a Prague musical family talk to Radio Prague,” December 31, 2007, www.radio.cz),
- ✓ In the United States, three generations of Hank Williams,
- ✓ In classical music, the Bach family,
- ✓ In jazz, the Marsalis family of New Orleans,
- ✓ In film, three generations of the Newman family (JPW, “Generation music: 6 incredible families who rocked history,” WhizzPast, October 18, 2013),
- ✓ And sometimes all the siblings of a single familial generation emerge as a group of highly-talented individuals, e.g., The Jackson 5, the four Brothers Gibb (i.e. the Bee Gees and Andy Gibb the solo artist – with lots of help from his already successful older brothers).

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As frequently though, children have no feel or desire for the business that their parents understand intuitively, do not show good judgment or follow on (e.g., King Gaiseric’s family).⁸

- ✓ It’s a maddening thing, for example, the descendants of Napoleon Bonaparte have not shown any special ability nor did his brothers who tagged along (except possibly Lucien); certainly nothing has been shown that approaches the energy, intuition and intellectual ferocity of Napoleon up to about 1810. What made Napoleon Napoleon?
- Flipping the Switch On: The Pittsburgh Pirates (and most other small market professional sport teams) have talented players, even star players. However, their pool of talent (even in the minor league farm system) is just a few ticks below the pool of talent in other teams in larger markets against which they compete every year. I have watched the Pittsburgh Pirates for at least 15 to 20 seasons now. They generally begin well, sometimes even surprising themselves and the broadcasters.

But the determining question of any Pirates season is when, at what point in the season, do they ‘fall off the table’? The later it occurs in the season, the better the end. It is not a question of *if*, but *when* they fall off the table – baseball’s annual journey from hero to zero, as in zero games left to playoff elimination. The Pirates broadcasters do their best to put lipstick on a pig – like recent White House press secretaries – but that’s what it is really. At some point in the season, they begin backsliding; the small tenths of a percent in talent begin to take their toll over the course of 50 or 100 games.

In the recent years when they reached the Wild Card game in the playoffs, the Pirates have held their own into mid-August before significantly losing ground (sometimes with a drop off before or after the All-Star Game and then a resurgence), in other years, they begin falling off in mid-June and never really recover. I am sure this happens to every team (two teams play for the World Series title, 28 other teams fail at some point) and this is the reason behind the number of games played in a MLB season, but it is particularly pronounced with the Pittsburgh Pirates. Baseball (and other pro sports) has tried to remedy the competitive balance problem somewhat by instituting a ‘luxury tax’ on big market teams, instituting salary caps to prevent big market teams from simply buying championships, changing the trade deadline, and the draft lottery where the teams with the worst records receive the first picks

in the first round of the draft. There are even compensation picks in later drafts for failure to sign previously drafted players (like an Enlightenment reroll, see 2 Colleges generally, *infra*).

In 2019, the Pirates fell off the table starting immediately after the All-Star Break; they had fought their way to 2.5 games back going into the All Star Break, but then lost 11 of 13 games to teams ahead of them in the NL Central following the All Star Break. Pirates broadcasters frequently discussed on the air the sudden failure of the Pirates, Joe Block pointed out that the four days off for the All Star Break doesn't account for it, and Bob Walk commented that it was like someone flipped a switch, adding that a switch has two directions (obviously thinking of a standard wall light switch), and a switch can be flipped back on.

Going into action on July 26, 2019 against the NY Mets, the Pirates were 46-56, ten games under .500. With 60 games left in the season, the Pirates would need to win 36 of the remaining 60 games to finish with a winning record of 82 wins, the current projection is 73 wins, 89 losses. And that mediocrity, winning just six more games than they lose in the last 60 games, isn't going to make the playoffs. The 2019 team has shown flashes of greatness, perfection but that is not going to happen this year or any year. The small percentages long-term caught up with the earlier brilliance. The trading deadline is July 31, 2019 at 4:00 p.m.

As of the morning of August 8, 2019, the Pirates were 3-21 since the All Star Break and 14 GB; the Pirate's official MLB website headline finally used the word 'freefall.' I noticed over time that the broadcasters talked less and less about the game in front of them, and filled air time talking about other – more fun, silly – baseball-related topics. I watched part of the game on August 7th, and the broadcasters hardly talked about the game; the Pirates were completely non-competitive.

- ✓ The effect of the development and use of (or failure to use) Enlightenment in GGDM (or life even) over the course of the game (see 2 Colleges generally, *infra*), is the same as those *small percentage differences in talent* and depth between teams over the course of a sports season, whether it is accounted for by individual *arete* or by cohesion, team psychology, or the elusive 'why factors' – sometimes a team tumbles into a losing streak and you wonder about the team psychology, has defeat and failure become inevitable in their minds? The Colleges in GGDM allow positions to decide where, to what areas, they want to apply their *small percentages* of extra talent.
 - GGDM, whatever it is, is my personal College of meagre talent.
- The Flipped Side: The flip side of gains in small percentages is the cost-benefit analysis and diminishing marginal returns. At what point does adding more decimals to π add little to the understanding? In the common vernacular, this is saying that at a point, more is sometimes less (or in sports, 'less is more, don't try to do too much'). This question has long been asked as GGDM developed into its final form – the final acceleration toward c has been one of gains in small percentages: At what point does adding more to this conversation (and btw, attorneys are frequently guilty of saying too much in oral arguments before judges) result in diminishing marginal returns – in both the business and psychology sense?⁹ I had to decide, and you the reader will decide: Game, treatise, or gigantic bore? How many rerolls do I get?

“For it is a paradox of this strange corps that former slaves should eventually have acquired a power over their masters which may be compared only to the prerogatives claimed by the Praetorians of Ancient Rome. As their influence grew, the Janissaries made and unmade sultans with supreme insolence, while over a period of three centuries fully half of the Ottoman grand viziers came up from their ranks. Originally trained as foot archers, they adopted the arquebus early in the sixteenth century. Yet the brains of these military monks proved more valuable than their brawn, since they were virtually recognized as the staff college of the Ottoman army.”

– Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 220 ¹⁰

Endnotes.

¹ Commentary: The full copy of War Through the Ages (2nd Edition) is available *for free* on archive.org through the digitallibraryindia (Public Library of India) collection in searchable PDF/A format and Kindle .mobi format (their Kindle conversion, however, did not come out well and is not recommended) as of October 2018.

- ✓ Note that there are significant differences, especially in the history of WWII, between the 2nd Edition published in 1944 and the Revised (i.e. 3rd Edition) published in 1960; the final chapters were expanded and rewritten in the final edition. Most of the chapters up to WWI are unchanged or only have small edits between the editions. Mr. Montross died in 1963 and thus his history ends with the Korean War, the last chapter in the 3rd Edition.

² Commentary: In early 2019, I accidentally discovered, to my astonishment, by Google search that his papers are in collection at Syracuse University. The collection comprises of 14 boxes taking up 7 feet of shelf: “American military historian, author. Collection contains correspondence, scrapbooks, notes, manuscripts, and published material. Correspondents include Bruce Catton, H.L. Mencken, and Francis E. Walter.” – abstract from collections webpage.

³ Citation & Commentary: “British journalist and military theorist B. H. Liddell Hart asked [Heinz] Guderian to say that he had based his military theories on Liddell Hart’s; Guderian obliged. ... Guderian’s memoirs remain popular to this day. The favourable descriptions started with the British journalist and military theorist Liddell Hart, who described Guderian as one of the ‘Great Captains of History,’ in a book published by the mass-market Ballentine Books in 1957.” – from Wikipedia article, “Heinz Guderian,” citing (for the first sentence) to Pier Battistelli, Heinz Guderian: Leadership, Strategy, Conflict (2011).

Quid pro quo between the historical figure and the admiring historian? Do you think this hasn’t happened before? Still, continuing historical analysis always has the last laugh:

- ✓ “Guderian was a capable tactician and technician, leading his troops successfully in the Invasion of Poland, the Battle of France and during the early stages of the invasion of the Soviet Union, especially in the advance to Smolensk and the Battle of Kiev. [Russell A.] Hart writes that most of his success came from positions of such strength that he could hardly lose: he was never able to accomplish victory from a position of weakness. Hart adds his deficiencies outweighed his strengths, such as deliberately creating animosity between his panzer force and the other military arms, with disastrous consequences. [Guderian’s] memoirs omitted mention of his military failings and his close relationship with Hitler. James Corum writes in his book The Roots of Blitzkrieg: Hans von Seeckt and German Military Reform that Guderian was an excellent general, a first-rate tactician and a man who played a central role in developing Panzer divisions, irrespective of his memoirs.” Wikipedia, *Id.*

⁴ Commentary: The first three Colleges in 1996 were the War College, Social College, and Industry College. They were constructed as tables with cumulative investment levels and technology-like abilities.

⁵ Citation & Commentary: “When the new White House chief of staff, then a Marine general, John Kelly received a knock on the door in November 2010, he became the highest-ranking military officer to lose a child in combat... The Kellys’ legacy of service is not unusual among military families. This type of lineage has led to generations of

flag officers, fathers and sons who reunite while deployed, and families who bear the loss of a war America has forgotten we are fighting... It's a lot easier to go along with the president's plans for military action when it's someone else's sons, daughters, or parents doing the fighting.... Who serves when not all serve? ...In the United States, perhaps the strongest predictor of military service is having a family member who served – allowing for extended family members, it averages to about 80 percent of new recruits across the services.... The military draws many recruits from the same communities and the same families, isolating those in uniform from society and vice versa. In essence, the self-selection dynamics have created a 'warrior caste.'" – Amy Schafer, "The Warrior Caste," *Slate Magazine*, August 2, 2017.

- ✓ "Even when his own men displayed the spirit of the age, Caesar needed only his personal sway to quell the mutiny. He put the malcontents to shame by calling them 'citizens,' for the designation which was once a Roman's greatest pride had become a term of contempt among professional soldiers. Rome at last had acquired military spirit." – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), p. 81.
 - Thus, in the Masada television mini-series (1981, Part III) when Legate Lucius Flavius Silva (misnamed in the movie as "Cornelius Flavius Silva") yelled, "Citizen, get out of my seat!" at Pompeius Falco (a political usurper), it was not a complement. Or a kindly request even.
 - Caesar's insult had not gone out of fashion 2000 years later: "Wolseley, who had been led to believe that his expedition was the initial phase of the British conquest of the Sudan, was furious, and in a telegram to Queen Victoria contemptuously called Gladstone '...the tradesman who has become a politician.'" – from Wikipedia article, "Charles George Gordon," citing to Mark Urban.

⁶ Citation: See 3 Information, p. 1364, *infra*, for full feature quote.

⁷ Commentary & Citation: Col. R. Ernest Dupuy died at 88 years old on April 25, 1975. He was General Eisenhower's acting director of public relations, and it was he who first broadcast the official announcement on June 6, 1944, that the D-Day landings had begun ("Col. R. Ernest Dupuy, 88, Dead; Publicist and Military Historian," *NYT Archives*, April 25, 1975, available free online). His son, Trevor N. Dupuy served in Burma in WWII while his father was serving Eisenhower, also achieved the rank of Col. and later, he also served under General Eisenhower in the Supreme Headquarters Allied Powers Europe. Col. Trevor N. Dupuy pioneered Qualitative Analysis of military operations, the Dupuy Institute he founded still exists (see <http://www.dupuyinstitute.org>); he died in 1995 at age 79.

- ✓ "Trevor came by his interest in military history through his father, R. Ernest Dupuy, who was a prominent military historian and a career army officer. Trevor wrote, 'I was brought up by my father to be both a soldier and a military historian. To him the two were inseparable, and that is the way it has always been for me.' His writing career began in 1952, when the Army reinstated the teaching of military history in ROTC courses, and Trevor received a faculty appointment at Harvard University as a professor of Military Science and Tactics. Because there was no text, Trevor asked his father to help him write a textbook to be used by his students. They each wrote a chapter every two weeks, and each week Trevor mimeographed the new chapter to distribute to his students. By the end of the academic year, the father and son had completed the two-volume textbook, *Military Heritage of America*, the first of many such endeavors. From 1960 to 1962 Trevor worked for the Institute of Defense Analysis." – Susan Rich, biography page for Trevor N. Dupuy at The Dupuy Institute website (<http://www.dupuyinstitute.org/tndupuy.htm>).
- ✓ Arnold C. Dupuy is the son of Trevor N. Dupuy, and is also an analyst. He is listed as co-author with Trevor N. Dupuy in *How to Defeat Saddam Hussein* (1991). The 'about the author' section of "Cyber-Energy Infrastructure Vulnerabilities in the Hybrid Warfare Environment: Some DOD Mitigation Efforts," *Information & Security*, Vol. 39, states that he has 25 years of military experience in the active duty and reserves, and is an assistant adjunct professor at Virginia Tech (CV available in PDF on site).

⁸ Commentary: On a personal level, my mother was studying undergrad psychology, sociology, and education while I was in kindergarten and first grade, and spoke to me freely about whatever she thought I could understand (and I also sat quietly in the back of a few classes when she couldn't find a babysitter). GGDM is something however that my mother would never have imagined. I don't do it in memory of my mother, but rather, it's just what I do naturally, what I am, what I want to do.

⁹ Citation: "The Law of Diminishing Marginal Utility states that all else equal as consumption increases the marginal utility derived from each additional unit declines. Marginal utility is derived as the change in utility as an additional unit is consumed. Utility is an economic term used to represent satisfaction or happiness. Marginal utility

is the incremental increase in utility that results from consumption of one additional unit.” – Reviewed by Will Kenton, “Law Of Diminishing Marginal Utility,” Investopedia, updated June 24, 2019.

- ✓ *Utility is satisfaction and happiness*, see Thorsten Polleit quote, Music Utility, 4 Culture, pp. 411-412, *supra*. Constant music playing, even music I like, loses utility after an hour or so, it becomes either annoying or I begin not noticing it, depending on my mood and what I am doing (and the music volume).
- ✓ “The Law of Diminishing Marginal Returns states that, at some point, adding an additional factor of production results in smaller increases in output. For example, a factory employs workers to manufacture its products, and, at some point, the company operates at an optimal level. With other production factors constant, adding additional workers beyond this optimal level will result in less efficient operations.” – Reviewed by Will Kenton, “Law of Diminishing Marginal Returns,” Investopedia, updated May 22, 2018.
- ✓ “The law of diminishing marginal utility, as developed by Carl Menger (1840–1921), is *axiomatic* in nature; that is, it is *irrefutably true*. In mainstream economics, however, this fundamental economic law is typically interpreted as resting on psychology, namely the law of satiation of wants. Such an interpretation, however, does not actually conceive the law of diminishing marginal utility as a fundamental economic law – which has truth value irrespective of time and place – but as a fleeting explanation of certain economic phenomena, which may or may not hold in a given situation. Given the importance of the law of diminishing marginal utility for economic theory and policy, it is important to keep advertising that the law of diminishing marginal utility is *irrefutably true* – because it follows from the axiom of human action. For ignoring this truth leads to fallacious and erroneous conclusions, and eventually to false economic theory and economic policies.” – Thorsten Polleit, “What Can the Law of Diminishing Marginal Utility Teach Us?” Mises Institute, February 11, 2011 (emphasis in original).
- ✓ C.f. “According to the Law of Diminishing Returns (also known as Diminishing Returns Phenomenon), the value or enjoyment we get from something starts to decrease after a certain point. Let’s say we go to an amusement park and ride our favorite roller coaster five times in one day. The first time is exhilarating. The second and third times are also exciting. But after the fourth or fifth ride, we start to feel sick and bored – we’ve had enough. The law of diminishing returns also applies to performance. Although it’s important to study for an exam or practice for a game, there is a limit to how much time and energy we can invest and still expect to see an improvement. If we practice too much we’ll start to feel burned out and may even start performing poorly.” – AlleyDog.com (psychology student website), “Law Of Diminishing Returns” (unattributed, undated), retrieved June 26, 2019.
 - Diminishing Returns Phenomenon is why binge-watching or even listening to the music app or radio all the time is not good. I find that I rarely can watch more than two or three episodes of a show that I am interested in watching in a day or two days. I frequently cannot watch an entire baseball, hockey or football game, I get bored or tired-eyes, after-dinner sleepy. I like to think about what I watched; the more I watch in a short time, the less enjoyable, and the less I get out of it. If I watch a movie, I’ll think about it for a day or two before I watch another, and frequently it is subsequently mentioned, commented on or quoted in GGDM. This argues in favor of the original weekly schedule of television programs in the pre-binge watching internet streaming service days. Yet, I have known co-workers who came to work each week and said they binge-watched an entire season of this or that show in a day or over a weekend! Similarly, my attention to music wanes after a few songs have played, even though I like the songs being played, at some point, it is just background noise, and sometimes is even annoying if I am trying to type (I like to actually, actively listen to my music). I remember when I was young we’d have the radio on all day long, sometimes it was just noise, other times I’d actively listen to it.
 - See discussion of sublime, Something Sublime, 3 Culture, p. 380, *supra*.

¹⁰ Commentary: On July 3, 2018, while reviewing the Wikipedia article on Carl von Clausewitz, I noticed a quote from Lynn Montross’ War Through the Ages, linked back to the Lynn Montross biographical article that I started in 2005. I believe that this is the first time I have ever seen a Lynn Montross quote outside of GGDM (there is no Wiki-quote page). I also started Wikipedia biography pages for Harry Summers and William Ledyard Rogers in 2005, the latter of which has been extensively expanded by Wikipedia users. Another user started the biographical article for Trevor N. Dupuy a little over a year later (early 2007) and linked the name in the Montross article.

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See Appendix AGE – Aging Out

“If everyone is thinking alike, then somebody isn’t thinking.”

– George S. Patton, Jr.

“Where all think alike, no one thinks very much.”

– Walter Lippmann, The Stakes of Democracy (1915)¹

Knaves: Or in the converse: “If there were neither fools nor knaves in the world, everyone would be of one mind” – Spanish proverb cited by Joseph Addison in “Mischiefs of Party Spirit” (1711). So, if everyone isn’t thinking like me, it must be the fools and knaves in the world! ☺

Foresight: Foresight acts as a kind of ‘do-over’ in comparison to what the actor would have or might have done ‘blindly’ in the situation without it. In the Tetris-like falling tile game Hashira, there is a ‘preview’ on the right side of the next three tile set that will enter the board. It acts as sort of a rear view mirror for what is coming up behind, allowing the player to make better decisions on where to place the current falling tile group – sort of a do over before the deed is done. Seeing what is coming next helps maximize play on the board or avoid ‘mistakes’ when I have the choice between similar tiles in two sets or deciding which tile is on top when they land. The result is an improvement in play by small percentages early in the game; however, the preview is less useful as the game progresses, after the board is about half filled, there isn’t time to look at the previews (due to space and speed) and it also doesn’t help any when the computer is cheating, skewing the ‘random’ tile generation (you can’t play tiles that the computer refuses to give you). That is, it is a question of when you fall off the table and the board fills up.

- ✓ Foresight allowed human ancestors to survive in situations in which they would otherwise have perished, even animals have foresight, anticipating the seasons, the movement of prey, when to seek shelter based on behaviors and sensory input coded as instinct. Humans’ foresight went beyond instinct to intuition, discernment, expression of understanding in the form of the myth.
 - Hindsight is foresight after the fact.☺
- ✓ A level of foresight that seems almost magical, impossible, is called *second sight*, e.g., “Patton had developed tank warfare into an art, and understood how to handle tanks brilliantly in the field. I feel compelled, therefore, to compare him with *Generalfeldmarschall* Rommel, who likewise had mastered the art of tank warfare. Both of them had a kind of second sight in regard to this type of warfare.” – *Generalfeldmarschall* Albert Kesselring.
- ✓ This is a potential area of effect if psychic abilities are introduced to the game, see discussion Farsight, 3 Information, p. 1362, *infra*: Psychic abilities might be an Enlightenment.

A strong theme of post-WWII science fiction literature was the concept that the world – human civilization – needed a ‘do-over,’ a big red reset button. How could this be accomplished in fiction? You know already. As Vernor Vinge commented in 1983:

- ✓ “To write a story set more than a century hence, one needs a nuclear war in between ... so that the world remains intelligible.” Big - red - reset button.

- See The Vinge Rule, 2 Technology, p. 705, *infra*, for full feature quote.

Nuclear wars, alien invasions, and to a lesser extent, meteors (thanks to the then evolving understanding of the extinction of the dinosaurs) or other cosmic catastrophes (e.g., Planet Mongo in Flash Gordon), were the natural available reset buttons both to restart current civilization from scratch and to avoid having to address seemingly infinite exponential technological progress.

Because, how else would civilization get a ‘do-over’? Continue reading...

“So if we buy the sociological trends that our ambition and happiness wane in our middle age – key years for promotion to senior levels – then are younger and much older leaders best? Not really. A 2011 study found that while there is a correlation between wisdom and effective leadership, there is no correlation between wisdom and age – or between age and effective leadership.”

– Kristi Hedges, “Why You’re Losing Ambition As You Age,” Forbes Magazine, July 16, 2014 (available free online)

Faculties: In economic terms, the marginal utility of living wanes in middle age. Each time Regular Turn actions are processed for the position, Colleges will automatically attempt to produce Faculties. Faculties are the effects of the College on society, empowering the position to act, or to act more effectively, to achieve superior results. Faculties include the training of the next generation, the dissemination of knowledge and understanding throughout society.

Faculty as used in GGDM, relates most closely to the Merriam-Webster online dictionary definition of *faculty* at **1**: Ability, Power and more specifically, **1a**: innate or acquired ability to act or do. Any apparent references to the teaching profession in the context of the game rules for Colleges is intentional lexical irony.

- ✓ Read it on a t-shirt: “Irony is the opposite of wrinkly.”

And since we are here....

- ✓ Merriam-Webster online dictionary at *culture*: **2**: the act of developing the intellectual and moral faculties especially by education; **4a**: enlightenment and excellence of taste acquired by intellectual and aesthetic training, **4b**: acquaintance with and taste in fine arts, humanities, and broad aspects of science as distinguished from vocational and technical skills; **5a**: the integrated pattern of human knowledge, belief, and behavior that depends upon the capacity for learning and transmitting knowledge to succeeding generations.
 - ✓ “Think of what we learned from parents, from people who have experience. You’re learning from generations that lived before us. It makes you feel you are part of a continuum. You’re not just here alone, so it makes you a deeper person and maybe even gives you that great thing called wisdom.” – Doris Kerns Goodwin, Master Class video trailer.
- **My Generation:** At the **end** of each Regular Turn, each College will attempt to generate Faculties if the College’s Host World is not captured and if enough Endowments remain to fulfill the current Per Turn Endowment of the College. Faculties are received for each successful College Try. The number of College Tries allowed for each College is the total population of

the position (including Converted, but not Captured populations) divided by the total number of colonies, divided by ten.²

- ✓ So, a position with 300 eligible population on five colonies, gets six College Tries per College per turn ($300 \div 5 \div 10 = 6$).

The chance of success of each College Try is the Per Turn Endowment (RPs) divided by the total number of colonies divided by ten (or put another way, 1 RP per Turn Endowment per colony equals a 10% chance of success).

- ✓ So, a College with a 10 RP per Turn Endowment and five colonies would have a 20% chance of receiving a Faculty for each College Try.

Note that the math here rewards urbanization and stability; expanding and establishing new colonies, and conversion of colonies, can dilute the chances significantly.

‘Faculties’ are therefore the ‘game unit’ of Enlightenment in a position’s civilization; just as RPs are the non-monetary economic unit of the game. And like RPs, Faculties are considered to both exist generally throughout the civilization and are simultaneously applicable locally, within limitations, to accomplish the task at hand (quantum mechanics again...).

- **Tuition & Tenure:** Regardless of how many Faculties are received, the *per-turn* Endowment is subtracted from the Endowment of the College each Regular Turn it operates. All Faculties generated by a College are kept in a “class” for that College and a running tally is kept on each College’s current Charter. Immediately prior to Faculty generation (i.e. College Tries) each Regular Turn (or Turn Cycle if Regular Turn Actions are not submitted or processed) after the operation of Institutes and Enlightenment, half of the Faculties in each College’s ‘class’ will retire (i.e. ‘age-out’ like RPs in the Treasury). Faculties in a College’s ‘class’ are not immediately lost if the College’s Host Colony is captured or if the College ceases to function or closes for any reason, but of course, without replenishment, they will eventually dwindle away, losing half each Regular Turn. Or put another way, the half-life of a Faculty is one Regular Turn if not used.

- ✓ Old math teachers never die, they just reduce to their lowest common denominator.

“Without ambition one starts nothing. Without work one finishes nothing. The prize will not be sent to you. You have to win it. The man who knows how will always have a job. The man who also knows why will always be his boss.”

– Ralph Waldo Emerson

Echoes of Aristotle: Emerson was perhaps echoing Aristotle: “for he that can foresee with his mind is naturally ruler and naturally master, and he that can do these things with his body is subject and naturally a slave.” (*Politics*, 1:2, 2) Assuming the translation is meritorious, it appears that Aristotle was arguing in favor of slavery as a natural state of some part of humanity, and separation of the mind and body, as Carl Sagan argued in the *Cosmos* television series.

I can imagine in Europe before the 20th Century when there was both a class division in education and classical education was preeminent – at least among the upper classes – that Aristotle’s quote above was widely known and was purposed for justification of hereditary rule and nobility

over less educated or uneducated workers and peasants. This is one of the reasons possibly for the 20th Century decline in classical education.

Unfortunately, the justification also became a sense of entitlement and a right to be useless (see Arrears in Aristos discussion, top of 2 Entropy, p. 234, *supra*) while the print and industrial revolutions gradually changed society and social attitudes over three centuries. The reactionary hereditary nobility and aristocracy failed to understand or even foresee their own doom:

- ✓ “When enough nobles forgot that their positions were not guaranteed by invisible forces... the Imperium was doomed” (Dave Neilson, see full feature quote starting the *Noblesse n’oblige plus* and *Nobless Oblige* discussion, 4 Movement, p. 869, *infra*).

The nobility of France, England, Russia, Germany, Italy, were lost and we know the results.

➤ Discipline & Distractibility: Discipline is what happens when it is no longer about you; it is a vital part of unit (in the military) or social cohesion (aka ‘asabiyyah’). And parenting.

- ✓ When you live by a philosophy, whether it is the dictates of a world religion or Kantian Imperatives, it is no longer about you. If you are being true.

Ayn Rand may argue about the virtue of selfishness, but no one who matters has ever argued the virtue of being undisciplined. Discipline is selfless focus.

- ✓ “What lies in our power to do, lies in our power not to do.” – Aristotle.

The argument can be made that, unfortunately – with regard to GGDM, a huge sprawling overreaching, over-ambitious simulation game – I have not shown much ‘design discipline.’³ I have allowed myself to be led wherever, dragged along, by the dog I walk.⁴

- ✓ “Quality is not an act, but a habit” – Aristotle.

I blame the spirits of Victor Hugo, Charles Dickens, Leo Tolstoy and Fyodor Dostoevsky.☺

- ✓ “‘The neurotransmitter dopamine has repeatedly been associated with increased cognitive flexibility in the past,’ says Dr. Erhan Genç from the Bochum Department of Biopsychology. ‘This is not fundamentally bad but is often accompanied by increased distractibility.’ ... Whether someone tends to postpone tasks or tackle them directly depends on the individual’s ability to maintain a specific intention to act without being distracted by interfering factors. Dopamine could be crucial here. In previous studies, the neurotransmitter has not only been associated with increased cognitive flexibility but also seems to make it easier for information to enter the working memory.” – Ruhr-University Bochum, “How procrastinators and doers differ genetically,” ScienceDaily, July 11, 2019.⁵

“Talent is relative, effort is not. They love this guy because he works hard and every day you know you will get everything he’s got.”

– Pittsburgh Pirates broadcaster, May 7, 2019

Enlightenment: The success or failure of any action or the successful resolution of any situation depends on the quality of the people ‘on the ground,’ that is, the people who are actually involved in performing, leading, or evaluating the task.

Enlightenment in GGDM should not be confused with the historical era from which the term derives its more general application here. Enlightenment are that package of qualities that lead to what professional sports calls execution (effort) and talent.

- ✓ “Praxeology also emphasizes that human action is personal action. In other word[s], every economic and social behavior must be ultimately traced back to the actions of individuals. There is no ‘collective mind’ or collective entity that takes action independently of the actions of the individual members comprising the collectivity. When we say that Germany invaded Poland, or when we say that the government established a social security program, or that Apple is launching a new iPad, these expressions are all shorthand to describe the actions of *individual persons* within those organizations. That emphasis on personal action is often called methodological individualism. This concept may seem obvious but, in the mid-nineteenth century, it was common to believe in collective spirits embodied in ‘the nation’ or, under Hegelian and Marxist influence, in other collectivities such as ‘the bourgeoisie’ or ‘the proletariat.’” – Michael Accad, M.D., “An introduction to praxeology and Austrian school economics,” alertandoriented.com (blog), April 13, 2016 (emphasis added).
 - See also discussion of Nationhood Proficiency, 3 Culture, p. 393, *supra*. As part of the de-Nazification of Germany in 1945, the message to the German people was ‘you did this.’ Not Germany did this.
 - See discussion of Romantic Nationalism and National Mysticism, 3 Government Titles, p. 618, *infra*.

Like our daily lives – each of us – the daily life of a civilization consists of attempting, starting and/or completing or not completing innumerable tasks. “No man is an island,”⁶ that is, each of us carries with us, to our daily tasks, our part in the life of civilization, all of the mental tools and cultural baggage, and material goods (logistical support) and services of our times, our culture, our civilization, for good or ill. This is the reason – will, discipline, training, equipment, cohesion,⁷ purpose, leadership,⁸ heroics – settled upon by military historians that explains why, for example, Greeks and later Roman armies were able to defeat opposing forces many times their size, or why 180 Spaniards were able to capture the *Sapa Inca*.⁹ It is this package, this bundle of qualities – the wisdom pool of civilization distilled into the individual¹⁰ – that individuals on the ground carry to their daily tasks or into any situation that are the Enlightenment.¹¹ Ultimately, daily lives, the course of our lives and civilizations are about decision making and outcomes.¹²

- ✓ Consider the opposite case: In *The Book of Eli* (2010), Carney sent a pack of vicious, undisciplined illiterates to find a specific book with predictable results and mayhem.
- ✓ Christine Hensler, John Kaag and David O’Hara have argued in *The Chronicle of Higher Education* that the emphasis on STEM (which Carl Sagan championed in *Cosmos*¹³) which became pronounced around the turn of the millennium with the push for gender equality in STEM fields, has come at a cost of decrease in humanities education which has contributed to current social problems in lack of leadership, sexual harassment, and other ills.¹⁴ Christine Hensler notes, that other than philosophy and religious studies, there is an equal opposite gender gap in the humanities and humanities teachers – mostly women – are not well paid in public education.
 - See 2 Culture, EN 11, pp. 377-378, *supra*.

- Pool of Radiance: All of the Faculties currently in the “classes” of all of a position’s Colleges are part of an imaginary pool called The Enlightenment (similar to the Treasury as an imaginary pool of RPs available to the central interstellar government). These Faculties are available for use to affect die-rolling situations during the turn and/or to operate Institutes (see Institutionalized, *et seq.*, 3 Colleges, p. 487, *infra*).

Whenever a position intends to use Faculties to affect die rolls, they must be assigned in the Regular Turn Actions submitted, in other words, the decision to use or apply Faculties to die-rolling situations that might occur during the turn must be made *before the turn is processed* (i.e. foresight, because of the way the game processing operates). Faculties designated to affect die rolls are not available for operation of Institutes during the same Regular Turn.

- ✓ The Enlightenment is a singular, unique game object, and should not be pluralized in GGDM (e.g. “Enlightenments”). Additionally, Faculties, as game units, should not be called “Enlightenments,” as it blurs the concepts in GGDM play.
- Nightlight: Faculties designated to support die rolls in the position’s Regular Turn Actions are subtracted one from each College’s class until enough Faculties are gathered to satisfy the Faculty commitment. Faculties will be taken from the oldest College first, and then one by one to the newer Colleges, until all Colleges have given one Faculty, and if more are needed, the process starts again with the oldest College. Whenever a Faculty is used for a reroll, it is expended, removed. Faculties are designated to support a specific Power Activation.
 - ✓ Faculties from classes of *suspended Colleges* remain available until they ‘age-out.’

Enlightenment is about doing in the game. Because Enlightenment must be designated for either specific Power Activations or Combat Rounds, they cannot be used to affect non-Power Activation effects of the game, such as Reformations, Kairotic Moments, or News Events or usually acts of other positions, hostile or otherwise.

- Web of Night: Faculties must be applied to specific die-rolling situations. So, for example, Faculties cannot be used to affect Census and Taxation, but can be used to affect the Loading of population on Colony Ships, or to affect Combat.¹⁵ Enlightenment can only be used to affect situations occurring on the Public Space – remember that the Public Space at any moment also includes all places in the Galactic Space where the position currently has ships or sovereign populations located. Besieging a Host Colony has no effect on Faculties from either Colleges located there or any other College. Similarly, Faculties from a College have no special effect on or any extra meaning to the colony Hosting the College.

About 20 or 30 years ago, I heard the term “the why factor” in an intro sociology class in relation to group cohesion, an exploration of why some groups cohere well and others do not. The term does not seem to be current in use, searches for the term in relation to sociology or group cohesion come up empty of useful results, and the top results are all related to a BBC program, with one entry for a Workforce Institute book.¹⁶ Still, the ‘why factor’ term as I heard it decades ago fits well into the idea of Enlightenment use in GGDM and possibly was the inspiration. In this sense, GGDM Enlightenment – in the form of leadership and depth of understanding – is the local group cohesion and informal structure, why it gets the job done.

A die roll in GGDM should be thought of as representing the collective result of hundreds of small activities, tasks, and actions, sometimes over an extended time period (sort of like at

bats, pitches and plays collectively in a baseball season). Occasionally, a die roll may represent the result of a momentary act by one or two individuals in a crucial situation (like in a baseball game). Thus, GGDM's scale is different from what is commonly seen in science-fiction movies and books where individual heroic characters drive the action (see related discussion in *Buzzing Lightyears, et seq.*, 4 *The Streams of Time*, p. 101, *supra*).

Faculties are assumed to come from and apply to the position's sapient, biological population, especially in reroll situations. Because of so many unknown and currently unknowable, speculative possibilities, GGDM makes no comment on whether or when Faculties apply to tasks performed solely by machines or artificial intelligences (the question of what is 'artificial' about a machine's intelligence is another interesting issue), for example, can Faculties be applied to Hazard Rolls for purely robotic Scout Ships (see *Then Never Comes*, 3 *Expansion*, p. 907, *infra*), or must we assume that Scout Ships have a biological sapient crew? What if Fighters (see *Fighters*, 1 *Carriers & Fighters*, p. 1046, *infra*) are just sophisticated drones? There may be a tendency for technology in the game to develop in the direction of crewless warships and machine interstellar combats; participants will need to decide what this means in the game.¹⁷

- ✓ See discussion of Scout Ships as drones, *Imperial Interstellar Scout Service*, 3 *Movement*, p. 855, *infra*.
- ✓ See also *The AI Problem* (excerpts), *Corporations*, *infra*.
- **Vampire Suicide:** In life, there are (usually) no “do-overs” when it matters, but what if you didn't do it wrong to begin with? What if there was a ‘back’ or ‘undo’ button on the Keyboard in the Sky? (Norman Spinrad, 1990). For each Faculty used, the position gets one reroll of a failed die roll as if it never occurred.¹⁸
 - ✓ **Lain(w):** I can delete their memory of being peeped on. I can delete the information. **Deus:** Sure. Try it. You were born to be able to do it. **Text:** Deleting... – Serial Experiments Lain, from Lain Wiki, “Layer 08 Script,” captured December 1, 2018.

The Enlightenment reroll will be applied to the first failed die roll. A position may only reroll each die rolling situation *once*, at the moment a die roll fails, no matter what kind of die roll it is, or whether or not the die roll is important. Multiple Faculties may be committed to situations where there may be multiple die rolls, but whether used or not, any committed Faculties are not available to operate Institutes. Unused Faculties will be returned to the Classes at the end of the turn, before aging is processed. Faculties committed to Combat, used or not, **will not be returned** at either the end of the Round or at the end of the Combat.¹⁹

- ✓ “Any object – ship or colony planet – that does not have an active Epistemological Constructural Element may not (50% chance) be able receive the effects of College Faculties (whether for use in die rolls, including Combat, or Institutes on that colony).” See Skool Tyne, 2 *Constructural Elements*, p. 190, *supra*.

This should not be confused with failure to obey Power Activations due to inactive Constructural Elements, e.g., the unit may obey the Power Activation but be unable to receive the effects of College Faculties, a different function. One of the most significant possible uses of Enlightenment is to reroll situations where a ship or colony (i.e. unit in the game) fails to

obey or execute a Power Activation due to inactive Constructural Elements (see 2 Constructural Elements, p. 193, *supra*). Thus, Enlightenment can somewhat offset inactive Constructural Elements, but then will not be available for later in the Regular Turn. It's a hard life.

➤ Harsh Mistress: “Failed die roll” in GGDM means any die roll result that is less than the optimal, best possible result. Thus for any die roll where the result determines the value of X (rather than hit or miss, success or failure), whenever the result is not within 10%²⁰ of the best possible X (e.g., funding rolls in Research Attempts), a Faculty will be used to reroll and the result of the reroll, even if worse than the original, will be applied. Positions should thus take care in committing Faculties to rerolls in situations where the die roll is to determine a value and an optimal result is not required or worth the risk or expenditure of Faculties.

- ✓ In situations where the die roll is to determine a success or failure, hit or miss, or whether or not a colony or ship will obey the Power Activation (see Power Off, 2 Constructural Elements, p. 193, *supra*), with no other possible result in between, the failure is a “failed die roll” which will trigger a reroll using available Enlightenment.
- ✓ In situations where the die roll is to determine the value of X (*ut supra*), Enlightenment can be a harsh mistress (something courted or beloved, but a harsh respondent) as only optimal results prevent rerolls and the rerolled result can be worse than the original.
 - “Jerry’s [aka Lucifer] brother [Yahweh] was speaking. So who’s complaining? You want I should put on my Jesus hat and prove it? The fact that some of them make it proves it ain’t too hard – Seven point one percent in this last batch, not counting golems, Not good enough? Who says? The old boy in the black hat [Loki] said, I count anything less than fifty percent a failure.” – conversation between Yahweh and Loki after the Rapture in Robert Heinlein’s Job: A Comedy of Justice (1984).

➤ Army of Light: Application of Enlightenment in combat is the same as for any other situation. All participants in the combat may commit currently available Faculties with the orders sent for each Combat Round. As explained in Relativity, 2 The Streams of Time, p. 85, *supra*, combats operate semi-independently of Regular Turns, that is, combats operate on their own schedule and may continue for many Turn Cycles, depending on how quickly the participants wish to resolve the combats. As a result, it may be possible for a fresh set of Faculties to be supplied to a combat after each Regular Turn by each side.

Faculties assigned to Combat carry to the end of the combat, see Combat Resolution, 3 combat, pp. 976-977, *supra*; unused Enlightenment *is not lost* at the end of each Combat Pound. Faculties used in combat *may never be used to affect the other side’s die rolls*, that is Faculties cannot be used to make the opposition reroll a successful die roll in combat or Special Operations,²¹ thus, Faculties may not be helpful while executing retreats from combat (that is, zagging when you should have zigged).

- ✓ The key then is creating game situations where die rolls are necessary – even in situations where the basic rules do not allow die rolls – so that Faculties can be used. For example, some technology or doctrinal template (see Combat Formations, 4 Colleges, p. 503, *infra*) could be introduced where the retreating player gets what Dungeons & Dragons used to call a “saving throw” if hit. The downside of this is, the demand for Faculties increases drastically.

However, in Fighter attacks in Combat, the position may decide each Combat Round that Faculties committed to Combat will *not be used* for Fighter attack rerolls – *this is simply a game mechanical concession* as Fighter Combats use lots of die rolls and are processed first in the Combat Round, therefore, could easily use all of the Faculties committed to the Combat Round before the other ships execute their attacks. This may be an important decision.

- ✓ See Encounter With Bright Lights, 2 Carriers & Fighters, p. 1057, *infra*.
- ✓ Enlightenment should not be applied to Ship Missile attacks, see Fire & Forget, 4 Carriers & Fighters, p. 1080, *infra*.

Inactive Constructural Elements do not affect actions or die rolls in Combat except that inactive Epistemological Constructural Elements may affect application of Enlightenment to individual units in the Combat.

- ✓ At the Battle of New Orleans, Lt. Col. Mullins' 44th Regiment was charged with bringing ladders and fascines needed for the British attack on the elevated American breastworks. He bypassed them and was not present to lead his unit in battle. When the British columns arrived before the American lines, they were stranded in a kill-zone, unable to effectively attack without ladders, taking heavy losses standing there. Lt. Col. Mullins was blamed for the loss and was court-martialed and cashiered.

“Although events like the Bay of Pigs, Cuban Missile Crisis, and the Space Race have typically dominated the narrative of the Cold War in current history textbooks, the 1983 nuclear false alarm similarly holds importance in assessing Cold War tensions. If Petrov would have made a different decision – determining that the United States intentionally planned to attack the Soviet Union – it is likely that the false alarm would have initiated nuclear war. Petrov ultimately prevented nuclear disaster and appeased some tension during already grave times.”

– Madeline Bradshaw, “1983 Nuclear False Alarm,” Stanford University, November 9, 2017 (large.stanford.edu)

Three Minutes: I am happy to see a young person who understands the gravity of what has been so quickly forgotten.

Thanks to Soviet Officers Col. Stanislav Petrov (on September 26, 1983) and Vice Adm. Vasili Arkhipov (Cuban Missile Crisis, 1962) and many others who had to exercise human judgment, *within three minutes or less* (and no do-overs!) to avoid potential nuclear war during the Cold War – you are here reading this today.

- ✓ Vasili Arkhipov was the second in command on the Soviet Foxtrot-class submarine B-59 in October 1962 and refused to agree to launch a nuclear torpedo at two pursuing U.S. Navy destroyers that were harassing them, which certainly might have started WWII (see pre-delegation of nuclear weapons authority, 4 Combat, EN 23, p. 1004, *infra*). The fact that nuclear weapons were even considered for such a trivial matter (in the big picture) is evidence of the level of tension during the Cuban Missile Crisis. Oddly, Vice Adm. Arkhipov was also, the previous year, the executive officer onboard the Soviet submarine, K-19, aka Widowmaker (e.g., movie, K19: The Widowmaker, 2002; Vasili Arkhipov was fictionalized as Captain 3rd Rank Mikhail

“Misha” Polenin), when it suffered a near nuclear meltdown (i.e. runaway nuclear reactor) on its maiden voyage.

- ✓ Col. Stanislav Petrov was the duty officer during the September 1983 Soviet Nuclear False Alarm Incident, when Soviet sensors incorrectly indicated that ICBMs were coming toward the Soviet Union from the United States. It was actually a reflection off clouds.

He was suspicious that the system was only showing the approach of a few missiles when the expected attack would have involved hundreds of incoming missiles. He had only a few minutes to decide whether to alert his superiors, reaction time was a critical element of the nuclear defense or deterrence. We all know, of course, the United States will not launch a first strike ... but he could have been wrong. Maybe the missiles were real and his doubts were expected to allow the missiles through to their targets? He could have been very badly wrong. He was reprimanded later for not taking proper notes during the crisis. But because he was right, and the world was still there, they could not find his conduct wrong.

To put this in context, the nuclear war movie, *The Day After*, aired on November 20, 1983; Nena’s protest song, “99 Luftballons,” was released in Germany in the summer of 1983, and the television mini-series, *World War 3* aired in two nights in January 1982. Tom Clancy’s Red Storm Rising was also published in 1983. I remember all of them. November 1983 was also the time of the infamous Operation Able Archer.

I was in 11th Grade. My town probably would not have been the target of a strike in any case, but wouldn’t have mattered because 40% of the U.S. population lived within 300 miles of my house and the entire North East and the Great Lakes cities are within 400 miles, probably representing half of the U.S. population. Do the math.

“The name we use for the period implies an answer to the question: If we call those events ‘The Butlerian Jihad,’ we side with the historians who define as ‘great’ those individuals who move the mass of humankind in a new direction; if we use the term ‘The Great Revolt,’ we ally ourselves with those who see ‘leaders’ as simply the front rank of a humanity moving in the direction the masses determine.” – Willis E. McNelly, The Dune Encyclopedia (1984)

A Long Time Ago: In 1985, my white-haired 12th grade English teacher (who probably went to college in the early 1950s, the time when science-fiction musings were becoming fact) informed me that I could not do a book report on Dune (1965) because science-fiction isn’t literature. I was stunned by such a statement – since I had no doubt that science-fiction was literature, though I’d never thought about it and could not have provided a definition of literature if asked. I was hardly in any position to argue (in hindsight, I don’t think he liked me much either), such is the oppressive power of teachers over students.

- ✓ Merriam-Webster online dictionary at *literature*: **1a(1)**: writings in prose or verse especially: writings having excellence of form or expression and expressing ideas of permanent or universal interest.

Even though Professor McNelly had begun writing essays arguing the science-fiction genre is literature in the 1960s, published his main book, Science Fiction: The Academic Awakening in

1974, and published anthologies in 1971, 1972, and 1975, consistent with the observations of Thomas Kuhn, the old guard was never convinced. A sci-fi “*Butlerian Jihad or Great Revolt*” against the English literary establishment – like the Beat Generation vs. Poetry Establishment (see feature quote and Beat Down, 1 Culture, pp. 357-358, *supra*)?

“The acquiring of culture is the development of an avid hunger for knowledge and beauty” – Dr. Jesse Bennett ²²

Endnotes.

¹ Commentary & Citation: Compare Patton and Lippmann quotes. Patton would have been about 30 years old in 1915 and probably might have read Lippmann’s book, read about it, or heard about it.

² Commentary: By the way, Peter Townsend, and *his* generation, are old history.

³ Commentary & Citation: I am perhaps using the term design discipline in the sense of restraint. A Google search for the term ‘design discipline’ on December 8, 2018 generates results headed by Design for Business East website (www.d4be.org.uk) defining the Design Disciplines as Architecture, Engineering, Exhibition and Display, Fashion & Textile, Graphic, Interior, Multimedia, Packaging, and Product Design fields. Game design is not included! Darn. But the following may be applicable to the discussion of GGDM as a design:

- ✓ “In their previous work, the authors have demonstrated that the discipline of design has been superseded by a condition where conventionally set design disciplines have dissolved. In this age where design is typified by fluid, evolving patterns of practice that regularly traverse, transcend and transfigure historical disciplinary and conceptual boundaries, the authors have argued that globalization and the proliferation of the digital has resulted in connections that are no longer ‘amid,’ cannot be measured ‘across,’ nor encompass a ‘whole’ system. In short, this ‘disciplinary turn’ has generated an ‘other’ dimension – an alternative disciplinaryity. Moreover, this reliance on the ‘exhausted’ historic disciplines has become obsolete as the boundaries of our understanding have been superseded by a boundless space / time that we call ‘alter-plinarity.’ The fragmentation of distinct disciplines has shifted creative practice from being ‘discipline-based’ to ‘issue- or project-based.’ Consequently, this paper presents a manifesto for the future design discipline that emphasizes disposing carefully of what you know, teaching what you do not know whilst always taking design seriously, protecting us from what we want, objecting to sustaining everything, designing without reproach, ensuring that objects are invisible but designed with care and within history whilst exploring design as an idea rather than an ideal.” – Paul A. Rodgers (Lancaster University, UK) and Craig Bremner (Charles Sturt University, AU), abstract from “The Concept Of The Design Discipline,” *Dialectic*, Vol. 1, Is. 1, Winter 2017 (Michigan Publishing, University of Michigan Library).
- ✓ Arguments about the division of disciplines and classes are about boundary control, and who is let in is determined by degree- or certification-granting institutions, government regulations, and professional, trade, and scholarly organizations. See discussion of Asymmetric Advantage, De-Mystification, 3 Information, pp. 1364-1365, *infra*. Fortunately, my Game Designers Union Card fell into the shredder one day.

⁴ Commentary: I have personal experience at this: In 3rd Grade that I thought I could take the St. Bernard for a walk, the dog walked me wherever she wanted to go, and I could only try hang onto the leash.

⁵ Commentary: Closing the circle. I have always had *very good memory*, my memory was described as encyclopedic in my youth, and I have always had good *cognitive flexibility* within a range that didn’t include math. My cognitive flexibility has seemed to mature with age, round out, but my memory has lost its edge in recent years. I also seem to be more easily *distracted* which I have felt is a result of fading *discipline* as I age, but on the other hand, I seem to as I have aged, been able to imagine and hold together *holistic understanding* better than in my youth.

- ✓ As Dr. Genç said (*ut supra*) it’s not fundamentally bad, but the distractibility has been an issue of debate in the final edit of GGDM. I discover some new, fascinating angle or line of thought, reading and thinking about it for days or a week. I get frustrated that I am not making straightforward or linear progress in editing through the last sections, yet at the end of the ‘distraction’ evolution, the new discovery has worked

into GGDM and developed a new aspect of the game. So I can't say it's bad being distractible, but it is frustrating.

- I read a very short science-fiction story once where alien invaders were coming to Earth and the world's top bio-geneticist was tasked with designing a superhuman warrior race to defend the Earth. Unfortunately, the old fellow got distracted and instead ended up designing a fly that could fly through the open half of a half-open window.
- ✓ It is distinctly possible that I am addicted to games like Freecell and computerized Mahjongg (and the falling tile game Hashira) because they are focus games – any game that involves timed puzzle solving is a focus training device. I can have incredible focus while playing, for a few minutes, whereas in completing tasks, I often feel distracted. I also usually do not feel (and get frustrated) that I play well at the game club, I get too distracted by the interactions and socialization whereas I used to play very well in PBEM games.

⁶ Citation: “No man is an Island, entire of itself; every man is a piece of the Continent, a part of the main.” – John Donne, Devotions Upon Emergent Occasions (1624).

- ✓ “Mel Gibson often describes the character as a sort of a closet human being who denied his humanity because he thought it wasn't conducive to survival. And we said, well this is really a story about Max coming out of the closet. And because it's a story like that, it has a softer nature. ...

And Mel Gibson suddenly said to me in Mad Max 2, he said you know what he is? He's a closet human being. And it really pretty well sums up Max for me. He's someone who denies his humanity, and sometimes it's going to come out, somehow. So I think he's sort of a pretty sad figure from that point of view. And yet, you have a sense that he's wise enough to learn. He finally learns, slowly, that you can't live by yourself. You're part of the community, like it or not. That we're all sort of vaguely responsible for each other, and he sort of understands that. There are purposes outside of the individual's life or existence. I think [Max] somehow understands that, and it probably makes him more compassionate – at the end of Mad Max 3, at least. That might be the difference; maybe he has compassion ultimately, in spite of doing all these sort of fairly brutal things.” – George Miller as quoted by Anne Billson, “George Miller Talks about Mad Max, Heroes & Tina Turner: The 1985 Interview,” previously unpublished interview published on Multiglom: The Anne Billson Blog, May 12, 2015.

⁷ Commentary & Citation: Every military person knows the military version of the Why Not question discussed in 2 Disruption, p. 269, *supra*. It's called fragging. The answer to the Why Not question in military terms is unit cohesion, discipline, will or purpose, duty, acceptance of authority and chain of command. In these senses it is not greatly different than the answers to the question in civil society, but under different, more extreme circumstances. The most memorable fragging scene occurred in the movie The Siege of Firebase Gloria (1989) as a result of the unfit commanding officer whose condition and incompetence made him a danger to his command facing enemy attack, such that there was no answer to Why Not and the tough-as-nails Sgt. Maj. soon arranged his medevac exit.

⁸ Commentary: A leader is the most civilized person in any situation, but not necessarily the most civil person.

⁹ Commentary: And here, the reader is asked to divorce any moral indignation and view the subject objectively, that is, I am not condoning what was done by anyone to anyone, merely, I am objectively discussing qualities of a civilization. One reason that has been offered for the fall of the Aztec Empire to a handful of Europeans (leading an army of local tribal allies) is that the Aztecs just didn't comprehend the concept of total war, whereas, the Spaniards came from a culture emerging from and a land devastated by centuries of genocide and religious warfare. Another, more potent reason is smallpox, which neither culture understood; and is incidentally, the only major disease we have eradicated from the wild.

¹⁰ Commentary: In litigation, I have seen economic expert reports that, on an autocatalytic or virtuous circle (positive feedback loop) theory, assigned greater economic or currency value to parenting services of college-educated parents. This is a contested subject in economics, but the implication of greater value to the children (in long term results) from college-educated parents is clear. There are many articles easily found on the internet discussing the economic value parents impart on their children, for example, “The Economics of Stay at Home Moms,” (Investopedia, Forbes Magazine, May 10, 2011) discussing salary value or “Tiger moms and helicopter parents: The economics of parenting style” (Matthias Doepke, Fabrizio Zilibotti, Vox [CEPR's Policy Portal], October 11, 2014), discussing parenting styles choices and education value in the context of economic inequality.

¹¹ **Commentary & Citation:** Or consider the opposite: “The violence and dissonance of their lives is all they need. They only want to be what they are; unproductive, destructive, stolid. They simply exist. They simply ... are.” – Denny Daley (art by Michael Saenz), “Punk Zone,” *Epic Illustrated*, October 1981, p. 67.

- ✓ Sounds like the town where I grew up, a sleepy dying river city that can only hold onto long lost glory days (and old mansions turned into apartment buildings), whose natural resources are gone, suffering from severe brain drain, a place where progress is retarded at every turn by unenlightened entrenched interests despite the fact that everyone knows things must change; they only want to be what they are, stupid, pedestrian, backward, selfish, and shortsighted and forgotten by the world. The only thing going on in center city now, which was vibrant and bustling in my youth, are politicians, drug dealers, and bored kids who have nothing better to do than drive around in circles all night. Not an encouraging sign.
- ✓ The first meaning of the word “punk” that I learned, as an early 1980s teen, was rotted, decayed wood (Merriam-Webster online dictionary, **3** punk (n) at **1**) while logging firewood with my grandfather, rotted wood was described as being “punk”; this at the time I was hearing about music called punk rock and being called a punk from time to time. Thus, punk became associated with rot, and I eventually formed the idea that punk – as in youth and music – meant social decay. My view is more nuanced now, but the base idea remains that what we call sapience, humanity includes strongly a desire to be more than what we are individually and collectively, and that non-sapient animals – and we cannot know what they may want – are incapable of being more than what they are – can they want to be anything? This remains the most basic view of humanity globally.

¹² **Citation & Commentary:** **Joseph Simmons:** Listen, we weren’t on the Green this morning with the intention of fighting. **Adam Cooper:** Why did we have our guns? **Joseph Simmons:** To show them we had them. And that we would fight if need be. But there wasn’t a man there fool enough to think he could stand up against the British Army face to face. – *April Morning* (TV movie, 1987).

- ✓ Though the movie makes it clear that the *fictional character* Solomon Chandler, sneaking around the edge of the Green unknown to the combatants, fired the first shot at Lexington that led to the massacre and that all of the deaths on both sides that day are on him, the movie presents an interesting situation in which many decisions taken are the blame: the arrogance of the British, the decision of the British commander not to march past the Lexington militia and avoid confrontation (reminiscent of what Sir Lancelot said to King Arthur during their duel in *Excalibur* (1981): “You sir, would fight to the death against a knight who is not your enemy for a stretch of road you could easily ride around.”), and the decision of the committee to form the Lexington militia on the Green to confront the British column. Solomon Chandler, a firebrand revolutionary agitator, who seems to have appointed himself captain of the militia after the initial fight, and who was an inept weapons smuggler, a poor liar, and probably had an exaggerated reputation, degrades as a character during the last half of the movie as he seems to enjoy the killing. He, of course, dies in the end (‘live by the sword, die by the sword’) with a suitably patriotic message for the Cold War audience (this was a Hallmark production and made-for-TV movie) that I would have inhaled headily if I had seen this movie when it first aired in the late 1980s and exhaled slowly with a deep star-struck sigh for the youthful beauty of Meredith Salenger as Ruth Simmons.
 - History does not know who fired first, e.g., Derek W. Beck, “Who Shot First? The Americans!” *Journal of the American Revolution*, April 16, 2014 (available free online).

¹³ **Commentary & Citation:** From all that I have seen and read in relation to Carl Sagan, it is fair to say that he had lesser respect for – and some disdain for – the humanities; he certainly considered them inferior to science and empiricism (just like my high school in the 1980s). This is not a personal criticism, but rather, I see it as part of the tussle and tow, to and fro, in the struggle of forces in civilization. There are people equally on the other side in the humanities, but it is more difficult with technology triumphant in the modern world.

- ✓ Although Neil deGrasse Tyson does not share Carl Sagan’s sunny view of the universe, e.g.:
 - “Every account of a higher power that I’ve seen described, of all religions that I’ve seen, include many statements with regard to the benevolence of that power. When I look at the universe and all the ways the universe wants to kill us, I find it hard to reconcile that with statements of beneficence” – Neil deGrasse Tyson, at the University at Buffalo, Q & A session, April 9, 2010, video is available on YouTube as of September 2018.

... he too has made some comments disparaging philosophy majors (e.g., The Nerdest Podcast, March 2014) that stoked an uproar on the ‘other side of the aisle’ in the epistemology ascendancy struggle. From Wikipedia article, “Neil deGrasse Tyson,” December 8, 2018.

- ✓ You think there is not an epistemological ascendancy struggle? Then I am from the English-speaking donkey planet “revolving around Sirius” (J.B. Bury, 1913). Wait... I take that back, because someone might investigate and find out its true!

¹⁴ Commentary: Pharma-bro (aka Martin Shkreli) is a classic example of a compounding or snowballing positional error. He took money that he was not authorized to take, used it to make investments and lost the money. He probably figured that he would win big, pay back the money and no one would notice or all would be well. But he lost. He then raised the price of a critical medication that he controlled to regain his losses. This attracted a media outcry and political attention during the run-up to an election. He also involved himself via social media in the presidential election. But his first and most enduring error, as any respectable Roman senatorial or equestrian would say, was in cultivating an obnoxious, juvenile rich frat boy persona while also being a corporate officer, responsible for other people’s investments. He was arrested in December 2015 and charged with securities fraud and found guilty by a jury in August 2017 of securities fraud and conspiracy for a ‘Ponzi-like’ scheme, his bail was revoked in September 2017 for inflammatory speech not protected by the First Amendment. He claimed that he was being persecuted for his personality and wealth, and baited by the media, however the feds may have already been investigating him previously, but he clearly failed to anticipate the climate and adverse reactions to whatever he did and had to play catch up until it all caught up with him.

- ✓ Although he claimed during sentencing that it was never about the money, clearly something was driving him along (and the fact that it made him a multi-millionaire must have been very satisfying), and if not money, then it must have been about ‘winning’; getting away with something over everyone else, that was everything to him. This aspect seems to appear most often in relation to corporate and finance situations. Our society doesn’t exactly discourage that but does occasionally ticket speeders (e.g., Michael Milken).

¹⁵ Citation & Commentary: “Those far distant, storm-beaten ships, upon which the Grand Army never gazed, stood between it and domination of the world.” – Alfred Thayer Mahan (The Influence of Sea Power Upon the French Revolution and Empire, 1793–1812 (1892)).

- ✓ The stunning British victory over the combined French and Spanish fleets at Trafalgar in 1805 is the classic study of the combination of the war college and superior technology both in naval tactics and in strategic naval power. The British ships, though fewer in number, were faster, more maneuverable, the British naval personnel were better trained, more experienced and determined, the British guns were firing two shots for every one received, they were probably more accurate and aimed at the waterline. In the light breeze of that day, the French and Spanish fleets moved very sluggishly and were taken by surprise by the British tactics of cutting their line in two places. In the end, the French and Spanish had lost half of their ships, the British lost none. Afterward, no nation challenged British naval superiority (even in the War of 1812) for over a century. Defeating the British at sea, or the Americans and British at sea (the comparable American naval victory is the similarly much studied, Battle of Midway), has been the first-order requirement for any nascent global power (or colonial resistance) for the last three centuries of world history.

¹⁶ Commentary: This is an inherent problem with Google searches, their program believes the most current, newest, most popular, viral, is always the most relevant result, and thus bands, albums, songs, television programs, YouTube videos, movies, celebrities and bad people dominate top search results if any word related to them vaguely matches the query. Google is always about the hip, the shallow, and the now, like the society that made it. The problem is not likely fixable and not likely to be fixed anytime soon if it is, because that would change the nature of Google.

¹⁷ Commentary: According to Memory Alpha wiki, the Star Trek universe did have a Dreadnought-class ship, the USS Vengeance in the Kelvin Timeline (ST: Into the Darkness, 2013), which was designed as a pure warship, with minimum crew, and AI heavy. It was designed so that the captain could fight and operate the ship without any crew, using AI, while sitting alone on the bridge. This design reflects the modern sense of AI possibilities but is not the baseline assumption of GGDM, which follows the old well-trodden paths of sci-fi.

- ✓ The complement of the Battlestar Galactica was 2000–2500 (Wikipedia, “Battlestar (reimagining)”) or 2,500 to 3,000 during the show (about 5% of the remaining human population), ranging up to 5,000 during the first Cylon War (Battlestar Galactica Wiki, “Galactica-type battlestar”), and operated understaffed without hindrance during the show.

- ✓ Again, according to Memory Alpha wiki, the USS Enterprise-D (ST:TNG) had a crew of 1,014 including civilians and families, while I recall from ST:OS mention of around 400 crew on the Enterprise and according to Memory Alpha, there were eight crew sleeping in bunks in each quarters (not the luxury apartments of ST:TNG). Memory Alpha wiki article, “Constitution-class,” shows crew numbers between 200+ and 400+ for the original Enterprise and the refit, Enterprise-A. So advance of technology between ST:OS and ST:TNG did not result in reduction of the complement of the successive Enterprises, but rather, they added civilians and family.
- ✓ According to Andromeda wiki, the pre-fall crew complement of the Andromeda Ascendant was 4,500, which included a regiment of Lancers, plus fighter pilots (thus the Andromeda Ascendant was hybrid mission ship, a warship, transport, and carrier). Yet, the ship operated for much of the series, with significant AI assistance, with half a dozen crew and hundreds of androids. The fighters were remotely operated as drones from the bridge by Tyr Anasazi during combat. The ground landing force during the series were a handful of sophisticated, heavily armored, AI operated Planet Defense Bots.

Some questions to be answered in GGDM is what is the relationship between ship building cost and sophisticated AI systems, and if the ship is mostly AI, what support is required from Log Ships (see Logistical Support Ships, 3 Movement, p. 860, *infra*) for the minimum crew?

¹⁸ Commentary & Citation: In the Forever Knight episode, “Last Act” (1992), Erica, a 17th Century playwright and tri-centennial vampire, commits suicide at the beginning of the episode by sitting on a park bench to watch the sunrise. She was tired of darkness, and missed seeing the sun.

- ✓ I’ve always wondered how and why all of those vampires ended up in modern Toronto?
- ✓ If a vampire can be killed by exposure to sunlight, is it because 1) the sun has some mystical power that makes it the natural arbiter of what is ‘right and natural’ on Earth (i.e. the image of the old sun gods), or 2) there is something about the vampire’s physical being that makes it susceptible to sunlight, like old thermal printer paper, or 3) simply because they and the population believe it to be so?
- ✓ I later watched Interview with the Vampire (1994) in late 1995 at college; I did not dislike the movie, but I thought it was slow, I remember I was having a difficult time staying awake (I was very tired likely), and I really didn’t care for the anti-climactic silliness of the scene where he finally met the European vampires. I might think differently of the movie now if I re-watched it 25 years later.
- ✓ Oddly, some of the sadness of being a vampire that Roger Ebert commented on in his review of Interview with the Vampire (November 11, 1994), crept into Dr. Who in Series 8 (2014), and people didn’t like it, said the series lost its joy, that Peter Capaldi wasn’t connecting with the audience as the Doctor (e.g., see Neil Midgley quote, X-Factor, 2 The Streams of Time, bottom p. 87, *supra*).

¹⁹ Citation & Commentary: According to Wookieepedia (information captured February 3, 2017), the complement of the original Death Star (DS-1) was about 1.2 million people, including 343K Imperial Army and Navy and 26K Storm Troopers. That is approximately the population of Dallas, TX in 2010. So, Luke’s torpedo in the vent was equal to a couple of nuclear weapons hitting Dallas, TX in 2010 (found on http://www.citymayors.com/gratis/uscities_100.html). Star Wars fans have no problem with this apparently. If the assumption is made that the complement of the Death Star naturally contained the best and brightest of the Empire’s personnel, the loss of the Death Star (to such a simple design flaw) is a particularly staggering blow (similarly, the Roman Republic lost hundreds of galleys, three entire fleets, to storms at sea during the Punic Wars, significantly taxing their resources and manpower). Likely, the unfinished second Death Star (DS-2) at Endor, though larger than the original Death Star, had only a fraction of the crew when it was destroyed, but again, those would have included the remainder of the Empire’s best personnel, officers, technicians. The Romans prevailed, the Palpatine Galactic Empire crumbled.

²⁰ Commentary: This percentage can be adjusted to suit when the game is set up, in primary school grading, 90% is considered excellent. Adjustment to 15 or 20% will cause greater consumption of committed Faculties. Dynamics.

²¹ Commentary: Or as is commonly said in sports, play within yourself, focus on what you can do, what you do best, do your job. The opponents are going to do what they can do. And that’s the contest, the sport.

²² Citation: Dr. Jesse Bennett performed the first successful Caesarean Section operation in North America on his wife in 1794 in Virginia. Bennett also appears to have later declined to join the Burr Conspiracy against the United States.

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See Appendix WR – Writ Examples, Land Grant Writ, Naturalization

“Any political movement can choose to grow large and lose some of its doctrinal purity, or to remain small and lose some of its electability. ...

A society given to a romantic narcissism about its presumed exceptionalism, the United States has not been well served by those who spin myths about its accomplishment and repeatedly deny its faults.”

– Alan Wolfe, Time.com, September 7, 2016

Hand-Wringing Aspect: “Romantic narcissism” is a good example of an Aspect. It has been in our society for a long time – national politicians routinely open and close political speeches with unabashed, glowing praise of the United States and its citizens; President Obama has been criticized for providing a less glowing assessment of our culture. But a particular brand of romantic narcissism was brought to the fore in the U.S. 2016 Presidential Election leading to a considerable and unprecedented level of hand-wringing and critical analysis on this and related issues.

- ✓ “Nevertheless, all these theses, however baseless and disproven, are being boldly put forward again today. What does this indicate? It indicates that Soviet party line is not based on any objective analysis of situation beyond Russia’s borders; that it has, indeed, little to do with conditions outside of Russia; that it arises mainly from basic inner-Russian necessities which existed before recent war and exist today.” – George Kennan, U.S. Ambassador to the Soviet Union, from the Long Telegram, February 22, 1946.

Unfortunately, as the 2016 U.S. Presidential Election demonstrated, this condition is not unique to the (defunct) Soviet Union.

- ✓ See also Sebastien Roblin (2017) quote in Dirty Business, 3 Commerce, p. 1217, *infra*, and Romantic Nationalism discussion, 3 Government Titles, p. 618, *infra*.

“Let’s be frank with each other, Father. I can’t fight the prince who makes my work possible – no matter what I think of his policies or his politics. I appear to support him, superficially, or at least to overlook him – for the sake of the collegium. If he extends his lands, the collegium may incidentally profit. If the collegium prospers, mankind will profit from our work.”

– Walter M. Miller, Jr., [A Canticle for Leibowitz](#) (1959)

Institutionalized: Institutes are non-technological installations created by use of a Special Writ called a Land Grant. Institutes are “social installations” at or on a specific colony such as temples, amusement parks, prisons, schools (but not Colleges), command centers, financial markets, social services, and such, which are not related to any specific technology, i.e. Patent (see Patents generally, *infra*), and the existence of which probably predate interstellar civilization.

- ✓ A Special Writ is simply a Writ that is named in the GGDM rules and performs a function specified in the rules. Examples include the Land Grant for Institutes, the Writ of Naturalization (see Naturalization, 3 Order, p. 557, *infra*), and Articles of Incorporation (see 1 Corporations, p. 1246, *infra*).

The naming of a University, Academy, Temple, or other “educational” institution as an Institute is not prohibited, *per se*, as such Institutes will be considered more localized, physical installations than the Colleges; and as long as their operation doesn’t significantly or generally *overlap* the function of Colleges in GGDM. And as long as doing so doesn’t cause great confusion.

Perhaps one of the most famous interstellar-level Institutes in science-fiction literature is the hospital space station that is the setting of the long-running (1957-1999) Sector General medical and alien First Contact novels and short stories by space-opera pacifist writer James White. Sector General has been attributed as the inspiration (or at least notably similar) to the two 1990s space station television shows, *Star Trek: Deep Space 9* and *Babylon 5*. Mr. White is now in residency at Sector General Hospital. Other examples of possible Institutes include Rush 2112’s Temple of Syrinx, the vast interstellar cartography facility from Mike Resnick’s book *Birthright: The Book of Man* (1982), and, the University of Trantor and the Foundation on Planet Terminus from Isaac Asimov’s *Foundation* series.

Institutes can be singular; there is no requirement to construct Institutes across several colonies. Universities, like other institutions in a space-opera setting, can morph, take on outsized importance, be something not quite like the term used on Earth, at the judgment of the Concierge.

- ✓ “Institution” in various forms is a widely, generically used term in our civilization and is found in dozens of sections of GGDM used in quotes and commentary – usually without a capital ‘I.’ GGDM College-related non-technological installations – which could be called Land Grant Institutes – are referenced throughout GGDM as Institutes with a capital ‘I’ to differentiate them from the generic use of institution.
- Letters Patent: Land Grant Writs are created and introduced the same way as normal Writs (see *Tabula Rasa*, 1 Writs, p. 436, *supra*). The Land Grant Writ must provide all of the special information necessary for the Institute. Specifically, a Land Grant Writ must include a Power Activation (as a normal Writ), the name of the Institute being created, a specific College with which the Institute is associated, which will be used to supply Faculties, the number of Faculties used per turn per Institute location, and the building cost and operational effect of each Institute (i.e. what does it do with those Faculties?). Institutes may never be used to affect die rolls. Ownership of Institutes is non-transferable, but they might continue operating for awhile or indefinitely, to a greater or lesser degree, after capture.
 - ✓ For example, schools and medical facilities on alien population planets would probably continue as long as the urban centers were not significantly disrupted. To what effect is highly circumstantial and at the judgment of the Concierge.
- Land Grant: Specifically, the ability to build a particular Institute is created by the use of a Land Grant Writ; however, the building of Institutes on or at colonies requires:
 - ✓ The activation of the Writ that created the Institute (by actualization of a designated Fuzzy Group and concurrent activation of the Power listed on the Writ) and,
 - ✓ The simultaneous activation of the Construction Power at any *Friendly or Naturalized Colony* where it is desired to build the Institute (cost counts against the GDP),
 - ✓ One activation of the Land Grant Writ may be used to build Institutes in as many places as legally possible in the same turn with Construction Power activations.

- ✓ Institutes will have a building cost, as any other installation, and only *one* of each type of Institute may exist on each colony at any time (they can be rebuilt as above if destroyed, as by Raids, Orbital Bombardment Black-ops, etc.).

The restriction of building Institutes on Friendly or Naturalized Colonies is based on the idea that the Institute represents the high ‘state of the social art’ in that particular area in the local planetary civilization, is generally in accord with the larger interstellar civilization and is approved and promoted by the interstellar government. This approach then generally omits the building of Institutes on Conquered or Converted **alien colonies**, but like many rules in GGDM, there are some possible gray areas that could develop with regards to Lost Colonist Primal State positions (see 6 Beginnings, p. 63, *supra*), reversions of unguarded Conquered or Converted Colonies (see Conquered Colony and Converted Colony, 2 Order, pp. 539-540, *infra*), Diplomatic Spaces and Shared Meanings (see 2 Diplomacy, p. 1116 and 3 Diplomacy, p. 1131, respectively, *infra*), and possibly MegaCorporations (see 2 Corporations generally, *infra*) and technologies and sundry other possible situations. These situations will be left for the Concierge and participants to work out and judge in-game.

- Meets and Bounds: In order to operate, an Institute must be supplied with Faculties each Regular Turn. An Institute will operate automatically (no Power or Writ activation necessary), and use available Faculties, each Regular Turn that the College to which it is associated has enough Faculties in its “class” *after* pre-committed Faculties are subtracted for use in rerolls (however, see Skool Tyme, 2 Constructural Elements, p. 190, *supra*¹).
 - ✓ Institutes generally operate at the end of the Regular Turn, before Colleges operate, unless otherwise specified in the Land Grant Writ.
 - ✓ Institutes generally have a strictly local effect, although that is negotiable.

It is through the use of Institutes that Faculties may be applied to general, and *non-die-roll situations* such as Taxation and Census. Institutes cannot produce Faculties for either the position’s use generally, or for its own use or the use of another Institute. Institutes that fail to operate for five consecutive Regular Turns are closed and removed from the colony.

Institutes may not be used to force a reroll in situations where their world fails to obey a Power Activation due to inactive Constructural Elements (see Power Off, 2 Constructural Elements, p. 193, *supra*), but through the use of Faculties, any chance of failure could be affected on the world where the Institute exists, if built for that purpose, which will be defined in the Land Grant Writ. This is an example of the distinction, above.

There is a very slight crack in the door where an Institute might be used to create Faculties for some other local, *non-Institute use*. There are no such uses currently in the GGDM rules, however.

- ✓ “The barbarized inhabitants of the four kingdoms believe that the Foundation’s technicians are magicians. Being unable to make these people understand the difference between magic and science, the technicians finally give up and allow themselves to be worshipped as holy men. Back on Terminus, Hardin accepts the situation, and organizes the Foundation’s technical assistance program as a religion. The technicians are organized into a priesthood, and the Foundation’s ambassador to each kingdom becomes the High Priest, with Hardin himself assuming the role of Chief Primate of

the whole religion. ... the church also recruits priests from among the native populations of those worlds. They travel to a Temple School in Terminus City, where they are taught the operation (though not the theoretical underpinnings) of the Foundation's technology, along with more traditional religious instruction in church dogma, theology and ethics. Any novitiate priest at the Temple School who is bright enough to see through the mystical surface to the scientific principles underneath remains on Terminus to become a research student. The rest return to the Four Kingdoms to form part of the priesthood." – from Wikipedia article, "Church of Science" (about an entity in Isaac Asimov's Foundation (1951)).

"[Gadalla] Gubara was born in Khartoum in 1920. His father, an impoverished farmer, was part of the extended family of Muhammad Ahmad ibn as Sayyid Abd Allah. Muhammad Ahmad had proclaimed himself Mahdi and led a jihad against Sudan's Turkish-Egyptian rulers and their British deputy, General Charles George Gordon. The rebellion culminated in the battle of Khartoum, with Gordon slain at the steps of his palace. It was at the Gordon Memorial College that Gubara received his education, earning his school fees by working after class."

– Nadja Kornith, "The Omega Man – Gadalla Gubara and the half-life of Sudanese cinema," Bidoun (bidoun.org), Issue 20, Spring 2010

College Educated: Ok, got all that? Feeling educated now? Have you been Enlightened? No? Here is a little abstract of the Colleges scheme in GGDM:

- ✓ College plus endowments produces Faculties (College Tries based on Endowment/Population favoring urbanization and stability). This occurs at the end of the turn so that the position knows how many Faculties they have available on the next Regular Turn.
- ✓ Faculties belong to the "class" of the College that generated them, and also generally to the pool called The Enlightenment.
- ✓ Faculties can be used to cause rerolls of unfavorable rolls both in Regular Turns and Combat Rounds. They must be pre-committed and are generally subtracted from The Enlightenment starting with the oldest college class.
- ✓ Faculties can also be used to support/operate Institutes (non-die-roll) established by Land Grant Writ on Friendly or Naturalized colonies. These faculties are pulled from the specific College to which the Writ relates, as long as the College has Faculties available.
- ✓ Faculties pre-committed to die rolls support are subtracted first. This may affect the operation of Institutes if not enough Faculties remain during the Regular Turn.
- ✓ Unused Faculties in Regular Turns are returned to the pool. Unused Faculties committed to Combat are lost at the end of Combat. Expended Faculties are removed.
- ✓ Half (more or less) of the Faculties not used on the previous turn are lost before new Faculties are generated.

“He may look dumb but that’s just a disguise...”

– The Charlie Daniels Band, “Uneasy Rider” (1973)

Laconic Humor: “... [the Spartans] conceal their wisdom, and pretend to be blockheads, so that they may seem to be superior only because of their prowess in battle ... This is how you may know that I am speaking the truth and that the Spartans are the best educated in philosophy and speaking: if you talk to any ordinary Spartan, he seems to be stupid, but eventually, like an expert marksman, he shoots in some brief remark that proves you to be only a child.” – Plato, Protagoras (cited in Wikipedia article, “Laconic phrase”²).

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- ✓ “... [the Spartans] claim not to have any interest in [philosophy] and put on this big show of being morons... because...they want people to think that their superiority rests on fighting battles and being manly... You can tell that what I say is true, and that Spartans are the best educated in philosophy and argument, by this: if one associates with the most inferior Spartan, one at first finds him somewhat inferior in speech; but then at some chance point in the discussion he throws in a remark worthy of noticing, brief and terse, like a skilled marksman, so that the person he’s talking to appears no better than a child.” – alternative translation by A. Beresford and R.E. Allen, *Id.*

‘Out of the mouths of babes’ humor is laconic: Children expose the ignorant pretentiousness of adults with a single childish question or statement of the obvious, e.g., “The Emperor’s New Clothes” (1837) or The Prince and the Pauper (1881). The American commander’s legendary laconic response (“NUTS!”) to German demands for the surrender of forces at the Siege of Bastogne is also very Spartan.

“Wherever is found what is called a paternal government, there is found state education. It has been found that the best way to insure implicit obedience is to commence tyranny in the nursery.”

– Benjamin Disraeli, 1st Earl of Beaconsfield, Prime Minister of the United Kingdom (1868, 1874)

Tyranny in the Nursery: One of the most literal onscreen depictions of Disraeli’s “tyranny in the nursery” is the unforgettable nauseous elementary classroom scene in the 2013 movie Snowpiercer. Though the whole train premise/setting stretches credibility to the breaking point, the movie is well enough done that it holds for two hours of viewing time.

In 1982 the U.S. Supreme Court heard a case captioned *Board of Education v. Pico*, 457 U.S. 853 (1982) about the removal of The Naked Ape (1967) and eight other books from junior and senior high school libraries (“which the [School] Board characterized as ‘anti-American, anti-Christian, anti-Sem[i]tic, and just plain filthy,’” *Id.*) and First Amendment Rights in public schools. Although other books, such as “Kurt Vonnegut’s Slaughterhouse-Five and Langston Hughes’s Best Short Stories by Negro Writers,” (*Id.*) were removed, The Naked Ape clearly was the center of attention in the debate of the time.

- ✓ “The Supreme Court ruled in the students’ favor on First Amendment grounds, holding that the right to read is implied by the First Amendment. The government – in this case, a public school – cannot restrict speech because it does not agree with the

content of that speech. The decisions called libraries places for ‘voluntary inquiry’ and concluded that the school board’s ‘absolute discretion’ over the classroom did not extend to the library for that reason.” – Bill of Rights Institute (billofrights.org) article “Island Trees School District v. Pico (1982)” (authorship unattributed).

Justices Burger, Powell, Rehnquist, and O’Connor dissented.

- ✓ “In his dissenting opinion, Justice Burger said, ‘If the school can set curriculum, select teachers, and determine what books to purchase for the school library, it surely can decide which books to discontinue or remove from the school library.’” *Id.*

Justice Burger’s dissent was simply practicality; it is hard to disagree for example, when schools had encyclopedias sets in the library which needed to be updated every few years. They could choose to discontinue encyclopedia subscriptions due to duplication of material, shelf space, etc.

Justice Rehnquist wrote:

- ✓ “With these differentiated roles of government in mind, it is helpful to assess the role of government as educator as compared with the role of government as sovereign. When it acts as an educator ... the government is engaged in inculcating social values and knowledge in relatively impressionable young people. Obviously, there are innumerable decisions to be made as to what courses should be taught, what books should be purchased, or what teachers should be employed. ... In the very course of administering the many-faceted operations of a school district, the mere decision to purchase some books will necessarily preclude the possibility of purchasing others. ... In each of these instances, however, the book or the exposure to the subject matter may be acquired elsewhere. The managers of the school district are not proscribing it as to the citizenry in general, but are simply determining that it will not be included in the curriculum or school library.” – Justice Rehnquist, dissenting opinion in *Board of Education v. Pico*, 457 U.S. 853 (1982), cited in Wikipedia article, “Island Trees School District v. Pico,” December 16, 2018. (The 33-page opinion is available free online).

Indeed, not only were students able to obtain and read the books elsewhere – I read a lot of books I wasn’t supposed to be reading in high school, which I could obtain from the community library, at home or at book or game stores (like AD&D books) – and soon the students would be adults off to work and college, and out of the control of the School Board in any case. It is unlikely that such a case would reach the Courts now since the *emergence of the internet* (and portable reading devices); I found a poor but readable PDF conversion of The Naked Ape free on the internet with a simple Google search, just as I found a similarly poor but readable copy of Red Storm Rising (1983) on the internet in PDF (in English but with foreign punctuation marks). Imagine pro-Soviets or the Communist Party suing to keep Red Storm Rising out of school libraries...

- ✓ It is literally irrelevant what books are in the school library now, from the view of the creationist argument. Thus, in *Kitzmiller (ut infra)*, the fight moved to the more direct issue of which textbooks would be required.³

The internet has always been about being something big and dispersed beyond the control of local and individual sovereign governments, clergy and censors; this applies to Wikipedia as much as Wikileaks and Pirate Bay, Tor, Torrent, Bitcoin, Spamhaus, and Cyberbunker.

- ✓ The 1960s to 1980s strategy of the Christian right, literalist, or fundamentalists of attempting to control what students could read through the power of school boards over

libraries – silencing the opposition with political control while also screaming very loudly – was a losing argument, or more precisely, the strategy a side follows when it knows it has lost the argument already and along with it, most political and moral authority (that is, ‘pounding the table’). It is the timeless strategy of tired despots and radical ideologues.

- ✓ The case of *Kitzmiller v. Dover Area School District*, 400 F. Supp. 2d 707 (M.D. Pa. 2005), thus arose because the School Board took the additional step – lacking control over what students read due to spread of technology and the internet – of trying to make the flagship intelligent design textbook, *Of Pandas and People* (1989) the required textbook for biology classes (and thus, required reading by being testable).
 - See also Dating Man discussion, 5 Beginnings, p. 57, *supra*.

“My perspective on this controversy comes from 33 years of working with New Guineans in their own intact societies. From the very beginning of my work with New Guineans, they impressed me as being on the average more intelligent, more alert, more expressive, and more interested in things and people around them than the average European or American is.

At some tasks that one might reasonably suppose to reflect aspects of brain function, such as the ability to form a mental map of unfamiliar surroundings, they appear considerably more adept than Westerners. Of course, New Guineans tend to perform poorly at tasks that Westerners have been trained to perform since childhood and that New Guineans have not. Hence when unschooled New Guineans from remote villages visit towns, they look stupid to Westerners. Conversely, I am constantly aware of how stupid I look to New Guineans when I’m with them in the jungle, displaying my incompetence at simple tasks (such as following a jungle trail or erecting a shelter) at which New Guineans have been trained since childhood and I have not.”

– Jared Diamond, *Guns, Germs & Steel* (1997), p. 20

The First is Last: While Colleges are the primary means of generating Faculties, each position will naturally receive some Faculties each turn based on the number of Fundamental Realities taken by the position during set up, due to the natural intelligence and cultural heritage each species brings into the game.⁴ Faculties received from Fundamental Realities are called Non-Specific Faculties, or NSF.⁵ One Faculty is received at the end of each Regular Turn for each Major Fundamental Reality. The number of NSF received each turn is reduced by one for each College founded during the entire game, regardless of the current state of the College or its eventual fate.

- ✓ The way in which the *Tawantinsuyu* (aka, the Inca Empire) were defeated at Cajamarca by a Spanish force of 168 men is almost incomprehensible to the modern mind (the Inca force outnumbered the Spaniards more than 45 to 1). Just the smallest amount of initiative by the common warriors or low level chieftains massed outside the town, or more thoughtful caution by the *Sapa Inca* leadership group changes the entire result. The *Tawantinsuyu* leadership already knew what the Spaniards had done to the Aztecs, and their allied tribes had already fought the Spanish along the coast. On the other hand, the desperate situation in which the Spanish had placed themselves, and their ambush of the *Tawantinsuyu* leadership was an insane do or die gambit, had their surprise failed, they would have been summarily annihilated by 8,000 native warriors. This was civilizations on the edge.

- **Native Intelligence:** NSF have all of the properties of normal Faculties, including aging, and are most likely to be used early in the game. It is possible also to create Institutes by Land Grant that use NSF by listing NSF as the “College” on the Land Grant Writ. Use of NSF are blocked 25% of the time by inactivation of the Epistemological Constructural Element on the target colony or ship (see Skool Tyme, 2 Constructural Elements, p. 190, *supra*).⁶

This latter should not be confused with the failure of a colony or ship to obey Power Activation due to inactive Constructural Elements. This applies only to the attempt to use a NSF as a Faculty (an intangible object) on the target colony or ship.

*“Talent hits a target no one else can hit;
Genius hits a target no one else can see.”*

– Arthur Schopenhauer

Cloaked Genius: Can genius be *glacial*? If one hits the target no one else can see, no matter how long it takes, is that genius? The problem is that we are *mortal and frenzied*, genius usually is associated with youth, the younger the person, the more likely they will be praised as genius.

If I could have completed GGDM – in its current, final form – 20 years ago, when I was about 30^{-ish} that would have been genius. At age 50 plus, having taken an extra 20 years to arrive at the same place, it probably is not (it is mediocracy, even if no one else would have done it). The tortoise takes an extra day to reach the finish line, no one calls him speedy. Unless he invented a rocket pack while doing it.

- ✓ “A genius is a person who displays exceptional intellectual ability, creative productivity, universality in genres or originality, typically to a degree that is associated with the achievement of new advances in a domain of knowledge. Despite the presence of scholars in many subjects throughout history, many geniuses have shown high achievements in only a single kind of activity. There is no scientifically precise definition of genius, and the question of whether the notion itself has any real meaning has long been a subject of debate, although psychologists are converging on a definition that emphasizes creativity and eminent achievement.” – from Wikipedia article, “Genius,” captured January 14, 2019, citing to Catherine Cox, [The Early Mental Traits of 300 Geniuses](#) (1926).
- ✓ “Persons with genius tend to have strong intuitions about their domains, and they build on these insights with tremendous energy. Carl Rogers, a founder of the Humanistic Approach to Psychology, expands on the idea of a genius trusting his or her intuition in a given field...” *Id.*, Wikipedia article.
 - See also pre-theoretical intuition.

Yet, genius is something decided externally by society and circumstance, not internally – we all know the comedy of people who claim they are geniuses; genius is not for you to decide, it is simply for you to do the work to make others decide. Without external comparators, how would you conceive you are a genius? For the same reason, one should also not claim to be a polymath, yet, Nick Bostom, a public intellectual and apparently not the least humble, a man whose education suggests he should know better, makes that very claim on his page, to wit:

- ✓ “Nick Bostrom is Swedish-born philosopher and polymath with a background in theoretical physics, computational neuroscience, logic, and artificial intelligence, as well as philosophy. He is Professor at Oxford University, where he leads the Future of Humanity Institute as its founding director.”

Even if he didn’t write it, he ‘owns’ it now because it’s on his webpage.

- ✓ “In the philosophy of David Hume, the way society perceives genius is similar to the way society perceives the ignorant. Hume states that a person with the characteristics of a genius is looked at as a person disconnected from society, as well as a person who works remotely, at a distance, away from the rest of the world.” – from Wikipedia article, “Genius,” captured January 14, 2019.
- ✓ “In the philosophy of Bertrand Russell, genius entails that an individual possesses unique qualities and talents that make the genius especially valuable to the society in which he or she operates, once given the chance to contribute to society. Russell’s philosophy further maintains, however, that it is possible for such geniuses to be crushed in their youth and lost forever when the environment around them is unsympathetic to their potential maladaptive traits.” *Id.*

The paucity of recognized female geniuses in history is attributable more to the social environment, the constancy of sex-based intellectual suppression in society through 50,000 years than to any lack of genetic intelligence. I have always wondered what sort of ‘ignorant genius’ thought that society was better served by systematically, perpetually suppressing half of the population?

- ✓ For the record: “By the 1937 second revision of the Stanford-Binet test, Terman no longer used the term ‘genius’ as an IQ classification, nor has any subsequent IQ test. In 1939, David Wechsler specifically commented that ‘we are rather hesitant about calling a person a genius on the basis of a single intelligence test score.’” – from Wikipedia article, “Genius,” captured January 14, 2019, citing to Lewis M. Terman and Maude Merrill, Maude, Measuring Intelligence: A Guide to the Administration of the New Revised Stanford-Binet Tests of Intelligence (1937).

Thus, there is no ‘genius’ level IQ although clickbait ads and spam-emails regularly continue to suggest that there is, so you now know it is BS; “Telling someone you’re a genius doesn’t make you a genius, in fact, probably suggests the opposite.” – Chris Cuomo, CNN, August 27, 2019.

- Naked Apes: It is an interesting question to consider why so much genius, ability, and talent develops outside of formal education, academia? The question does not bode well for our education system (and makes selling the restrictive cost of college much more difficult), but it does go some way in explaining how important parts of civilization developed prior to the idea of formalized education. It was a glacial process (e.g., cave paintings), the records show, but one that is ever constant, and remains in case we crash.

The primary value of education I believe is in the guidance of youth in and along the historical paths of thinking to a holistic appreciation; rather than on the Lancastrian sense of factual instruction. GGDM is in fact a testament to this in its entirety. For example, I already had an idea of methodological dualism by the year 2000, and much of the core of GGDM was my struggle to express it and against what I perceived as an epistemological fraud of Western social sciences. This latter finds particular expression in the discussions of Aspects of Sociology, 2 Culture, p. 371, *supra*, and the Looking Rules discussion 2 Expansion generally, *infra*.

My self-education in the latter stages of the GGDM project led to the very late discovery in 2019 of Ludwig von Mises, praxeology, and the Austrian School; this discovery put the label ‘methodological dualism’ on what I had already been arguing in GGDM for over 20 years.⁷ However, Austrian School Economics and praxeology are not new, not even within my lifetime of a half century are they new news, rather, with proper instruction, perhaps as an undergrad in my 20s or in graduate courses in my 30s, I would have learned all of this cognitive history (and been able to better express it earlier in the GGDM evolution) rather than discovering it in a backwards process through GGDM self-education. But instruction nowadays is solely in the cognitive history of empiricism, especially with the renewed catechism-like focus on STEM, and praxeology (like rhetorical theory) just doesn’t fit into that steel box.

- ✓ Admittedly, I may be blamed as well for my own ignorance. I suppose that had I more intensely engaged in cognitive history earlier in my life, I might have discovered the Austrian School without formal instruction. We are all ultimately to blame for our own ignorance once we have learned to read and write – whether it be willful ignorance or ignorant ignorance – or as Erasmus said, “Do not be guilty of possessing a library of learned books while lacking learning yourself.” Or if you have internet. This enters into the territory of the ‘teachable moment’ (see discussion, 1 Kairotic Moments, p. 1418, *infra*); perhaps the sabbatical to finish GGDM, the end-processes of bringing GGDM up to the vision of what it could be, was my midlife ‘teachable moment’ that did not occur during the work-grind of my 20-year career in law firms.
- ✓ For most of my life, I never thought of economics as a ‘social science’; economics, as presented in our civilization, always is a math analysis of economic data, followed by policy arguments and (usually gloomy) predictions. It was not until I encountered praxeology that I realized any claim that economics is a social science.

“Quality is not an act, but a habit” – Aristotle

Arete for All: Readers may see in GGDM Enlightenment the ancient Greek concept of *Arete*:

- ✓ “Arete ... in its basic sense, means ‘excellence of any kind.’ The term may also mean ‘moral virtue.’ In its earliest appearance in Greek, this notion of excellence was ultimately bound up with the notion of the fulfillment of purpose or function: the act of living up to one’s full potential.

The term from Homeric times onwards is not gender specific. Homer applies the term to both the Greek and Trojan heroes as well as major female figures, such as Penelope, the wife of the Greek hero Odysseus. In the Homeric poems, Arete is frequently associated with bravery, but more often with effectiveness. The person of Arete is of the highest effectiveness; they use all their faculties – strength, bravery, and wit – to achieve real results. In the Homeric world, then, Arete involves all of the abilities and potentialities available to humans.

In some contexts, Arete is explicitly linked with human knowledge, where the expressions ‘virtue is knowledge’ and ‘Arete is knowledge’ are used interchangeably. The highest human potential is knowledge and all other human abilities are derived from this central capacity. If Arete is knowledge and study, the highest human knowledge is knowledge about knowledge itself; in this light, the theoretical study of human

knowledge, which Aristotle called ‘contemplation,’ is the highest human ability and happiness. ...

The meaning of the word changes depending on what it describes since everything has its own peculiar excellence; the *arete* of a man is different from the *arete* of a horse. ... By the 5th and 4th centuries BC, *arete* as applied to men had developed to include quieter virtues, such as *dikaiosyne* (justice) and *sophrosyne* (self-restraint).” – from Wikipedia article, “Arete,” July 23, 2019 (emphasis in original).

Enlightenment in GGDM perhaps differs in a couple of respects.

- ✓ First, it is focused on excellence in the critical moment of a task rather than overall lifelong excellence, though the two must be related. Further, individual excellence is not required exactly for Enlightenment, frequently it is as much organizational excellence. Nor should excellence be assumed to exist solely in leadership, sometimes the actions of just one person is enough to favorably resolve the situation.
 - In this sense of the ‘critical moment’ and ‘vital place,’ GGDM Enlightenment is somewhat related to Kairotic Moments generally, *infra*.
- ✓ Second, Enlightenment as used in GGDM is devoid of reference to moral virtue except where critical to the moment when it is applied; not all critical moments involve moral virtues, for example, if the critical task of the moment requires excellence in computer code, which it may in GGDM but not in ancient Greece.
- ✓ Finally, Enlightenment roosts on a different level, it is not personal development philosophy that belongs to the few pre-destined, divinely-blessed heroes, to the educated aristocracy (the word ‘aristocracy’ derives from *arete* via *aristos* meaning ‘best’), or even to individuals generally (as we well know), but rather, a civilization trait in the spread of excellence in whatever form necessary, through education (e.g., literacy, critical thinking, knowledge), the information and print revolutions, raising up the bottom of civilization as a whole, leading to those times and places when it is critical.

The expression of all of this in game terms is the classic do-over, reroll mechanic that designers have long used to express *arete* in heroic characters (e.g., RPGs, card games) or special abilities of positions in the game; there is nothing original in this in GGDM. All of this is, perhaps arguably, more in the sense of modern sports moments, movie heroes, and making hit singles in popular music than in the ancient sense, but it is also accessible to game participants in that way.

- Heroes are Some: The word ‘hero’ is a bit overused now, and as such, has had an increasingly muddled meaning: The ‘hero of the game’ in a sporting event is not in the same class as a firefighter who rescues people from a burning house. But they are sort of related.

There are two senses in which ‘hero’ is used in the current society and meaning runs the continuum from *arete* to selfless sacrifice. I believe the original meaning of hero was that of *arete*, which not only meant individual excellence, but more so, effectiveness. Excellence is measured by effectiveness. Add circumstance and timing (*kairos*) and you have the hero; the one who is excellent, effective, at the critical moment.

This may or may not imply personal risk, selflessness, courage, or sacrifice. But somewhere, I think it likely in the 19th Century, the literary idea crept in that heroism meant death, that is, to be a hero, one had to die in the act (at least suffer significantly); this may have been a result of the Napoleonic Wars. The idea was still strong when I was young, possibly due to

WWII, Korea, and Vietnam, but has faded somewhat. Military leaders hate this idea; George Patton famously said, “No bastard ever won a war by dying for his country. He won it by making the other poor dumb bastard die for his country” (1944).⁸ This anti-self-sacrifice sentiment is also reflected in the 1974 hit, “Billy Don’t Be a Hero,” by Paper Lace.

The latter qualities developed with the introduction of Christianity to the West. To make Jesus Christ a hero, they added self-sacrifice. His excellence then as a heretic wilderness preacher and his timing during the Roman occupation of Palestine wasn’t quite enough to become transcendent. His divinity required self-sacrifice for all humanity and thus the continuum of heroism extended to selfless risk – such as rescuing a wounded buddy in small arms combat or catching an autistic child falling from a third-floor window – to selfless sacrifice of one’s life, health or wellbeing to ‘win’ – such as Swiss national hero, Arnold von Winkelried or the hundreds of people who secretly helped Jews escape Nazi-occupied territories.

- Mediocrity for Most: Mediocrity is failure. Avoiding the possible, probable bad result is not greatness, it is merely bland competence, mediocrity. “Late Bloomer” is just a euphemism for LOSER (epic life failure); for not being fast enough, smart enough or good enough when it mattered (see related term, *opsimath*). When not making excuses, casting blame or retreating into our favorite escape from reality, when looking at our lives unblinkingly, most of humanity – myself included – must admit that they have failed to achieve or become what they should have or might have been, that we have settled for mediocrity. These moments of conscious understanding, without distraction or recreational substances – rare for some people – drive a considerable sum of human behaviors.
 - ✓ What does this have to do with GGDM? First it suggests that the vast majority of population factors, the innumerable numbers of sophont subjects, accept mediocrity in their daily lives. Second, failure to use Enlightenment in any endeavor in GGDM is a concession to mediocrity in that task, it is acceptance of ‘average’ results in relation to die rolls in the sense of the Law of Large Numbers.

The glowing moment of walking across the stage at graduation, the praise from friends, co-workers, employers for whatever reason, the things we pride ourselves on, having a job, career, house, car, staying out of jail and trouble, doing the things that we are expected to do – are just banal and temporal motions. They are so ultimately unsatisfying, we must look elsewhere for a framework of meaning, a construction where we are a hair more than a nobody. In my framework, this is true and it doesn’t matter to me if anyone likes it or not.

- Warming a Seat: Just because you graduated high school doesn’t mean you aren’t a high school ‘dropout.’ I went to a large high school; more than half the kids who graduated with me had mentally checked out sometime between 7th and 9th grades. I knew kids in 8th grade – my neighbors – who stopped in the alley next to the school and popped a pill before entering the school building. Most of the rest who weren’t actually on drugs, were just there warming a seat, coming to school to socialize, or so they could play football or basketball, being passed along, waiting for graduation. And ten years later, probably a lot of those kids have children who are in grade school; and the parents can’t or won’t help their children with their homework. I would not be able to help a child with algebra homework past the intro level; I got lost in Algebra I, but each year, they gave me a passing grade so that I could take Algebra II, III, and Geometry/Trig in 10th, 11th, and 12th grades. I was just warming a seat in math and being passed along to graduation.⁹

“Acting is a really simple job – it’s just hard to do. You just have to be that person with their background in that situation. That’s all it is. My kids do it all the time when they’re dressing up and playing games.” – Jason Isaacs

Another Silly Space Game: In my youthful glow of the early 1990s, I once asked a sociology professor what reception or effect Alvin Toffler’s Future Shock (1970, which I read on my own in high school in the early 80s) had on the social sciences? The professor, with only slight hesitation, said, “Not much really” – very likely, if he did not immediately recognize the author or the name of the book, it was an easy (and casually unimportant) question to answer. I expect the same conversation might be repeated twenty years hence, perhaps in relation to some terminology that filters into the social science lexicon from GGDM. Like Toffler’s futurology, GGDM speaks its own ‘language,’ hopefully the language of the fourth order of natural phenomenon.

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Looking back, I would guess that sociologists would not have considered Toffler’s work as a ‘futurologist’ to have anything useful for sociology – speculations on the future are for science-fiction writers and crackpots – just as a space-opera game about interstellar civilizations, written by a nobody (*ne hemō*), no matter how meticulously crafted – will never be anything more than a silly space game with laughable pretensions of redeeming intellectual or academic value.

- ✓ I have no reason to think that GGDM will be appreciated holistically and every reason to think that it will not: Everyone who cares enough to comment will be too busy criticizing this or that part, taking it apart, or the overall tone, or the length of it, or the arrangement and presentation. Reduce and divide, criticize, the way it has always been.¹⁰ And despite knowing it, despite it being long observed, we seem to be unable to change it – just as we have long known we need to breathe air but cannot change it – making this trait of humanity definitionally a Fundamental Reality.
- ✓ See continued diss discussion in SILLY SPACE GAME FALLACY, 2 Fallen to Earth, p. 1519, and FALLACY OF PRETENTIOUSNESS, 3 Fallen to Earth, p. 1546.

“The secret message communicated to most young people today by the society around them is that they are not needed, that the society will run itself quite nicely until they – at some distant point in the future – will take over the reins.

Yet the fact is that the society is not running itself nicely... because the rest of us need all the energy, brains, imagination and talent that young people can bring to bear down on our difficulties. For society to attempt to solve its desperate problems without the full participation of even very young people is imbecile.”

– Alvin Toffler, Learning for Tomorrow: The Role of the Future in Education (1974)¹¹

Endnotes.

¹ Citation: “Any object – ship or colony planet – that does not have an active Epistemological Constructural Element may not (50% chance) be able to receive the effects of College Faculties (whether for use in die rolls, including Combat, or Institutes on that colony).” See Skool Tyme, 2 Constructural Elements, p. 190, *supra*.

² Commentary: Probably the most famous attempt at making a laconic extraterrestrial was Mr. Spock in Star Trek OS; the Vulcans were initially presented as being somewhat Spartan in nature – befitting the original vision and

budget of Star Trek. This has not held up over time; Mr. Spock wasn't exactly laconic even then (as aspiring actors need important lines for their character) and over time, in keeping with our own cultural development, the Vulcans, Earthers and the rest of Star Trek became big, flashy and materialistic. And talky. A laconic wit needs a big talker to work as a foil, and that "loud-mouth tin-plated dictator" Captain Kirk (along with most Klingons) was excellent for the job of being a foil.

- ✓ Ironic humor has taken over civilization and our mindset in the last century – e.g., when I make a mistake playing Freecell, I say to myself, 'yeah right, brilliant!' when I obviously mean the opposite but it would be interesting to see development of an laconic advanced alien civilization in film or television (or GGDM).

³ Citation: "If God hadn't written [the Bible], we would be trying to keep it out of public libraries, not in the public schools." – Betty Bowers (Deven Green), "Save the Hole in Front for Marriage," YouTube, September 6, 2010.

⁴ Commentary: Conversely, consider the many historical instances where a small native band, under the leadership of a brilliant, clever indigenous warrior or chief, have confounded colonial forces or their former masters (if enslaved) who hold superiority in education, numbers and all material aspects.

⁵ Commentary: It's no accident that NSF also happens to be the abbreviation for "Non-Sufficient Funds," i.e. a bounced check at the College Registrar's Office.

⁶ Commentary: There are two oft-repeated sayings that when put together, describe human enlightenment on the individual level: "know thyself" ... and ... "familiarity breeds contempt." Think about that for a moment.

⁷ Commentary: I actually rediscovered Clarence Marsh Case through his 1924 book that I had rescued from a garbage pile in the rain back in or around 1990 or 1991, and incorporated his arguments into GGDM several months before I discovered praxeology and shortly I determined that Mr. Case was influenced by praxeology of his day.

⁸ Commentary: There is some dispute about the authenticity of this quote. Many refer to it as a misattributed quote, the problem being the "Patton speech" delivered by George C. Scott in the film Patton (1970). On the other hand, it is claimed that this was said by Patton when opening a speech to the 6th Armored Division on May 31, 1944.

Still, the line is consistent with his legendary gruff character and with other quotes attributed to him, such as:

- ✓ "All of the real heroes are not storybook combat fighters, either. Every single man in this Army plays a vital role. Don't ever let up. Don't ever think that your job is unimportant. Every man has a job to do and he must do it. Every man is a vital link in the great chain."

⁹ Commentary: *Conversely*, there was a cantankerous old high school science teacher with a Ph.D. in physics who was assigned to teach two classes of Algebra I in my 11th grade year; I was not in those classes. He caused a scandal by failing 90% of the students, literally, giving them a F for the course. Parents were outraged. As an adult, I can see the probable outlines of the arguments. He might have said, 'Well, they didn't learn the material, so why should they be given a passing grade? What good does that do?' (*ahem*) While on the other side, the argument might have been, 'But you had them for an entire school year. If 90% of your students didn't learn what you were supposed to teach...?' (*cough*) After an investigation, the school supervisors overrode him and changed the grades to passing.

¹⁰ Citation: "Fantasy is a natural human activity. It certainly does not destroy or even insult Reason; and it does not either blunt the appetite for, nor obscure the perception of, scientific verity. On the contrary. The keener and the clearer is the reason, the better fantasy will it make. ... For creative Fantasy is founded upon the hard recognition that things are so in the world as it appears under the sun; on a recognition of fact, but not a slavery to it. So upon logic was founded the nonsense that displays itself in the tales and rhymes of Lewis Carroll. If men really could not distinguish between frogs and men, fairy-stories about frog-kings would not have arisen." – J.R.R. Tolkien, "On Fairy Tales," (lecture-essay, 1939), included in Tales from the Perilous Realm (2008).

¹¹ Commentary: This is by far the best known and most oft repeated quote from Alvin Toffler, who has otherwise been mostly forgotten. A Google search turns up this quote in ministry speeches, luncheon speaker remarks, mission statements of various organizations, and of course, two dozen quotes collection pages. It always sounds good as an opening or launch point for speakers who want to seem proactive, engaged and progressive in education. But – despite all the speeches and mission statements – it is not much less true now than it was in 1974.

- ✓ The message of my youth was clear; you're a weirdo, you are interested in stupid, boring things, go away. And blank looks from adults. GGDM continues that fine tradition. It was cool to be stupid, a druggie, a jerk, a jock, and uncool to be smart, intellectual, interested in things, educated, caring, ambitious. Not much has changed.

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“I have neither the time nor the inclination to differentiate between the incompetent and the merely unfortunate.”

– General Curtis LeMay, commander of SAC, 1948-1957

“The strikes are not intentionally indiscriminate but rather result from a lack of ... experience with dropping munitions and firing missiles,’ the specialist said, according to a [State] Department account of the meeting. ‘The lack of ... experience is compounded by the asymmetric situation on the ground where enemy militants are not wearing uniforms and are mixed with civilian populations,’ he said. ‘Weak intelligence likely further compounds the problem.’”

– Warren Strobel and Jonathan Landay, Reuters News Service, October 10, 2016 ¹

The Four M’s: Every soldier comes to the battlefield armed with all of the tools of his civilization, material, mental, morale, and moral. Combat is the most intensive test of a civilization. Sometimes GGDM proceeds from axiomatic statements; however, consider the following:

- ✓ “Fliers bring the stress of their lives onto the plane. They are working too hard or not enough. They are worried about money, politics, health care, or their family. The outside world is a factor, experts say. It’s baggage they can’t check.” – John Ostrower, “The new age of airline rage: Why everyone onboard is on edge,” CNN Money, May 8, 2017.

Just as you come to GGDM armed with a lifetime education, cultural and political indoctrination, shared impressions and memories of your generation, opinions and morals imparted upon you by your parents and biases, prejudices and judgments. You come clothed in existential realities.

- ✓ “It would be an injustice, nevertheless, to accuse these middle-aged staff officers of mere callousness. Almost without exception they were men of rigid honor who had dedicated their lives to duty. Unfortunately, they were also narrow men, uneducated in economics, history and the social sciences, uneducated even in the broader lessons taught by war. Their schooling, received in such academies as St. Cyr, Sandhurst and West Point, had given them an excellent technical foundation for the command of professional armies. But neither in training nor tradition were the military monks of 1914 fitted for leadership in a modern armed nation.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 729.²

This is a really interesting comment by Mr. Montross in light of the Aspects of Sociology discussion in 2 Culture, p. 371, *supra*, because Clarence Marsh Case, whose book was published ten years after the beginning of WWI, indicates that even in the early 1920s, sociology (or even social studies) were not accepted as sciences. Considering that the leaders of WWI were educated in the late 19th Century, it is not surprising that colleges and military academies did not educate them in an area that was not considered science or scientific in any way. Economics was barely a science then, and by Mr. Case’s account, even the “mental sciences” (e.g., psychology, etc.) were not widely recognized as science proper at the time WWI leaders were cadets. Mr. Montross’ statement *also shows* that the view had changed significantly by the time of his writing in the post-WWII years.³

- ✓ Rhetorical Question: Was Imperial or NAZI Germany or Imperial Japan (or even the Confederate States of America) morally, politically, culturally or socially wrong *because they lost*? How about the British Empire? How about the Zulus? Romans? Christianity has tried to link the fall of the Romans to moral depravity.
- Dregs to War: Do not assume that those being sent to war are the ‘dregs of society’ or the criminal or most expendable parts. That may have been somewhat true in the past (e.g., the noted centuries of declining quality of the Roman Legions due to lower quality recruits, civil war, and shift in virtues) but has become less viable in modern war. The stakes are too high to send less than the best available.

The controversial modern case study on this issue are the decisions of Secretary of Defense Robert McNamara to lower military recruiting and acceptance standards, resulting in a wave of recruits and servicemen dubbed, “McNamara’s morons” (see e.g., Hamilton Gregory’s book McNamara’s Folly: The Use of Low-IQ Troops in the Vietnam War (2015)). Though I went to training in the mid-1980s, I met more than a few that made that impression; in artillery school, one Marine was given a large painted rock to carry around as his ID card, another was handed a shovel and told to go dig his own grave, which he spent a long cold November afternoon doing (what he did was so dumb, inattentive, and dangerous he was ejected from the firing line). And then I was sent to Okinawa...1986; duty station Okinawa Japan is a place that brings out the stupidity in bored and listless young men fresh from high school and boot camp (really, most first enlistment military are high school kids with guns).⁴

- ✓ “The nation that will insist on drawing a broad line of demarcation between the fighting man and the thinking man is liable to have its fighting done by fools and its thinking done by cowards.” – Lt. Gen. Sir William Francis Butler, Charles George Gordon (biography) (1889), p. 85.
- Nationalist Armies: We live in a Western milieu where the major militaries are *nationalist*, regularly trained, supplied and paid citizen volunteer (or conscripted) forces backed by stable governments and industries. There is simply no question in the mind of any U.S. service person that they will be paid, equipped, fed, housed, trained and cared for; it is a major recruiting attraction, an escape and a new chance for young people (it was my escape hatch).
- ✓ “Another woman, Agnes Sorel, had a leading part in bringing it about. First of the royal mistresses who have molded French history, she helped to urge upon Charles [VII of France, reigned 1422-1461] the necessity for a military establishment capable of keeping his own house in order. As a result the first standing army of the Middle Ages came into being – 9,000 permanent troops, paid and equipped by the king, which could be used to crush the king’s foes either within or without the realm. The raising of this small force, which set a precedent for other monarchs, is one of the landmarks of military history. The feudal age might perhaps have struck a compromise with gunpowder, but the impact of the standing army dealt a death blow.” – Lynn Montross, War Through the Ages (3rd Ed., 1960) p. 186.

The existence of a Combat College *may assume* these conditions exist in GGDM, but that is up to the participants, there is much space-opera fiction out there based on mercenaries. And national armies have not frequently been the case in other times; much of world history has been shaped and governed by the actions of unpaid, undisciplined, underequipped, ill-trained, and ill-supplied military forces. Or militia forces that became mercenary bands.

- ✓ See for example, the 1527 Sack of Rome by Habsburg mercenaries, discussed in Unintended Consequences, 2 Entropy, p. 236, *supra*.

Corruption can be rampant, officers dishonest and incompetent, the loyalty of the troops questionable or uncertain (Concierge Interventions!). Sometimes troops have fled the battle before first contact. In other incidents, e.g., Iraqi Army in 2014, non-existent soldiers were on the payroll, and vital equipment regularly disappeared to be sold on the black market.

[The Abh patrol ship Gosroth is being attacked in Planespace by ten smaller human Assault Ships]

21:13 **Captain:** *A textbook attack formation.*

21:32 **Bridge Officer:** *Captain, the enemy space-time clusters have completely surrounded us. The enemy is really practiced. Their advance is a textbook case. Captain: However, we are just as well trained. Me and my precious crew. Ok, here we go, the moment we've waited for. Commence battle!*

– from Crest of the Stars anime (1999), “Battle of the Gosroth” (Episode 5)

Textbook Attack: The Battle of the Gosroth is told from the perspective of the Abh crew on the Gosroth. The Gosroth destroyed seven attacking human ships in close range space-time bubble combat, before being overwhelmed. Both sides executed formations, weapons and tactics nearly perfectly in the battle, it was a matter of small percentages.

- ✓ Strategically, the human command sacrificed a squadron of ships to eliminate a patrol ship to prevent their activities from being discovered.

Combat Formations: A Doctrinal Template (or SOP, “standard operating procedure” if you prefer, though the two are not close to the same in military speak) is a document created by positions, which describe in sufficient game detail some wetware combat-related trait, training, or tactical innovation of their forces that is *not solely* the result of either technology or the capabilities of the hardware used in battle. Most often, Doctrinal Templates will describe combat formations, training, organizational, command, and morale related issues.

- ✓ For example, the 18th Century Prussians drilled their troops to fire five volleys of musket per minute, the English developed the “thin red line” during the Napoleonic Wars, ancient Greek phalanxes used eight rows instead of the traditional sixteen rows, German U-Boats in WWII used “wolf pack” formations, during the Vietnam War, American pilots developed the “wild weasel” tactic to bait SAMs into firing and giving away their positions, the Romans developed the famous legion from tiny phalanxes, the Germans developed Blitzkrieg in the 1930s, Gustavus Adolphus had the Swedish Brigade Order, modern naval fleets use a 30 km circular formation, the Japanese became the early 20th Century experts at jungle warfare, the U.S. Marines became amphibious landing experts.
- ✓ “Also, events exposed a severe lack of procedures for emergency staunching of bleeding. The original Japanese doctrine explicitly forbade first aid to fellow soldiers without prior orders from an officer, and first-aid training was lacking. As result, a large proportion of Japanese dead was due to hemorrhaging from untreated wounds. Furthermore, up to 30% of the total casualties were due to dysentery.... To reduce

susceptibility to diseases, future Japanese divisions would commonly include specialized Epidemic Prevention and Water Purification Departments. Finally, the Japanese food rations were found to be unsatisfactory, both in packing and in nutritional value.” – from Wikipedia article, “Battle of Khalkhin Gol,” captured May 18, 2020.

And who can forget the Adama Maneuver in Battlestar Galactica? Or the Cochrane Deceleration Maneuver in Star Trek? Whether these are possible in GGDM generally depends entirely upon the participants of the game, and specifically on the properties of the Stardrives used and other factors such as colleges, doctrinal templates, and opportunities.

Doctrinal Templates are subject to approval and interpretive rulings by the Concierge.

- ✓ “Doctrinal Template” as used in GGDM is an extreme stretch of the term and is certainly not what battlefield intelligence means by that term. I simply grabbed it for a catchy game term; I know the difference.
- **Brain Trust:** Doctrinal Templates may be created by an activation of the Culture Power for that purpose using one Act, on the same Regular Turn as an activation of the Combat Power. Activation of the Culture Power to Develop Doctrinal Templates is not subject to Power Activation failure checks (i.e. it cannot fail).
 - ✓ Doctrinal Templates may only be created by positions that have a Combat College and may only use Faculties from the Combat College.
 - ✓ Doctrinal Templates may be activated in any suitable combat by use of Faculties from the Combat College.⁵
 - ✓ These Faculties from the Combat College would be used in addition to any that may have been taken from the Combat College for use as die roll support in that combat.
 - It is likely that in many, if not most, positions, the Combat College will be the oldest (or nearly so) College, from which Enlightenment (i.e. Faculties) will be subtracted first. See Nightlight, 2 Colleges, p. 477, *supra*. Doctrinal Templates and Institutes related to the Combat College will additionally strain the Faculties.
 - The Austrian army was not great in modern times – in fact, they were the punching bag for every would-be conqueror (Napoleon, Frederick the Great, Mustafa Pasha, Gustavus Adolphus) from the Thirty Years War onward. But somehow, the dynasty, the empire, always survived.
 - ✓ Doctrinal Templates are not Interpretations or Institutes (i.e. they are not Writs), and do not require the actualization of a Fuzzy Group, and cannot be used to satisfy the Interpretation requirement of any Power Activation.
- **Intuition:** A Doctrinal Template is not required to do anything described in the Combat and Carriers & Fighters rules sections. Fighters and Ship Missiles are Existential Patents (i.e. technologies) and would never be created by a Doctrinal Template.
 - ✓ For example, Combat Screening is a formation, the only one specifically described in these rules, but is a natural and necessary extension of the introduction of Carriers (which is how I thought of the Combat Screening concept) and Log Ships into Combat, and thus does not require the use of a Doctrinal Template.

However, Doctrinal Templates may be developed that are based on, improve, extend or add to either of the foregoing. Much depends on assumptions of what already exists.

- ✓ “A British admiral once said, ‘It takes three years to build a ship, but 300 years to build a tradition.’” – Geoffrey Regan, The Guinness Book of Decisive Battles – The Battle of Tsushima 1905 (1992).

“Quantum physics defies our physical intuition about how the world is supposed to work. In the quantum world, objects resist such classical banalities as ‘position’ and ‘speed,’ particles are waves and waves are particles, and the act of observing seems to change the system being observed. But what if we could develop a ‘quantum intuition’ that would make this all seem as natural as an apple falling from a tree?”

Physical intuition starts developing early, long before we ever encounter Newton’s laws on a blackboard. ‘Babies have a few skeletal principles that are built in to the brain and help them reason about and predict how objects should act and interact in the world,’ says Kristy vanMarle, an infant cognition researcher at the University of Missouri. They understand, for instance, that objects can’t pass through each other, a notion that’s at odds with a quantum effect called tunneling, which allows objects to slip through barriers that, in the classic world, would be impenetrable....

Babies also intuitively grasp that objects exist even when you’re not looking at them, a concept called ‘object permanence’ that goes against the classic Copenhagen interpretation of quantum mechanics, in which an object can’t be said to have any definite properties until the moment at which it is observed. Since Jean Piaget first pegged object permanence as a milestone in infant development, psychology researchers have found evidence that ever-younger babies have some sense of it; affirming object permanence seems to be the main theme of peek-a-boo.

These innate notions, plus ‘elaborations’ born from watching and interacting with the world, add up to a sort of ‘naïve physics’ that we all grasp without any formal physics training, says vanMarle. But what about building quantum intuition after that early mental groundwork has already been laid? Most students don’t begin studying quantum physics until college, when they already have both an intuitive and a formal, or mathematical, toolkit for classical physics.”

– Kate Becker, “Is Quantum Intuition Possible?” NOVA, July 28, 2014 ⁶

You Already Knew It: Human intuition is one of the most difficult phenomenon to explain; it can seem magical, like quantum tunneling.

This is at the core of televised professional team sports, the professional players (in addition to all of their other attributes) have a level of intuition for the game – their processing speed is such that the game moves in slow motion for them – that allows them to do the amazing, over and over again. *Like an emergence.* The success of a televised professional team sport is entirely linked to the opportunity in that sport for intuitive, emergent play by teams and especially, individual star players who experience the sport at a different frame rate. But intuition is not limited to televised sports, it is available in any endeavor in which learning, knowledge, experience, and understanding contribute to a favorable outcome.

- ✓ Intuition is strongly related to illustrativeness; it is the level at which we internally illustrate concepts. Thus, in discussing quantum intuition vs. classical intuition, Ms.

Becker is revisiting a concept in physics that was disparaged as unnecessary in the Bad-Nauheim Debate in 1920 (see 2 Temporal Technology, EN 9, p. 827, *infra*).

Empirical types will cringe at the comparison of magic and quantum anything. But what else is to be said when a particle (alpha particle radiation) that does not have the potential energy to escape the well, is suddenly on the other side of the boundary? Quantum tunneling.

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- ✓ “For radioactivity to be understood, the development of quantum mechanics was required. But it should be noted that the birth of quantum mechanics was not initiated by the study of radioactivity but by Max Planck’s study of radiation from a black body in 1900. It was an old field that was not the object of the same interest and publicity as the new spectacular discoveries. It was not until 1928, more than a quarter of a century later, that the type of radioactivity that is called alpha-decay obtained its theoretical explanation. It is an example of the tunnel effect in quantum mechanics.” – Nanny Fröman, “Marie and Pierre Curie and the discovery of polonium and radium,” nobelprize.org, captured October 31, 2018.

In this, Ms. Fröman appears to compare the – let us call it an *emergence* – of quantum mechanics from a different source, and the quarter century delay to quantum tunneling in human sense. A sort of ‘burrowing under’ of an event or discovery, unnoticed, unremarked, to appear later in a different guise or unexpected effect.

Something of this sort is reflected in the movie *Interstellar* (2014) when the computer says (objectively) it is impossible to match the spin rate of the spaceship and Cooper says, “No, it is necessary.” They then dock with the spinning ship indicating that in a moment, Cooper has transcended the impossible. Because the computer cannot be wrong. Right?

- ✓ “‘Our minds evolved to find food and to avoid being eaten,’ says [Daniel] Styer. ‘The fact that our minds ‘overevolved’ and allow us also to find beauty in sunsets and mountains, waterfalls and people; allow us to laugh and to love and to learn; allow us to explore unknown continents, and outer space, and (most bizarre of all) the atomic world, is a gift that we neither deserve nor (in many cases) appreciate. That we can make any progress at all in understanding quantum mechanics is surprising. We must not berate ourselves because our progress is imperfect. Instead, we must continue poking around, in joy and in wonder and sometimes in pain, exploring and building intuition concerning this strange and beautiful atomic world.’” – Daniel Styer (Oberlin College) as quoted by Kate Becker, “Is Quantum Intuition Possible?” NOVA, July 28, 2014.
- Improbables: Sometimes, I just tear through a Mahjongg game, somehow making all the right choices and guesses that I frequently cannot logically explain. Arguably, Mahjongg requires an improbable series of 72 consecutive correct guesses; however, if a player has the skill to remember which tile pairs have already been played off, the number of correct guesses is reduced greatly by knowing with certainty that the second tile pair is an elimination of that tile from the board.
 - ✓ ‘Guesses’ naturally imply that you are operating with imperfect information. That does not mean one is operating with no information, e.g., many partial tiles can be seen under the top tiles, but not all tiles are partially exposed. Further, like terrain,

there are places where one tile can ‘hold up’ the entire game and it would be impossible to have seen it initially.

The number of guesses is also reduced to zero at the point when there are no covered tiles remaining, but that doesn’t guarantee victory (there can be bad formations in a single layer). Sometimes, I don’t remember or am not sure if I had previously played a tile pair off, and in any case, that still leaves a lot of consecutive correct guesses required to resolve the board.

- ✓ In the middle of the third period of the Pittsburgh Penguins vs. the Anaheim Ducks on October 10, 2019, the puck was shot toward the Penguins goal and went down the inside of the back of goaltender Matt Murry’s jersey. You could watch a thousand NHL games and never see that again. But that it happened once it is no longer just theoretically possible. Just extremely improbable, like winning the Big Lottery.
- ✓ I have solved hundreds of Mahjongg games.

Mahjongg is also such that one can make an apparent mistake that turns out to be harmless (like in baseball) or is actually the correct choice, and one can never know until the end, when the board is resolved or not, whether any particular move is a fatal mistake. In these circumstances then, the human player, through experience, develops a general set of operational rules (which make success more probable) to assist in making choices of which tiles to play, for example, when presented with three tiles and needing to play off a pair of them, the strategic value of the tiles (vertically and horizontally) may determine which get played off. Sometimes, all three tiles are of equal weight and it’s just a guess as to which pair you take. In the end, it’s still a judgment call.

Earth President Susanna Luchenko: *Well, Captain, you caused quite a stir. Half of EarthForce wants to give you a kiss on the cheek and the Medal of Honor. The other half wants you taken out and shot. As a politician you learn how to compromise. Which by all right means I should give you the Medal of Honor, then have you shot. I confess the idea had a certain appeal when I mentioned it to the Joint Chiefs two hours ago. [...] The bitch of it is that you probably did the right thing. But you did it in the wrong way, in the inconvenient way. Now you have to pay the penalty for that. I know it stinks, but that’s the way it is. – Babylon 5, “Rising Star” (1997)*

Interdisciplinary Approach: From the mid-19th Century, after the passing of the generation that defeated Napoleon, into the early 20th Century, most of Europe – excepting Prussia who was able to exert their military will on all of their neighbors to form modern Germany – experienced a distinct decline in military leadership.⁷

Events such as the disastrous operations of the Crimean War, the Elphinstone Massacre on the road to Kabul, the war against the Mad Mullah in Sudan to the defeat at Isandlwana to the nightmare of World War I, demonstrate overreliance on technological superiority and descent into military mysticism, in place of military leadership, to support European imperialist ambitions until the whole mess imploded in August 1914.

- ✓ “Waterloo, by cutting short the demolition of European thrones by the sword, had no other effect than to cause the revolutionary work to be continued in another direction. The slashers have finished; it was the turn of the thinkers. The century that Waterloo

was intended to arrest has pursued its march. That sinister victory was vanquished by liberty.” – Victor Hugo, *Les Misérables* (1862).

The apparent reason or cause of this was a fear by civil governments of all types, of another situation such as had occurred with the French Revolution and Napoleon – thereafter, any young military officer who showed ability and ambition and any measure of popularity or political connections, would be subtly or openly pushed out or shunted off to the sidetrack; military ambition and ability were clearly considered threats to civil government. Top commanders were safe choices – members of the nobility or established aristocracy, often old and nearly senile, or young and vain with little military ability; etiquette and propriety, gentlemanly pursuits, and above all, blind loyalty to the crown, were preferred assets for top commanders.⁸

The major European war of the mid-19th Century, the Crimean War (1853-1856), is considered to be the bookend of the later disaster that was August 1914. The Crimean War is noted for very poor leadership and planning, disregard for the lives and welfare of troops, and is best remembered for the famed and misdirected Charge of the Light Brigade at Balaclava (1854) – as an epitome of poor military leadership, and for the nurse *par excellence*, Florence Nightingale, a pioneer founder of modern nursing, hospital sanitation and statistics, social reformer.⁹

Battles even became in the mid-19th Century, a civilian spectator event, an afternoon picnic, such as at the First Battle of Bull Run (or Manassas) or during the several battles and the Siege of Sevastopol during the Crimean War – a grotesque, macabre affront to our modern sensibilities.

Conversely, popular revolution plus military genius might result in another continental generational war, and there was always fear of another European uprising. But technological and logistical superiority without leadership is just as dangerous as that which the civilian governments feared from a robust military college.

- ✓ In 1785, Napoleon Bonaparte, a 15-year-old 2nd Lt. from the Paris Academy, applied and was considered for a position in the La Pérouse Expedition, but was rejected. He graduated in September 1785, 16 years old, and was posted to an artillery unit. The La Pérouse Expedition vanished in the Pacific sometime in March 1788 after leaving Botany Bay, Australia. On December 22, 1793, at the age of 24 years, Bonaparte was promoted to Brigadier General. The rest is history in our timeline. If one had the power and desire to change history, this would be a point where a little bribe to the correct person could alter the entire course of Western history.
 - This history is also notable in light of Emperor Napoleon’s later well-documented disdain for naval men. Was this disappointment the beginning?
- Payment of Generations: History is nothing without ramifications, that’s why it’s history; ramifications only stop if time itself halts. Fast forward to 1940:
 - ✓ “Like lost and bewildered children, a people broken in spirit placed their last faith in the paternal leadership of Marshal Henri Pétain, and the eighty-four year old hero of Verdun had only the solution of despair. Three generations of Frenchmen had trusted in vain to the military occultism of a General Staff which proved to be a sphinx without a secret. The failure of 1870 had been redeemed by the valor of armed citizens, while in 1914 enough allies had been at hand to turn defeat into victory. But there was no balm for the wounds of fallen France in 1940. Civilians could only share the blame with professional soldiers... Still, it would be unfair to heap too much blame

on poor Gamelin's inept leadership. Joffre and Foch must also be held to stern account. For the class of 1914 had consisted of 750,000 Frenchmen, while in 1939, only 450,000 answered the call to arms. The gaps in the ranks of the nation's defenders represented the 300,000 unborn sons of the 'human grapeshot' who had been sacrificed to the offensive doctrines of 1914 and 1915." – Lynn Montross, War Through the Ages (3rd Ed., 1960), pp. 810-811.

Military historian Barbara Tuchman has been accused of being a Francophile. Likewise, some may accuse Lynn Montross of being Francophobic, or at least, unkind and unsympathetic to the French in 1940. It is important to understand, and it is clear to me from a lifetime of reading Montross that rather than being overly critical of the French military in the early 20th Century, Montross was writing lessons for the *next war*, which in 1946 and 1960 seemed sure to happen despite the fact that he opened the 2nd and 3rd Editions with this dedication to his son, "in the hope that his world may learn from books instead of bombs."

- ✓ "The enthusiasm of the country for the Maréchal was tremendous. He was welcomed by people as diverse as Claudel, Gide, and Mauriac, and also by the vast mass of untutored Frenchmen who saw him as their saviour." – Richard Griffiths, Pétain (1970) as cited in Wikipedia article, "Philippe Pétain," captured March 5, 2019.
 - ✓ "On 11 November 1942, German forces invaded the unoccupied zone of Southern France in response to the Allies' Operation Torch landings in North Africa and Admiral François Darlan's agreement to support the Allies. Although the French government nominally remained in existence, civilian administration of almost all France being under it, Pétain became nothing more than a figurehead, as the Germans had negated the pretense of an 'independent' government at Vichy. Pétain however remained popular and engaged in a series of visits around France as late as 1944, when he arrived in Paris on 28 April in what Nazi propaganda newsreels described as a 'historic' moment for the city. Vast crowds cheered him in front of the Hôtel de Ville and in the streets." – from Wikipedia article, "Philippe Pétain," March 5, 2019.
- Wholistic History: This situation demonstrates relationship between parts; within the game, participants should not view the game in isolated parts, but rather as an interconnected dynamic continuity, a milieu, a macro-history.
- ✓ "Trevor [Dupuy] wrote, 'I was brought up by my father to be both a soldier and a military historian. To him the two were inseparable, and that is the way it has always been for me.'" – Susan Rich, biography page for Trevor N. Dupuy at The Dupuy Institute website (<http://www.dupuyinstitute.org/tndupuy.htm>).

This also represents the way I have come to view macro-history and macrosociology as being related and inseparable.¹⁰

- ✓ "Jan [van der Crabben] also had the idea that history was not linear (as it is taught in most school course books), but rather a very parallel type of story, where everything is interlinked." – from About page, Ancient History Encyclopedia, August 30, 2019.

Macro-history and to a lesser extent, macrosociology are like riding in the back of a military transport plane or helicopter which has a back ramp that is up: You cannot see the ground below or even what you just passed over by looking through the open gap at the top, but you can see in the distance what you passed over a while ago.

- **Universal Translation:** In the preceding discussion – in GGDM game terms – in the mid-19th Century, the military college was allowed to decline in favor of governmental stability, *status quo* maintenance, and reliance on superior logistics and technology (e.g., oceangoing ships, rail, industry) to hold together and expand colonial empires. The result was a series of embarrassing defeats of European regular military forces by technologically inferior (but well led and fanatical) native tribesmen, Prussian expansion, and a pointless and badly executed Continental War on the Crimean Peninsula. In each instance of colonial defeat, European powers were then required to amass huge forces to finally overcome native resistance (e.g., the Zulu War (1879), the Boer War (1899-1902)).

“The years from 235 to 297 were given over to anarchy ruled by sword or dagger. Forty-six emperors or pretenders were slain or assassinated in strife that drew most of the legions away from their posts. With the border left undefended at vital points, the barbarians found an opportunity to add invasion to the horrors of civil war.”

– Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 87

The Fog of Lützen: Sixty-two years, forty-six emperors or pretenders slain. Step right up!

The separation of military command and political power – i.e. the sociopolitical installation of boundaries – had been in process for some time before the 20th Century and intensified after Napoleon’s final defeat in 1815, frankly, at some point, the ancient and medieval idea of monarchs personally commanding armies in battle passed from our culture (e.g., Richard I of England was a real knight with a reputation for bravery and combat prowess, rare even then for a king), which is what makes Independence Day’s (1996) final battle so outrageous. Legitimization of power by the Church, population growth, empiricism, and increasing complexity may have all contributed to this boundary intervention; trial by combat was no longer either justice or justification.

This is a favorite rallying cry of anti-war protestors, e.g., Black Sabbath’s “War Pigs” (1970): they (erroneously) assume that if political leaders had to ‘fight’ at the front, there would be no war, they assume that political leaders avoid military command and stay in the rear areas out of cowardice and ignorance – noting, however, that many political leaders of the highest levels have served in the military in their youth. Personal courage has been long separated from politics.

- ✓ During the War of the Sicilian Vespers (1282-1302), Charles I of Anjou (King of Naples) offered to settle the matter with Peter of Aragon in trial by personal combat, on June 1, 1283 in Bordeaux, with six knights on each side; Edward I of England refused to adjudicate the combat, which never happened (no one really seemed committed to the idea overall), the whole thing was probably a dilatory diplomatic ploy by Charles. Trial by personal combat over a city is a famous scene from the movie *El Cid* (1961).
- ✓ James IV of the House of Stuart, King of Scotland appears to be the last *English-isles* monarch killed in battle; he died fighting the English at the Battle of Flodden in 1513.
- ✓ Gustavus Adolphus of Sweden personally commanded his armies. He was killed at the Battle of Lutzen in 1632 while leading a cavalry charge, described by Montross as “The Fog of Lützen.” (War Through the Ages, p. 283). His successor was the highly educated, very unusual lady, Queen Christina, who abdicated in 1654, never married, and traveled throughout Europe, living much of the rest of her life in Rome.

- ✓ The Self-denying Ordinance of 1645, during the English Civil War, explicitly separated membership in Parliament from leadership of the Parliamentary Forces so that political disputes would not affect command of the army. It was critical to victory.
- ✓ George II was the last English monarch to personally command troops in battle, at the Battle of Dettingen in 1743 against the French in Bavaria. King George's horse panicked and he was rescued by an Ensign who was the son of Huguenot refugees who had fled France after the Edict of Fontainebleau (1685).
- ✓ Frederick the Great was personally commanding Prussian armies in the 1750s and possibly later. He wore a plain field uniform which was often stained with snuff, and lived a soldier's life with little regard for comfort. Because the Prussian state and army were so closely tied – some claim indistinguishable, political and military fortunes and considerations were similarly indistinguishable.
- ✓ In France, of course, Emperor Napoleon personally commanded French armies in battle until 1815 and Napoleon III infamously personally surrendered to the Prussians at Sedan in 1870 (though he didn't seem to be much in actual command). And that was his political end and the end of the Second Empire.
- ✓ Tsar Nicholas II personally assumed command of the Russian armies in September 1915: "This was a mistake, as the Tsar came to be personally associated with the continuing losses at the front. He was also away at the remote HQ at Mogilev, far from the direct governance of the empire, and when revolution broke out in Petrograd he was unable to halt it. In reality the move was largely symbolic, since all important military decisions were made by his chief-of-staff General Michael Alexeiev, and Nicholas did little more than review troops, inspect field hospitals, and preside over military luncheons. ...

Cut off from public opinion, Nicholas could not see that the dynasty was tottering. With Nicholas at the front, domestic issues and control of the capital were left with his wife Alexandra. However, Alexandra's relationship with Grigori Rasputin, and her German background, further discredited the dynasty's authority. ...

The Tsar's Cabinet begged Nicholas to return to the capital and offered to resign completely. The Tsar, 800 kilometres (500 mi) away, was misinformed by the Minister of the Interior, Alexander Protopopov, that the situation was under control, and he ordered that firm steps be taken against the demonstrators." – from Wikipedia article, "Nicholas II of Russia," captured April 30, 2019.

This encapsulates perfectly why personal military command has gradually separated from political power; military commanders can be promoted, blamed and dismissed, but if the political powerholder is in personal command of the armies, there is no one else to blame.

- ✓ Leopold I, Holy Roman Emperor, fled Vienna before the Ottoman Turks arrived in 1683. In the movie *The Day of the Siege* (2012), in a panic attack he states, "If Vienna falls, we can always reconquer it. But me? [whimpering] He will kill me and my two male sons. ... The dynasty will end." ("my two male sons?" – bad dialogue)
 - ✓ See also Lynn Montross' discussion of Moltke's reforms, 5 *Combat*, p.1008, *infra*.
- History or Space Opera?: However in science-fiction stories, at least earlier space-opera stories made to appeal to youth audiences, *the political leadership was often involved in combat and sometimes fittingly died*. Space-opera fiction, a parody of Earth history, has imagined

galactic empires forged by warrior kings and ‘barbarian’ invasions from the outside (echoed by the 2011 card game, Core Worlds). In Traveller RPG, an early period of the Third Imperium was marked by wars of dynastic succession in which a line of admirals, called the Flag Emperors, ascended the throne after defeating their rivals, then died shortly through assassination, misfortune, or in battle with the next challenger. This was clearly inspired by late Roman history, especially the Year of the Six Emperors (238 A.D., Crisis of the Third Century) and later Byzantine succession crisis – 12 Byzantine Emperors (13%) reigned for less than a year, 9 more for a year to 30 months, 23 Byzantine emperors died violently and only 6 of those were assassinated, source, <https://byzantium.gr/statrgrn.html>, April 30, 2019.

- ✓ Whether ‘natural experiments’ of *history or speculations of space-opera fiction* informs play of GGDM is up to the participants (both are featured copiously, alternately throughout, *current events* are history as soon as they are known, appear), but likely the participants will bring into the game the *leadership separation concept* of the current milieu. And again, the concept of individual leaders – political or military – in GGDM bumps up hard against the time scale of GGDM and the ‘no literary characters’ discussion in *A Story Without Characters*, 4 *The Streams of Time*, p. 102, *supra*.
 - “When I wrote the *Handmaid’s Tale*, *nothing went into it that had not happened in real life*, somewhere, at some time. The reason I made that rule is that I didn’t want anybody saying you certainly have an evil imagination, you made up all these bad things. I didn’t make them up.” – Margaret Atwood, Master Class video trailer (emphasis added).
- ✓ Most broad judgments by historical writers are valid points – as lessons drawn from historical facts – ‘natural experiments’: A fantasy setting could be constructed for each where the point would be just as validly drawn from the invented facts. Teachers (esp. law school professors), fiction writers do this regularly as a matter of course.

“Eurisko (Gr., I discover) is a discovery system written by Douglas Lenat in RLL-1, a representation language itself written in the Lisp programming language. A sequel to Automated Mathematician, it consists of heuristics, i.e. rules of thumb, including heuristics describing how to use and change its own heuristics. Lenat was frustrated by Automated Mathematician’s constraint to a single domain and so developed Eurisko; his frustration with the effort of encoding domain knowledge for Eurisko led to Lenat’s subsequent (and, as of 2019, continuing) development of Cyc. Lenat envisions ultimately coupling the Cyc knowledgebase with the Eurisko discovery engine.”

– from Wikipedia article, “Eurisko,” captured August 31, 2019

Imperial Admiral Eurisko: Eurisko was an AI program by Douglas B. Lenat that won the 1981 and 1982 Traveller RPG Trillion Credit Squadron Tournament. Similar processes are now used to predict the outcomes of professional sporting contests based on 10,000 simulated games; the difference is raw processing power, no human can or will sit and play through 10,000 simulations. It is rather amusing that Traveller players and designers were concerned or bothered about what Eurisko did: The high technology future is fun in fantasy, but is rather threatening face to face. Thus, the appeal of movies like Terminator, The Matrix and Wargames (1982).

- ✓ “Eurisko’s fleet was so obviously superior to those of its human opponents that most of them surrendered after the first few minutes of battle; one resigned without firing a

shot.... Eurisko was creating concepts on its own. It was distilling thousands of experiences into the judgmental, *almost intuitional*, knowledge that constitutes expertise – rules that can't always be proved logically, that can't guarantee a correct answer, but that are reliable guides to the way the world works, a means of cutting through complexity and chaos....

After weeks of experimentation, and some 10,000 two-to-thirty-minute battles, Eurisko came up with what would be the winning fleet. To the humans in the tournament, the program's solution to Traveller must have seemed bizarre. Most of the contestants squandered their trillion-credit budgets on fancy weaponry, designing agile fleets of about twenty lightly armored ships, each armed with one enormous gun and numerous beam weapons....

Eurisko, however, had judged that defense was more important than offense, that many cheap, invulnerable ships would outlast fleets consisting of a few high-priced, sophisticated vessels. There were ninety-six ships in Eurisko's fleet, most of which were slow and clumsy because of their heavy armor. Rather than arming them with a few big, expensive guns, Eurisko chose to use many small weapons. In any single exchange of gunfire, Eurisko would lose more ships than it destroyed, but it had plenty to spare....

Even if an enemy managed to sink all Eurisko's sitting ducks, the program had a secret weapon – a tiny, unarmed extremely agile vessel that was, Lenat wrote, 'literally unhittable by any reasonable enemy ship.' The usefulness of such a ship was discovered during a simulated battle in which a lifeboat remained ... round after round, even though the rest of the ships in the fleet had been destroyed. To counter opponents using the same strategy, Eurisko designed another ship equipped with sophisticated guidance computer and a giant accelerator weapon. Its only purpose was killing enemy lifeboats. After Eurisko prevailed so easily, the tournament's directors tried to ensure that the 1982 championship would be different." – George Johnson, "Eurisko, The Computer With A Mind Of Its Own" (1984), Alicia Patterson Foundation (emphasis added) (available free online, linked in Wikipedia article).

Ready to close the circle? Eurisko is described above as having "the judgmental, almost intuitional, knowledge that constitutes expertise." A campaign against expertise – see Tom Nichols excerpt this section – is thus a campaign against "the judgmental, almost intuitional, knowledge that constitutes expertise" in humanity and in our current civilization.

"Your Majesty, so long as you have this present officer corps, you can do as you please.

But when this is no longer the case, it will be very different for you."

– Otto von Bismarck to Emperor Wilhelm II

Endnotes.

¹ Commentary: I have avoided in this quote mentioning the belligerent nation to which it refers as that is irrelevant and distracting to the purpose for which the quote is offered. Likewise, I have deliberately omitted citing the title of the article, as this is not an argument about what certain countries did or didn't do. You can look it up if you like.

² Commentary: I recall a criticism of leadership of the Union Army during the American Civil War which stated that West Point produced very fine military engineers, that pre-American Civil War cadet training at West Point focused heavily on engineering, but lacked in military history, rhetoric, and other education suitable for leading.

³ Commentary: But my STEM oriented high school in the early 1980s still clung to the term ‘social studies’ and treated non-physical sciences as poor country cousins.

⁴ Commentary: I couldn’t get through the first 10 minutes of the first episode of *Nobility* (2017). It was immediately obvious that it was Star Trekish at its worst; the character introduction process was hokey and clumsy, clichéd and uninteresting. Every movie and series now has to have idiosyncratic misfit main characters, no one in the future can be mature, normal, career competent. Misfit characters have become *droll nonsense* and their introduction, in the manner of *Nobility*, wastes screen time as opposed to normal, mature, competent characters doing their jobs.

- ✓ In the reviews I read afterward, everyone else seems to like the pilot episode even when they say pretty damning things in their reviews, for example, jeezzle wrote:
 - “Well here’s where it gets a little bit weird. The whole does not seem greater than the sum of its parts despite Aristotle’s best intentions here. Every character does a decent job acting. However, no one actually seems to get it right and it almost seems like no one really has any idea what they’re doing in this show.” (<https://steemit.com/life/@jeezzle/a-jeezzle-series-review-nobility>)

But in the end, he liked it, but no one else seems to be writing reviews after its debut in July 2017.

⁵ Commentary & Citation: Deleenn is commanding a White Star fleet against a Drakh mothership and escorts; “skin dancing” is an artistic tactic developed by the Warrior Caste to hug the hull of enemy ships to avoid enemy fire:

- ✓ **Deleenn**: Lennier, have you ever seen the warrior caste training flights? **Lennier**: Yes. **Deleenn**: Have you ever seen them skin dancing? **Lennier**: I have. **Deleenn**: Can you do the same thing? **Lennier**: Not without approximately... five years of additional training. **Deleenn**: That would be no, then. **Lennier**: But I can program the parameters into the ship’s artificial intelligence matrix. **Deleenn**: And what do you do then? **Lennier**: Touch that button, and pray very, very fast. – Babylon 5, “Lines of Communication.”

⁶ Citation: “Quantum field theory is notoriously complicated, built from mind-bendingly abstract mathematics. But could it be that the underlying rules that govern reality are really so far from human intuition or are physicists just showing off?” – Matt O’Dowd (City University of New York), “Quantum Theory’s Most Incredible Prediction,” PBS Space-Time Channel, August 15, 2018.

⁷ Commentary: For those who are interested in military sciences, I recommend *reading about* Clausewitz’ Ten Principles of War. Clausewitz – a staff officer during the Napoleonic Wars – is one of those writers for whom it is better to initially read reliable secondary sources, such as Col. Harry Summer’s *On Strategy* (1981), because his *magnum opus*, *On War* (1832), is a tough slog (however, there are some educators who would argue against reading secondary sources first). For those interested in politics, diplomacy and early-modern European history, I recommend reading Machiavelli’s *The Prince* (1532). Find a good annotated English translation of the original work to read; *The Prince* is not a long book or difficult to follow, except that he makes constant references to small matters of his time. If you are interested in military history as well, you should have a copy of Dupuy & Dupuy’s *Encyclopedia of Military History* (2nd Revised Ed., 1986), *The West Point Military History Series: The Second World War* (50th Anniversary Commemorative Edition, 1989), and of course, Lynn Montross’ *War Through the Ages* (3rd Ed, 1960).

⁸ Commentary & Citation: In science-fiction gaming:

- ✓ “Lucan had not evacuated or moved the research station, for he no longer had an officer corps that would bring controversial decisions to him. He had successfully purged the navy of this kind of honesty and courage by executing officers accused of ‘defeatism.’ What remained were officers who correctly divined what Lucan wanted to hear, and who kept one eye constantly over their shoulder and one hand on their necks.” – Dave Nilsen, “When Empires Fall II,” Challenge Magazine, Issue 69, February 1993.

⁹ Commentary: This is not without controversy, there were others who may have been overshadowed by Ms. Nightingale’s fame, and as a famous figure, like all others, she becomes the lightning rod for whatever social issue or revisionist history dominates the day, with intellectuals constantly re-evaluating and poking at her legacy to make this or that point in support of their current agenda.

¹⁰ Commentary: By extension, if I possessed a greater understanding, I might also include macroeconomics in a macro-triumvirate of human studies. I do not get the sense that this relationship is generally appreciated and perhaps that has been an impediment to the development of a general macro-understanding, with the exception of macroeconomics which is deemed to have desired and practical uses in the ‘real world.’

Every solution to mass shootings inevitably involves a serious trade-off

By Dan McLaughlin, Los Angeles Times, February 15, 2018

It is, by now, a horrifyingly familiar story. Indeed, the familiarity is what should horrify us the most: A school shooting with a bunch of people dead, many of them children, the rest teachers. This time, it's a high school in Parkland, Fla., 17 dead, the shooter a 19-year-old who had been expelled from the school. The assailant, armed with a popular rifle and loaded up with ammunition, was injured at the scene.

What can we do? What should we do?

The answers are not easy, and they inevitably involve a tradeoff: accepting the unacceptable, or restricting our freedoms. The three big ones are freedom of the press (publicity gives oxygen to these kinds of acts, so restricting coverage will reduce copycats); the right to bear arms (guns don't cause human evil, but of course they make it easier to carry out); and due process (targeting potential mass shooters, or mentally ill people in general, is possible, but requires us to curtail Americans' civil rights before they have actually committed a crime).

It is by no means clear that any of these solutions would be more effective than the others, and each of them involves punishing a very large number of people in order to stop the evil doings of a very small number of people.

The kneejerk reaction is to go after firearms, but there's a bait and switch element to gun control arguments in these situations. Activists focus on small restrictions that are palatable to many. If anyone points out that small restrictions won't do much to stop shootings, the activists argue that larger restrictions, unpalatable to many, would do the trick.

Gun owners are used to hearing, almost in the same breath, "we'll stop shootings by banning all guns" and "nobody's trying to take your guns away."

That doesn't mean, of course, that it's impossible to affect any change whatsoever. As with "bump stocks" after the Las Vegas shooting and body armor after this week's police shooting in Chicago, Parkland is likely to rejuvenate proposals for highly specific restrictions – in this case of smoke bombs and protective gear like gas masks. But a ban on protecting yourself with a gas mask seems a very unsatisfying solution. Censorship presents the same dilemma. The 1st Amendment makes it just as impossible to ban coverage of mass shootings as the 2nd Amendment makes it impossible to ban guns. Media outlets should, if they want to promote safety, refuse to publicize the names of the shooters. But not cover the shootings at all? That could be effective, but these are traumatic and newsworthy community events. Silence is a fantasy; it will never happen.

And even if the mainstream media goes dark, there's social media. Our exhibitionist culture may encourage disturbed people to perform acts of retribution that guarantee them maximum publicity; think of the mass shooter as taking a kind of mass selfie of rage. But that genie can't be put back in the bottle, either, at least not without a massive campaign against freedom of expression.

As always, human beings are the real weapons of mass destruction, and the tools they choose are not the causes of violence. If we want to weed out people who might commit violent acts in the future, we need to scale back due process protections and incarcerate more people on less evidence. Although that too is a tradeoff many of us would find it hard to make, we could

plausibly target privacy laws that make it difficult to compile records on people with a history of threatening behavior.

Defensive measures are a hollow promise. It's prohibitively expensive to provide every school, movie theater, workplace, hospital or other "soft target" with an armed guard, and unrealistic to expect grade school kids to pack heat to stave off the rare but prepared psychopath.

Nor is there a handy social or religious answer. The sickness that leads people – typically young men – to this kind of act may be in some ways emotional or spiritual, but history gives us no reason to believe that there is a key to preventing an angry minority of people from going bad. There never has been, and there never will be.

There are only easy answers if you are willing to sacrifice rights you don't care about, and that other people do. That's never been a kind of solution Americans could pursue without embarrassment and regret. Unless and until we can find a better, more reliable way to identify potential mass shooters early, we have to acknowledge the nature of the choice before us: Punish many innocent people or remain mostly defenseless against the malicious few.

Nobody wants to make one side of that trade. But nobody wants to face the other side either.¹

¹ Commentary: Instead of banning firearms, we need to ban stupid people. Logically, that should be easier to do since there are more guns than people in the U.S. currently.

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“Why has government been instituted at all? Because the passions of men will not conform to the dictates of reason and justice, without constraint.”

– Alexander Hamilton, *The Federalist Papers* No. 15 (1787)

“Your people, Sir, are a great beast.” – attributed to Alexander Hamilton

Entropy & Evolution: Entropy rules the universe. Destruction always seems easier, faster, and more natural than creation. The fire burns the wood too quickly, fire burns the Library even more quickly, destroying names, poetry, literature, records, knowledge and ideas.

Gravity, magnetism and other forces of attraction impose some order on the universe, but as often as not, even they do the work of entropy. In order for evolution to occur, the previous arrangement must suffer entropic effects. Evolution and entropy are inextricably related.

- ✓ **Doctor Who:** Stars implode. Planets grow cold. Catastrophe is the metabolism of the universe. I can fight monsters. I can't fight physics. – Dr. Who, “In the Forest of the Night” (2014).

Life develops in environments created by gravity, magnetism, and the other forces of attraction. Intelligent life develops occasionally in these places as well, and intelligent life creates complex systems, changes the environment and imposes its own order. Intelligent life pollutes the worlds on which it develops, breaking down the environmental systems of their world, wars among themselves, destroying their systems, so that they have to leave and go into space. Oftentimes, intelligent life, and even life, are the agents of entropy.

- ✓ “So you are asking me as a psychologist. ... Then as a psychologist, I'd say you are confusing suicide with self-destruction. Almost none of us commit suicide, and almost all of us self-destruct. In some way, in some part of our lives. We drink, or we smoke. We destabilize the good job or the happy marriage. But these aren't decisions, they're ... They're impulses. In fact, you are probably better equipped to explain this than I am. ... You are a biologist. Isn't self-destruction coded into us? Programmed into each cell?” – Dr. Ventress (who was dying of cancer), *Annihilation* (2018).

- See also *Neurotic Paradox*, 4 Culture, p. 413, *supra*.

A starship flying through interstellar space is a little pocket of life and order in the vast entropy of the universe, even as it is violating the relativistic speed limit of the universe through which it is flying. At the very least, the movement of the starship causes a disturbance, which then becomes the external entropy force that destroys, disturbs, or changes something else. Sometimes when starships arrive at planets, wars are fought and the planet is bombarded and/or damaged, and the starship becomes the messenger of entropy.

Order is the most basic function of the governments and central authorities of a civilization to impose a system and maintain it against internal and external threats. But whose system, whose order, among the competing authorities and interests will prevail? The process of competing systems and interests does the work of entropy, destroying lives, structures, knowledge, and hopes. Those who are not in power in the current system, welcome entropy with open arms.

- ✓ Once the frame of the GGDM simulation was moved to space opera, I asked “Well, what is the equivalent of natural disasters on Earth in a space setting?” For simulation purposes, the answer was Entropy and humans were their own constant. All else – Disruption Events, Interpretations, Interventions, Diplomacy – evolved from there.
- All Things Must Pass: ‘All things must pass so that new things can enter the world,’ however attractive, is a teleological explanation of death and destruction phrased as a meta-physical *a priori* law. I must die so that the world can move on would be a false statement (unless you are a messianic megalomaniac or fictional hero), but I will die and the world will move on would be an eventually verifiable prediction. Whatever truth is apparent in the ‘all things must pass’ statement – which has been handed down for two thousand generations – it is still suspect for being a human teleology. But time is the ultimate teleology function of this universe and thus, teleology statements regarding or implying time are probably the most valid observations. See discussion of teleologies, Patently Off Limits, 3 Patents, p. 750, *infra*.
 - ✓ Even Rose Tyler in Dr. Who avoids this statement in the Bad Wolf speech, saying only “Everything must come to dust. All things. Everything dies.” Phrased in this way, it is simply an empirical observation, not contradicted by any current scientific knowledge, with possible philosophical implications (sort of like quantum physics).
- Organizations: Organization is what allows the office to continue functioning when you go on vacation. Organization leads to more efficient use of the time in a day. Organizations, such as corporations and foundations, continue operating long after their founder(s) have passed or moved on, they are entities independent of any one of us. Organizations multiply the effect of one person a thousand-fold by propagating the ideas and techniques through others, and into the future. Organizations require remote authority, by which the members of the organization maintain the organization without the one person or small group being present to supervise and enforce their will. Organizations require and imply systems and order. Civilizations are organizations. Civilization is inconceivable without the kernel of organizations.
 - ✓ Or in case of civil war: There is a necessary argument that during all of the civil wars and power struggles, the Roman Empire continued to function because the lower administrative systems held it together.
 - ✓ Ants rule the jungle, no other creature, including humans, match them in organization, determination, numbers, cleverness and ferocity. Humans survived first because of mastery of fire and our body size, later, humans damaged their environment. See previous discussion, 1 Entropy, *supra*.

“If the basis of popular government in peacetime is virtue, the basis of popular government during a revolution is both virtue and terror; virtue, without which terror is baneful; terror, without which virtue is powerless. Terror is nothing more than speedy, severe and inflexible justice; it is thus an emanation of virtue; it is less a principle in itself, than a consequence of the general principle of democracy, applied to the most pressing needs of the patrie.”

– Maximilien Robespierre, “On the Principles of Political Morality,”
February 1794

Red Guards: To those familiar with the history of the Reign of Terror, these are some of the most chilling words in history; they sound so high-minded and reasonable, but what followed were hundreds of deaths by execution, called the Reign of Terror, which ended, as history always notes, by the execution of the speaker of those chilling words. Robespierre was the difference between the American Revolution and the French Revolution. Jefferson was a scary radical, but he was no Robespierre, and the newly-formed United States had the Western Frontier, an outlet valve; whereas France was a self-contained, complex, developed nation in a radical revolution.

- ✓ “‘I can’t help thinking of Bannon as the Robespierre of this Trumpian revolution, ultimately devoured by the forces he helped release,’ emailed Charlie Sykes, the legendary conservative radio host in Wisconsin who has emerged as a leading Trump critic. ‘He helped create a pro-Trump media ecosystem that demanded loyalty, not ideological consistency. Now that he is perceived as disloyal (and perhaps dangerous), he is going to get the same treatment he used to give the globalist, establishment types.’” – Charlie Sykes, cited in the Washington Post, January 4, 2018.

Chairman Mao Zedong, educated in France and well-read in Western political works, and familiar with Chinese history, let loose upon China a deliberately-fashioned Chinese version of the Reign of Terror in the form of the Red Guards in August 1966. The damage to traditional Chinese culture was and is immeasurable, and it took years for the government to regain control of the countryside from the radical, feuding student militias. Prior to the Communist Revolution in China, the Taiping Rebellion – whom the Chinese Communist lauded as historical predecessors – had devastated Buddhist and Confucian places and destroyed their libraries and schools.

Like “The Needs of Earth” episode of the Babylon 5 spinoff series Crusade, the Chinese will want back someday what their revolution destroyed. Hopefully, enough is preserved in places such as the Fei Tian Academy of the Arts and Fei Tian College, a classical Chinese Dance school in New York City (very closely related to or intertwined with Shen Yun Performing Arts company),¹ that some of their culture can be returned to China when the time is right.

To Insure Domestic Tranquility: One of the most fundamental prerogatives of a society is to impose and maintain order, and not just on the level of criminal activities and what constitutes morally right and acceptable behavior, but also on how reality is divided up, what parts connect, and what constitutes knowledge. Of course, a few criminals are occasionally useful too.

The Order Power must be activated for any of the following purposes:

1. Declare/Move Capital Colony,
2. Conversion/Naturalization (of a conquered **alien colony**),
3. Maintenance,
4. Government Formation (see Government Titles, *infra*).

Activation of the Order Power for the purpose of Declaring or Moving a Capital Colony requires one Act and one Scene on the target colony. Activation for the purpose of attempting to Convert or Naturalize an **alien colony** requires one Act and one Scene on the target colony. Activation for the purpose of maintenance will require one to three Acts. Declaring or Moving a Capital Colony and Maintenance also cost RPs from the Treasury. Finally, the actions regarding Government Titles are fully detailed in the section following the Order Section.

- **Gaveling:** Activation of the Order Power for the purpose of Declare/Move Capital Colony, Maintenance, and Government Formation can never fail due to inactive Constructural Elements. Conversion attempts are also never effected by inactive Constructural Elements on the target colony. Naturalization attempts, however, may fail due to inactive Constructural Elements at the target colony.
- ✓ Mainly this is for game convenience as citizens in the capital areas have historically had a disproportionate effect on the national government; e.g., Paris Riots that led the French monarchy to build a palace in Versailles, and the later ideological riots during the French Revolution. Or the St. Petersburg Massacre in front of the Winter Palace. Capital population is the most immediate threat to a national government, all other agitators have to march on the capital from a distance, e.g., the 1922 March on Rome, the 1958 French Algiers uprising that got as far as Corsica, or the War of the Roses.

While there may be some general argument that declaring or moving a Capital Colony is location-specific and thus subject to inactive Constructural Elements, *for game convenience*, those are ignored due to the importance of each position having a Capital Colony at all times in GGDM (thus, it is a *game play concession*). The Concierge can address resistance to the Capital Colony move through creative Interventions, raising the issue above to a story event.

Dr. Hans Fallada: *Death, Colonel Caine, correct. Thanatology's the name for it. Death for you, Colonel, is a bureaucratic problem. Who did it? When, why did they do it? A problem to be solved, am I correct?*

– Lifeforce (1985) ²

Crime & Punishment: I have a neutered female tabby cat whom I rescued from the basement of a house where her owners had moved out. She was emaciated when I adopted her; that was ten years ago. She was not raised with other cats and didn't get along well with the other feral kittens I brought in later, especially when they grew up to be tom cats (they are neutered as well). It was becoming a problem. So I allowed her to live in my bedroom, an enclosed area containing my bathroom and one other room. She has been there for nine years, she seemed to be happy in the space, with the big window and cat condo, and we had a great relationship, she was a loving cat. When I adopted her, the humane society vet opined that she was 2-3 years old, now she must be 12 or 13 years old. She is in good physical health, a slightly fat, lazy happy tabby.

In the last summer, she has begun urinating on my bed during the day; inappropriate urination has not been a problem in the past and the other cats downstairs do not urinate on my furniture or carpet. She has a nice enclosed cat box that she has used for years, and it was not unclean. You can imagine how angry it would make you to come to bed at night and find out that the cat urinated on your sleeping place. I tried scolding her, yelling at her, I became very angry with her. Each time this happened, about five times in two weeks, I'd have to sleep downstairs on the love seat and the next morning, tear apart my entire bedding and shove it into the washing machine.

After some time, I reasoned that if she could not be convinced not to urinate on my bed, she could not be in my bedroom any longer (I have not been able to keep her off my bed); I took her out of the bedroom area and put her in a large 'two level' wheeled cat cage downstairs. She clearly disliked the cat cage and after a week, I relented and took her back up to the bedroom. The next morning, two hours after I got up, I discovered she had urinated on my bed again (she

has not urinated on the bed while I was sleeping in it). I had no choice but to put her back into the cage, after I cleaned it with the vacuum cleaner and a wet rag.

- Incarceration: This is really not much different than the penal law solution – incarceration of humans who will not be convinced to act appropriately in our society; especially those who commit major offenses and are deemed to either be a danger to the public, a danger to themselves, a flight danger, or in danger of physical retaliation from the public or their victims or their families.

- ✓ Or as George Kennan said of the Soviets in 1946: [They are] “Impervious to logic of reason, and ... highly sensitive to logic of force.” This is true of the 1%.

If they have not been convinced or deterred, and there is sufficient evidence that they have committed crimes, they must be removed from society, either by some form of incarceration or by execution. Not because it’s ‘right’ but because it’s the most and the only practical solution currently available, and all other post-criminal solutions (including capital punishment) devised have not provided convincing evidence of effectiveness.³

- ✓ “Appeal to force is never an argument,” said my formal logic instructor at Point Park College. At the end of the lecture on informal fallacies, he added, “While appeal to force is never an argument, have you ever tried to convince a three year old that it’s time to go to bed when he doesn’t want to?”

Criminal laws are an appeal to force argument for those in our civilization who will not be convinced otherwise. Criminalization of dissent, *per se*, even if not explicitly stated, is an admission by the government that its arguments have failed to convince or quiet a significant percentage of the population or those who matter.

- Recidivism: Nor is this much different than the recidivism problem (except of course with those who were executed); less than 12 hours after being reintroduced to my bedroom space, she urinated on my bed again and had to be put back into the cat cage. She has failed, apparently, to make any causal connection between scolding, my anger at her, being confined to a cage, and her acts of urination on my bed or at least, they have not deterred her.

Recidivism rates are the most bedeviling problem of criminal punishment. Some states adopted three-strikes laws in sentencing aimed at those who have previously been convicted of serious or violent crimes and are back before the court again accused of serious or violent crimes. Politicians fear the public and media outcry over a preventable, serious violent crime or repeat crime committed by someone recently released from prison.

I recall from criminology class that a study found that the majority of the crimes committed in Baltimore over a multi-year period had been committed by a shockingly small group of people, pointing to criminality as a sort of profession, fulltime occupation, for a select group of people: These people plan and commit crimes (sometimes spontaneously) like you get up each morning and go to work.⁴

My brother had a friend who had been sent to a juvenile detention center when he was 16 years old. People argue that juvenile detention centers are toxic environments and do more harm than good; but consider how the child ended up there? He was released as an adult; three days later, he stole a pickup truck, broke into a recycling center, drove the crane around, picked up a cube of compressed aluminum cans, put it in the back of the truck, and

drove off. He was caught shortly and re-incarcerated as an adult; my brother said he was the dumbest human he had ever met.

- ✓ I am aware that I am shortcutting through a huge amount of hot and emotional controversy relating to juvenile detention centers, and adult prisons. There is much human fallacy on both sides of the bars. The human penal system depends on the incarcerated being at least marginally better than the incarcerated, while they are locked in the same cage together. Just as soldiers in a warzone are expected to somehow keep their humanity. And that frequently doesn't happen and our systems have not been sufficient to insure that it does. I recommend watching the movie *Sleepers* (1996).
- Failure of the Why Not Question: The second sense in which Order is used in GGDM is that of enforcement of appropriate behaviors. It is possible (likely) that universal entropy expresses itself in human criminal or deviant behavior, and thus there is a rough continuum from the first sense of Order discussed at the top of this document.
 - ✓ The *gravest harm and disorder occurs* when a civilization forgets or distorts its own previous answers to the Why Not question for any convenience or ideology.

Almost every legitimate reason for terminating a relationship in our society – marital, social, employment, contractual, business, parental, guardian, romantic, cooperative, fiduciary, educational – is reducible to the failure of a party who has a duty, to act appropriately, and a breach of the relationship as a result. It is the situational failure of the Why Not question. Across human civilizations, there are certain classes of inappropriate behaviors that are universally considered punishable as crimes (Why Not Behaviors), broadly they are:

- ✓ Murder and homicide except in defense,
- ✓ Theft in all its many, many guises,
- ✓ Contraband (trading in material goods banned by society),
- ✓ Kidnapping (universally, forcibly taking and restraining a person),
- ✓ Wanton destruction of another's property (arson, vandalism, mischief),
- ✓ Rape (previously considered a crime of trespass, but now not generally),
- ✓ Violation of ownership rights (trespass, breaking, conversion),
- ✓ Disloyalty (treason, sedition, espionage),
- ✓ Violation of duty of public office or fiduciary duty (corruption, official intimidation).

Finally, although it varies greatly, every civilization has had some controls on who can have sex and how, and limits on the provision of sexual services (in all forms) for material gain.

- The Other Hole in Your Head: Within this last summer, there is, I believe, a person in my neighborhood who 'delights' in hurting cats. In the spring and early summer of 2019, I had at least three cats come to my porch with injuries that I thought were consistent with being shot with a BB gun or CO₂ pistol. Twice this year, at about the same time of the night and nearly the same place on the street, a kitten has been hit by a vehicle and killed in front of my house (about six months apart), two of three kittens from a litter are now dead at less than a year old. I do not live next to a 'busy' street, I have lived in this half-populated residential area for eleven years now, and not until this year have any of my cats been killed by vehicles.

There is another sense of why crimes are crimes that is little discussed: It is repugnant for someone to 'fill' their existential void by inflicting harm, pain and death on other living creatures for their own amusement.⁵ Don't pretend no one does this, don't look away and hum.

Repugnance is a visceral reaction, see discussion 5 Fallen to Earth, p. 1573, *infra*. Videos exist showing people swerving to hit turtles, there are also many cruelty videos on YouTube.

- ✓ People who harm small animals for amusement would do the same to humans if they could get away with it. This is at the very base of criminalizing animal abuse.
- ✓ As a practical matter, among hunter-gatherer cultures, one does not harm animals unless hunting for food and one does not take more than they need. It is harmful to the tribe and is usually codified in their belief systems honoring animal spirits.

By extension, the same applies to wanton infliction of emotional distress or destruction of property and chattels. And by extension, to a much lesser degree perhaps, are the crimes relating to filling one's existential void by excessive materialistic, hedonistic behaviors.

- ✓ The Why Not question is thus – phrased in the negative – a question of how not to fill the existential void that all of us carry around. Only the most extreme behaviors which are deemed harmful or not useful to society (the positive version of the question is what meaningful behaviors are useful and to be encouraged in society) are criminalized (excepting criminalizing political opposition), but the Why Not is not limited simply to either individually or collectively to criminalized behaviors.
- Feline Acedism: I also had issues with another of my house cats during that time, a 15 pound black and white neutered male who was also peeing in inappropriate places; the other cats were not allowed into my bedroom so he could never have urinated on my bed (it could only have been the female tabby). As it turned out, he had a blockage and had to be admitted to the veterinarian hospital two days before Christmas 2018, my poor kitty spent the holiday in the hospital for an emergency urinary catheterization. So after that, all of my cats were fed prescription SO cat food exclusively and I observed no additional inappropriate urinations, further, they all seemed to be happier and more active than previously. The female tabby was included in the feeding program, and after about three months of the prescription Urinary SO diet, I decided that her inappropriate urination on my bed might have been a symptom of a potential blockage.

As such, I decided to allow her to reside in my bedroom again and observed that she was regularly using her litter box. She was so happy to be back in my bedroom, out of the cage, and soon it was just like the old days... About a month and a half after she was returned to my bedroom, I came home from the gaming club late on a Saturday night, and she had urinated two places on my bed. One of the places was below the pillows, right where I sleep – the human mind immediately thinks that had to be intentional messaging. Of course I wasn't the least bit pleased with this, and resignedly returned her to the cage and slept on the couch that night. Unlike a human child, I cannot ask her why she did it, I cannot even be certain that she understands that she did anything at all, or that she has any memory of it or makes any causal connection.⁶

But clearly there was something else involved in her urination on my bed than potential physical urinary problems, for example, perhaps it was a feline form of acedic rebellion, even though I have regularly allowed other cats into the room in short supervised visits over the years and even though we don't think of acedism is a feline 'problem' considering that they sleep 14 hours a day.

- ✓ “Acedia is a state of listlessness or torpor, of not caring or not being concerned with one’s position or condition in the world. It can lead to a state of being unable to perform one’s duties in life. It is related to depression. Acedia was originally noted as a problem among monks and other ascetics who maintained a solitary life. ... Evagrius’ contemporary, the Desert Father John Cassian, depicted the apathetic restlessness of acedia, ‘the noonday demon,’ in the coenobitic monk.” – from Wikipedia article, “Acedia,” August 4, 2019.

So again, I had no other sensible, humane solution than to return her to the cage.

“The four orders [of natural phenomena] are the inorganic, the vital organic, the mental organic and the super-organic, or social.”

– Clarence Marsh Case, Outlines of Introductory Sociology (1924) p. xvii ⁷

Order of Genesis: I believe that it is inherent in Mr. Case’s scheme that the four orders of natural phenomena are incommensurable, it is the incommensurability that defines them as orders; that incommensurability in successive things (entities, ideas, civilizations) is evidence of emergence; in Mr. Case’s four orders, they may be evidence of successive unfolding cosmic emergences, a progressive fracturing of the universe as it expands (see Big Bang Theory, 1 The Big Bang, p. 2, *supra*). However, emergence is not a case of complete non-linkage, it is simply the case of the unexpected or a whole that is greater than the sum of its parts emerging from what came before, therefore a continuum may be formed (and has begun to be formed intellectually in the West) through a series of what we have termed as “genesis” events:

- ✓ *Abiogenesis* (1870), the theory that life (the second order of natural phenomena) arose naturally from the physical universe, inanimate matter (the first order of natural phenomena) serves to connect the first and second orders of natural phenomena in the evolution of the current universe.
 - “This is a cell. Like all cells, it is born from an existing cell. And by extension, all cells were ultimately born from one cell. A single organism, alone on planet Earth, and perhaps alone in the universe. About four billion years ago one became two. Two became four. Then eight, sixteen, thirty-two. The rhythm of the dividing pair, which becomes the structure of every microbe, blade of grass, sea creature, land creature, and human. The structure of everything that lives and everything that dies. As students of medicine, as the doctors of tomorrow, this is where you come in. The cell we are looking at is from a tumor. Female patient, early thirties, taken from the cervix. Over the course of the next term, we will be closely examining cancer cells in vitro and discussing autophagic activity.” – Lena, university lecture, *Annihilation* (2018) (Note: Lena and Kane were never given last names, like Adam and Eve perhaps?).

The question of abiogenesis is the emergence of that first cell, from the first order of natural phenomenon to the emergence of the second order.

Abiogenesis is a theory properly because it proposes a question, proposes an answer, and can be tested, is testable, we can poke and prod our way to answers and confirmation by experimentation and observation, and sub-theories, the ultimate proof of

which will be when we can find a repeatable process to create life from inanimate matter. So well is that, but...

- ✓ *Psychogenesis* (1838), a concept of phenomenology and psychology, currently connects the *second order of natural phenomena* (life, biology) to the third order of natural phenomena (psychology, sapience, the mind, biological awareness). Theories on the evolution of the brain and nervous system, also help to bridge the gap between the second and third orders of natural phenomena.
 - “Perinatal experience is posited as generative of psychogenesis: the psychological birth of the infant. The process involves a sentient human being rather than a nonconscious tabula rasa fetus. That birth experience is only traumatic is reductionist. The origins of positively colored affects as well as sexual feelings and even ecstasy may be intrauterine. The importance and complexity of the birth experience can better be described in terms of phases of being that parallel the physical stages of labor. These phases are immanence, obstruction, descent, experience, ascent, emergence, and transcendence. Each of these phases encompasses a unique state and dynamic process. Birth as such is shown to be a rich multidimensional experience that is also transformative.” – abstract of Stephen Slade Tien, “Psychogenesis: A Theory of Perinatal Experience,” *Journal of Phenomenological Psychology*, Vol. 23, Is. 1, January, 1992.
- ✓ *Noogenesis* (1955) is related to psychogenesis, sort of a little sis, with new generation thoughts. Noogenesis (phylogenesis & ontogenesis) seems to focus on the species as a whole and thus might shade over toward connecting the second order to the fourth order of natural phenomena, whereas, psychogenesis seems focused on individual members of the species (e.g., see previous endnote). But are noogenesis and psychogenesis testable (and in what way?), and thus, are they really theories?⁸

And here, more than anywhere else, stands the bright shining line that divides human ‘knowledge’: The first and second order of natural phenomena (the physical universe and the biological), and their abiogenesis connector, are testable, repeatable, can be numbered, expressed in laws, defined, applied, and engineered. We call this science, medicine and technology, except that we cannot yet get the abiogenesis down. After that, it all gets a bit fuzzy, some of it is philosophy, some of it is social sciences, some humanities, some psychology, and all of it generally not testable or repeatable, or even physical within our current framework:

- ✓ The bright line is between the *objective and the subjective*, in studying third and fourth order natural phenomenon, we are studying ourselves on two different levels, and that is always more so subject to the times, interpretations, opinions, and needs all of the evolutions and time possible to humanity to arrive at the core truths. The previous error is that it doesn’t make it any less ‘real’ either to us or to the universe.

Imagine an epochal dimensional evolution where the framework for understanding the third and fourth orders of natural phenomena become evident in the way that we understand the ‘lower orders’? See epochal FTL discussion, 1 Stardrive, pp. 783-785, *infra*.

What sits between the third and fourth order of natural phenomena? What connects? What explains the link between biological awareness and the super-organic? How did the universe develop the super-organic from biological awareness as it did life from the inorganic? *Hint?*⁹

- Tyranny of Tendentious Pedants: Are emergence and incommensurability absolute (i.e. 0 or 1) or a matter of degree? We seem to have not quite decided. This is not unusual, is sincerity zero or 1 or a matter of degrees? Can one believe they are being sincere, have an internal intent to be sincere, but are actually not? Can one be sincere within a set of views and intentions, but not otherwise? Can something be emergent from and incommensurable with X, but not quite when compared to Y (it may depend on the relationship of X and Y). In a sense, we seem to demand a clear break, a startling difference between the origin and outcome before declaring it emergent. And that is part of the problem, but it appears that most of the philosophers have had no issue with considering emergence in conditions and degrees:
- ✓ “Complex systems research has been hindered by a lack of precision when people refer to ‘emergent properties.’ Contemporary views of emergence in philosophy include Chalmers’ spectrum ranging from a mystical property to the whole-part relationships in mundane objects including filing cabinets. They also include Bedau’s distinction between ‘weak’ emergence, based on simulation and modeling, and ‘strong’ emergence relying on downwards causation.” – Christopher W. Johnson (University of Glasgow website), “What are Emergent Properties and How Do They Affect the Engineering of Complex Systems?” 2005.

If emergence can be considered in matters of degree, can incommensurability that I have identified as the clear marker of emergence also be considered in matters of degree? Is it a matter of proper framework? When we speak of emergence in spectrums or ‘strong’ or ‘weak’ emergences, are we really talking about incommensurabilities?

- ✓ It would be fallacious to insist that the emergence be a complete break from what came before, such would destroy the relationship inherent in the concept. But at the same time, there has to be a clear break, clearly something unexpected, different.
- As Coo-Coo as a Swiss Clock: The universe is still expanding. What would be the next incommensurable order beyond the fourth, what would be the fifth order of natural phenomenon and does it already exist but we cannot see it? We keep feeling around for it in science-fiction movies, e.g., Magellan, Arrival, Contact. Possibly the best expressed concept, in a linear development sense, is Isaac Asimov’s “Galaxia Gaia,” but we should hardly expect the next cosmic emergent order to be linear in the form of just something bigger than the current.
- ✓ Such an emergence would make facts in the fourth order also facts in the fifth order, just as first and second order facts are facts in the third and fourth orders.
 - ✓ Humanity and human civilization would not just disappear with the advent of the fifth order of natural phenomenon, just as the second order did not disappear with the advent of the third and fourth orders.

There are many problems with all of this, not the least of which is that we don’t know why there would be a fifth order of natural phenomenon (other than the age of the universe) any more than we know why or how there is or needed to be a second, third, and fourth order of natural phenomenon. Is it connected to the expansion of the universe, which is now, since the 1990s, thought to be accelerating? And it is only by identifying the structural orders of phenomenon that we know, were we able to imagine the concepts that we call ‘genesis’ to link them, e.g., abiogenesis is accepted because there is currently no better theory of the origin of life, and because we have developed evidence of how it might have occurred.

- ✓ Regardless of what you think of my (crackpot) ideas, here is the one undeniable of the Anthropic Principle and the whole concept of cosmic evolution: There is something

in the universe which drives it toward localized low-entropic states (e.g., life, stars, planets, the super-organic) – *which we have historically personified and deified as creator, supreme being, spirits, in our own petty image* – in opposition to the predicted high-entropy end of the universe. The entire struggle of religion, science and human meaning, is to explain localized low-entropic states (mainly us); GGDM calls these Constructural Elements. This is perhaps implicitly recognized in the concept of the Boltzmann Brain. This has become an unstated axiom of modern science. Boltzmann really only described half the phenomena; he explained mainly high entropy states, but not the apparent predilection toward opposite low-entropy states.

- The Camus Test: So is the fifth order of natural phenomenon a form of Camus’ “philosophical suicide”?
 - ✓ “From this point of departure he proceeds to his critique of the different ways of ‘philosophical suicide,’ which he characterizes as so many ways of speculative evasion. All existential thinkers quoted by Camus have realized the futility of reason, all them are seen to have recourse to some transcendent entity as *raison d’être*: Husserl to his ‘extratemporal essences’ of innumerable phenomena, Chestov and Kierkegaard to a deity whose loftiness consists precisely of His incomprehensibility, indeed in His inconsistency, arbitrariness, inhumanity. Chestov is quoted as saying: ‘We address ourselves to God only to obtain the impossible; as to the possible, humans suffice.’ Such deity, to Camus, shows all the features of the absurd; He demands, in the old way, the *sacrificium intellectus*. In point of fact, it could be said that Tertullian’s *credo quia absurdum* has arrived, in the modern situation, at a *vivo quia absurdum*. ... Camus rejects the ‘philosophical suicide’; he refuses to accept any transcendent ... but seeks to remain within the pale of this world and to maintain himself on his scarce certitudes. He likewise discards ... physical suicide, because this also, in its ultimate consequence, resolves, dissolves the absurd, implying acceptance. ‘The point is, to die irreconciled and not of one’s own accord.’” – Erich Kahler, The Tower and the Abyss (1957) (emphasis in original) (available free on Google Books).

On the one hand, I have not offered any “transcendent entity” or supreme substances to explain the absurdity of the universe. I have not said this is beyond what is rational to humanity, I have not demanded *sacrificium intellectus* to embrace the idea of a fifth order – I have not said, ‘you just have to believe and it will be true’ nor have I offered any vision or promise of an afterlife – but have instead, reasoned the existence of a fifth order of natural phenomenon, from the *a priori* base of what we knew in the early 20th Century, that is beyond ours, and incommensurable with ours. See Not Quite A Priori, 2 Culture, p. 373, *supra*. But I have cautiously gone a bit past the “pale of this world” and the “scarce certitudes” of Camus.

- ✓ Because of the success of calculus in solving previously impossible problems (see calculus discussion, 1 Entropy, p. 221, *supra*), there seems an idea that a new math will explain quantum phenomenon. In this sense, has math become the “extratemporal essences” (*ut supra*) and the “philosophical suicide” of empirical science? There is a colorable argument in the way that mathematics and math solutions are spoken of in breathless, glowing terms as **the** universal truth and understanding (all others being inferior, fuzzy or untrue because they cannot be mathematically proven); I would not be the first to suggest that math has become the mysticism of science.

“To get from Aristotle to Newton, you have to be able to imagine a world without friction. Luckily, that isn’t so hard; if you’ve ever played air hockey or laced up ice skates, you can vouch for Newton’s first law. But what is the quantum equivalent of an air hockey table – an everyday object that provides us hands-on access to quantum physics? If there is one, I haven’t thought of it.” – Kate Becker, “Is Quantum Intuition Possible?” NOVA, July 28, 2014

When the Thames Froze Over: The “world without friction” turned out to be space; Newton, who lived during the Little Ice Age and whom we believe was never in space, imagined it nonetheless. Maybe he observed ice skating or fell on his butt in the winter (makes more intuitive sense than the falling apple story); the Thames River froze over many times during his life (the Little Ice Age), three times the ice was thick enough that they held a fair on it.

- ✓ Again, I cannot help but to recall the extradimensional toy box from “Mimsy were the Borogoves” (1943) by Lewis Padgett (a pseudonym of American writers Henry Kuttner and C. L. Moore). Science has again caught up to science-fiction imaginations; from the toys in the strange box the children gained an intuitive understanding of another math or physics. This is what Ms. Becker now seeks to intuitively grasp quantum physics.

[Interview] “[Enrico] Fermi would come down in the afternoons, he was busy in the mornings with the more serious affairs of bomb design, but then the HYPO was his plaything, so he would come down after lunch, call us in all around and say ‘what do we do today’? And then he would answer his own question because he knew exactly what he wanted to do. ... It was a very meaningful learning process for me because he had almost phenomenal intuition for what things ought to be. If the answers didn’t come up the way he thought they should be, then he’d patiently go back and repeat the experiment and he was usually right. It was very interesting to work with him.”

– Dr. Schreiber (audio), 1993 Voices of the Manhattan Project by Richard Rhodes

Frame It: It has become increasingly clear (from what I have read) that in the last decades many think the problem with quantum physics is that we may be asking the questions in the wrong frame of reference.

It seems possible, even probable to me that even though the science of quantum physics is that of the first order of natural phenomenon, the quantum understanding may be that it is part of the fifth order of natural phenomenon that we have not yet fully understood or even outlined (and predictably we continue to try to find the answers in the first order sciences). This would explain the frame of reference issue in quantum physics – that physicist are expecting the answer to the quantum riddles to be discoverable in line with existing first order phenomenon knowledge (of which they are the dominant sages in the sacred groves) – and would be possibly a transformative understanding for humanity, the first time we have understood anything beyond ourselves:

- ✓ It is notable that all four of the orders of natural phenomenon identified by Mr. Case fall within the realm of what we know and what was known at the beginning of the

20th Century. Thus, all of the orders of natural phenomenon identified and studied so far, are either ‘below’ ours (in the fact flow sense described above) or are ourselves in the sense of the third and fourth order of natural phenomenon (perhaps this is a bit human-centric? Did Mr. Case replace the geocentric universe with a teleological human-centric universe of four natural orders culminating in us?). If indeed we are currently at the edge of recognizing a fifth order of natural phenomenon, it would be the first time in human history where we recognized a natural order beyond ourselves.

- ✓ If you assume that Mr. Case is ‘correct’ or presents at least a colorable framework (noting that his intent was to define sociology within the spectrum of human knowledge) wouldn’t it be interesting if we had the framework to understand all along, but that it was ignored because the originator was a somewhat obscure early 20th Century sociologist (just as GGDM will be dismissed for much the same sort of reason, in addition to the fact that it’s another silly space game and we prefer looking down instead of up)? What of value does sociology have to say to physics or biology? When sociology was not then considered a science but a philosophy branch (Mr. Case’s introduction provides valuable firsthand historical material) and is barely recognized without ‘sniffiness’ as an equal in the sciences even now?

“Vitalism is the belief that ‘living organisms are fundamentally different from non-living entities because they contain some non-physical element or are governed by different principles than are inanimate things. Where vitalism explicitly invokes a vital principle, that element is often referred to as the ‘vital spark,’ ‘energy’ or ‘élan vital,’ which some equate with the soul.

In the 18th and 19th centuries vitalism was discussed among biologists, between those who felt that the known mechanics of physics would eventually explain the difference between life and non-life and vitalists who argued that the processes of life could not be reduced to a mechanistic process. Some vitalist biologists proposed testable hypotheses meant to show inadequacies with mechanistic explanations, but these experiments failed to provide support for vitalism. Biologists now consider vitalism in this sense to have been refuted by empirical evidence, and hence regard it as a superseded scientific theory.”

– from Wikipedia article, “Vitalism,” citing to [Routledge Encyclopedia of Philosophy](#) and to Elizabeth Ann Williams (2003)

Carbon Chauvinist: Vitalism may have been in the background of Mr. Case’s division of the first and second orders of natural phenomenon, which he called “the inorganic” and “the vital organic” (*ut supra*) – notice the word ‘vital’ – in 1924. However, it was not his purpose in the introduction to a sociology book to argue vitalism or perhaps what is now called abiogenesis, just as I have declared in 1 Fallen to Earth, *infra*, that I am not interested in arguing about whether or not there is a God (i.e. supreme being) because it is irrelevant to my purposes in GGDM. That aside, the divisions of orders of natural phenomenon provided by Mr. Case are intuitive and axiomatic, and can be readily observed and accepted without recourse to arguments about vitalism, souls, animating forces or whatever; anyone can see that there is something different between a living creature and a rock (except in the case of some humans ☺); Star Trek liked living rocks.

- ✓ Violation of the natural boundaries between the living and the non-living, whether it be rocks or corpses, is the bedding on which much of horror is constructed, and occasionally, clever fantasy novel endings.¹⁰

I believe that my first exposure to the term “gestalt” came when I was working on some project at the newly-opened Library Center of Point Park College. I cannot remember what I was doing exactly, but I think I had out a volume of the Encyclopedia of Philosophy. Therein I read an article which contained a short description of a conversation of early 20th Century biologists sitting around a stove. One of them (I remember the name Wolfgang) pointed out that if we had all of the chemicals of the human body, in the correct amounts, we could not either create a human body or create life. The conclusion was that the human body (and life) must be something more than the pile of chemicals that we know it contains; there is something that makes the whole greater than the sum of its parts. I was very impressed with it, it stuck in my mind for over 25 years and probably started my thinking about some of what has been expressed in GGDM.

There is something in life that is not present in rocks and that is so axiomatic that the concept of persona, soul, etc. has sprung from this observation since at least late in the Paleolithic Age. At its root, vitalism is based on a common observation that is deducible from the experience of hundreds of generations of humanity on Earth, it is testable and repeatable, but we cannot make it so any more than we can make an earthquake or hurricane. However, where does one draw the line: Is vitalism or theology a mythopoeic explanation for what is commonly observed, e.g.:

- ✓ “Vitalism is that rejected tradition in biology which proposes that life is sustained and explained by an unmeasurable, intelligent force or energy. The supposed effects of vitalism are the manifestations of life itself, which in turn are the basis for inferring the concept in the first place. This circular reasoning offers pseudo-explanation, and may deceive us into believing we have explained some aspect of biology when in fact we have only labeled our ignorance.” *Id.*, quoting Joseph C. Keating, Jr.¹¹

Or is it simply deducible from what is commonly observed in the same way as an algebraic equation; that is, I saw two drunk men enter the bar just before last call, and ten drunks come out at closing time (and no one else entered or left, and all left at closing time), how many customers must have been in the bar when the last two entered? We have a rock, we have a living person, and we have a dead person; they do not have the same qualities, even if made of the same elements. What does the living person have that the rock never had and that the dead person has lost? There must be something different. Science has had similar problems, to wit:

- ✓ “On the other hand Titchener’s prediction – that, due to this irrelevance, introspective psychology would continue to flourish *alongside* behaviorism – with hindsight, seems a bit laughable itself. As Ryle puts it, ‘the extruded hero,’ consciousness, for scientific purposes, ‘soon came to seem so bloodless and spineless a being that even the opponents of these [behaviorist] theories began to feel shy of imposing heavy burdens upon his spectral shoulders’ (Ryle 1949: 328). Ryle’s countercomplaint still rings true today despite recent attempts to revive consciousness as a subject of serious scientific inquiry ... While it may be urged that the hero was never wholly extruded but has been lurking all along in the caves of psychophysics (e.g., in correlations of physical stimulus variations with *noticed* differences in *sensation*), recent attempts to extend this psychology-as-psychophysics approach beyond psychophysics remain nascent at best.” – Larry Hauser, “Behavioralism,” Internet Encyclopedia of Philosophy article, September 17, 2019 (emphasis in original).

While vitalism has been dismissed as a “superseded scientific theory” (*ut supra*) and has been savagely criticized as unfalsifiable,¹² theological, dogmatic, and pseudoscientific, it still hangs

around in the background because it has long been the assumption of humans that living things have something that makes them different from non-living things (this, long before Christianity), and second, that without achieving abiogenesis even once in the laboratory (and that's a scary thought by itself), the mechanistic side of the argument about the origin of life has also not made its case, has not closed the sale of reductionist physics as the explanation of living organisms. So some form of vitalism (by a different form or name) is still possible, biology is stuck with, and cannot shake off, vitalism at least in a metaphysical sense, and Carl Sagan seems to be addressing that argument in *Cosmos*, Ep. 5, adroitly dancing around it without directly mentioning it:

- ✓ “I am, reluctantly, a self-confessed carbon chauvinist. Carbon is abundant in the *Cosmos*. It makes marvelously complex molecules, good for life. I am also a water chauvinist. Water makes an ideal solvent system for organic chemistry to work in and stays liquid over a wide range of temperatures. ...

I am a collection of water, calcium and organic molecules called Carl Sagan. You are a collection of almost identical molecules with a different collective label. But is that all? Is there nothing in here but molecules? Some people find this idea somehow demeaning to human dignity. For myself, I find it elevating that our universe permits the evolution of molecular machines as intricate and subtle as we. But the essence of life is not so much the atoms and simple molecules that make us up as the way in which they are put together. ...

If we did not know better, we might be tempted to take all the atoms that make us up, mix them together in a big container and stir. We can do this as much as we want. But in the end all we have is a tedious mixture of atoms. ... we could not mix those chemicals together and have a human being emerge from the jar. That is far beyond our capability and will probably be so for a very long period of time.”

Carl Sagan was very probably aware of and well-versed in ‘emergentism’ as a scientific theory, which some shade or lump with biological vitalism. Video is available on YouTube.

“Lead the people with administrative injunctions and put them in their place with penal law, and they will avoid punishments but will be without a sense of shame. Lead them with excellence and put them in their place through roles and rituals, and in addition to developing a sense of shame, they will order themselves harmoniously.”

– Confucius, *Analects II, 3*

“You must rouse into people’s consciousness their own prudence and strength, if you want to raise their character.” – Luc de Clapiers, Marquis de Vauvenargues

Endnotes.

¹ Commentary & Citation: I have attended the Shen Yun show twice in 2016 and 2018. I remember being delighted – it is a fantastically talented act – but I also remember being annoyed at the *dues ex machina*. Other times, I said, that’s how stories were told in that culture, and should be accepted as representative. Some had less kind reactions:

- ✓ “Some people who go to the show complain they didn’t know what they were in for. Because nowhere in the effusive advertisements is it mentioned that Shen Yun has a political bent. Shen Yun translates to ‘divine rhythm,’ and according to the show’s website, the artists who put on Shen Yun practice Falun Gong, also known as Falun Dafa, a belief system that encompasses meditation, tai chi-type exercises, and ‘strict

morality’ (smoking, alcohol, and extramarital or same-sex sexual relations go against the teachings).” – Alix Martichoux, “You’ve seen the ads. But what’s the deal with Shen Yun?” SF Gate, February 6, 2019.

- ✓ “Many people posting reviews on Yelp weren’t as eloquent. ‘Be warned: Religious sermon!’ reads a Yelp review from someone who saw the show in Fresno. ‘I WALKED OUT as soon as anti-evolution statements were made on the screen. False advertising!’ ‘I rate this a Zero star. This show is purely CULT PROPAGANDA. Do not waste your money and time for this,’ said Ron F. from Pittsburg, Calif.” *Id.*, CAPS IN ORIGINAL.
- ✓ “The Chinese government is not a fan either. The practice of Falun Gong is forbidden in China and its members are routinely persecuted. In condemning the ‘so-called ‘Shen Yun’ performance, the embassy’s website calls Falun Gong a ‘...cult that seriously harms the society and violates human rights, and is a cancer in the body of the modern and civilized society.’” *Id.*
- ✓ “The Guardian reports ‘there’s no evidence of the kind of coercive control that the [cult] label suggests.’ Besides, it’s not like the Chinese government has a stellar human rights record. According to Shen Yun’s website, many of the dance company’s members were persecuted and tortured for practicing Falun Gong in China.” *Id.*

² Commentary & Citation: This theme was revisited in The Dark Crystal: Age of Resistance series (2019): Are the Skeksis ‘evil’ because they feed on the essences of other species?

- ✓ Before this, Stargate Atlantis explored the idea via the Wraiths; though natural enemies of everything they can feed on, are they ‘evil’: “The Wraith too feed on humans, treating them akin to livestock and regarding the act of feeding as nothing more than natural predation.” – from Wikipedia article, “Wraith (Stargate).”
- ✓ If the Wraiths are evil because they keep humans as livestock to feed, then the concept of evil is demonstrably a *subjective* human one and *not a universal or objective* concept like the theologians have been arguing for two millennia. To cows and pigs we are evil, but theologians insist that they cannot know that concept.
- ✓ It is thus at the end of the Twilight Zone episode, “To Serve Man” (1962), Chambers looks into the camera and asks: “How about you? You still on Earth, or on the ship with me? Really doesn’t make very much difference, because sooner or later, all of us will be on the menu... all of us.”

³ Commentary & Citation: Here is the odd thing. Although Joseph Lancaster and his system publicly rejected corporal punishment of students (however, it was learned later that Joseph Lancaster secretly beat several boys), apparently the practitioners became quite creative in finding new punishments. Thus, freed from the non-thinking traditional, accepted school punishment, they devised new punishments that may have been worse:

- ✓ “The poet Robert Southey noted that, despite his opposition to corporal punishment, he would rather be beaten than subjected to Lancasterian discipline” (Wikipedia, *ut infra*).

Information from Wikipedia article, “Joseph Lancaster,” May 31, 2019, some citing to Pen Vogler: “The Poor Child’s Friend,” History Today, February 2015, pp. 4-5, free at <https://www.historytoday.com/poor-child's-friend>.

- ✓ Whether it is true or not, whether or not there is evidence that he beat several boys for amusement, the fact that it is repeated in publication now speaks to the public perception of the Lancasterian system. I would assume that Ms. Vogler had sufficient sources to make that scandalous claim. The utilitarian-based Lancasterian system certainly had enemies and rivals who may have published such claims at the time, contrast for example, with the concurrent Swiss Romanticism inspired system of Johann Heinrich Pestalozzi: Mexico replaced the Lancasterian system in 1890 with the Pestalozzian system of education.

This educational discipline, especially methods of peer humiliation, and English class division conformity, along with overbearing post-WWII parenting, through the eyes of a child, is reflected in Pink Floyd’s The Wall (1979).

- ✓ See context discussion, Wall of Understanding, 2 Dreamtime, p. 152, *supra*.
- ✓ The military, who still uses a Lancastrian system in basic training of recruits has slowly eliminated corporal punishment, but has substituted other creative punishments in boot camp (e.g., the sand pit, or holding out your rifle or canteens at arms-length for extended periods of time, peer humiliation, physical exertion on the ‘quarterdeck’ and of course, the classic “do pushups until I get tired of watching you”).
 - See Gradgrind discussion, 1 Colleges, p. 463, *supra*.

⁴ Commentary: The problem with Ma Barker is this: Despite the fact that the FBI tried to frame her as a criminal mastermind of the gang, which she very likely was not, to justify her death during the final shootout, she is not a sympathetic character or innocent bystander: Her sons were thugs, kidnappers, thieves, and murderers, and whatever blame attaches to a parent for the actions of their adult children after they are loosed upon the world, attaches

1 Order – Entropy & Evolution

especially to her; additionally, she probably knew some of what they had done, probably consciously provided social cover for them, and benefited from it, at the very same time that she was also hostage to the situation she helped create. She may also have been aware or suspected that her sons and their accomplices killed her live-in lover.

- ✓ As to who killed Ma Barker, we will never know because the forensic evidence was not preserved or analyzed as we do now; so a historical drama writer can make whatever ending is suitable; there are two branches, either she fired at the FBI from a window or she didn't, and either she was shot by the FBI or she was shot by her son for bringing the FBI to the house or to avoid capture.

⁵ Commentary: If you wanted to create a truly 'evil' alien intelligence, this is your framework. This describes fairly well the 'bad guys' in almost every work of fiction and history. What was the thought process of each *individual* Mongol warrior or Crusader when they were massacring, torturing, raping people and burning and pillaging cities?

⁶ Commentary & Citation: In The BeastMaster television series, the Sorceress turned the Beast Master's two ferret pets into humans so that she could interrogate them. All they wanted to do was look for food, and they kept talking about looking for food, she didn't get much out of them because they didn't know anything but looking for food. In the animated movie Ice Age 2 (2006), they made the mistake of asking what vultures think about...

⁷ Citation: See 2 Culture, EN 10, pp. 376-377, *supra*, for full quote.

⁸ Citation: Merriam-Webster online dictionary does not have an entry for "noogenesis" but does have an entry for the related term, "noosphere" (first use, 1930). However, Wikipedia has an article on the subject, which states, "Noogenesis was first mentioned in the posthumously published in 1955 book The Phenomenon of Man by Pierre Teilhard de Chardin, an anthropologist and philosopher, in a few places," followed by a paragraph from the book. Pierre Teilhard de Chardin also invented the term noosphere which, according to Wikipedia article "Noosphere," was published in his 1922 book Cosmogogenesis (meaning that Merriam-Webster is wrong on the first use).

- ✓ All of this traces back to a Soviet mineralogist and geochemist, Vladimir Vernadsky, who was born and raised in the Russian Empire of the late 19th Century (d. 1945), and likely was exposed to Russian Cosmism of that time. He in turn, popularized in his 1926 book, the term "biosphere," coined by the English-Austrian (Saxon) geologist of the Alps, Eduard Suess in 1885.

⁹ Commentary: Sometimes, I get the feeling of a circle closing, of things 'coming round'; the title of this work has not changed since 2006-2007 (about 13 years now) and that was only to add the second part, Day Million to Gestalt Genesis (I remember a specific conversation related to this). Gestalt Genesis has been in the title since about the turn of the millennia, about 18-19 years as of 2019. The preceding section was not written to provide justification for the title, I was simply following the logic process of the argument. It just happened to work out cutesy. I am not playing any drama game, but perhaps humans have a "weird circle fixation" (Steven Strogatz, "Why Pi Matters," excerpt, The Big Bang, *supra*), a 'pre-destiny' or 'predilection' to seeing circles connecting our lives, and sometimes (like conspiracy theories), it is actually true. Is drama imitating life or imitating how we think life is?

- ✓ It has been about 30 years, give or take a year, since I rescued the Clarence Marsh Case book from the garbage pile in the rain in the alley behind the museum; I believe I might have read the intro or parts of it, sometime in the past, but the orders of natural phenomena didn't click with me until much later. From there, exposure to genesis studies terminology via the internet in 2017-2019 synthesized the argument.
- ✓ Without the book dating from 1924, I may never have heard of the 'order of natural phenomena' as the idea does not seem to be on the internet currently and I have not seen it elsewhere in any book. Matter-of-factly stated, that is all that can be said, the rest is an interpretation.

¹⁰ Commentary: The cleverest use of the dead in fantasy – sorry Mr. Tolkien – was Stephen R. Donaldson's Second Chronicles of Thomas Covenant. Because Lord Foul had tricked Covenant (or maybe Covenant is just a fool) into breaking the barrier between the living and the dead by calling forth a long-dead, ancient hero, Lord Foul was unable to kill Thomas Covenant in the end (White Gold Wielder, (1983)). By comparison, Tolkien's Army of the Dead arriving just in time at the Battle of Plennor Fields (at least in the movie) where they swept over the bad guys feels a bit contrived, if naturally satisfactory as an ending to the dramatic battle.

¹¹ Citation: The Wikipedia article cites to: Keating, Joseph C. (2002), "The Meanings of Innate," The Journal of the Canadian Chiropractic Association, 46 (1): 4–10, PMC 2505097.

¹² Commentary & Citation: However, falsifiability is very slowly losing ground in science, see FOURTH DEGREE OF SEPARATION, 3 Fallen to Earth, p. 1543-1544, *infra*. What does this mean for vitalism? For GGDM?

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See Appendix ORD – Conversion & Pacification Examples

“To rule means to exercise power, and only he who possesses power can exercise it. This direct connection of power and rule forms the fundamental truth of all politics and the key to all history.” – Ludwig August von Rochau

Ambient Noise: Those who are powerless (or feel they are) are just griping cynically in the background of our civilization. The extent to which this is true and the form(s) it takes (e.g., agitation, inactive Constructural Elements in GGDM) is the measure of political stability.¹

Capital Colony: Each position which owns any colonized planet must have a capital. The Homeworld or a starting colony, or the first planet colonized by the position in the game automatically becomes the position’s Capital Colony; no Power activation is required. The capital is the source of remote authority, it is the central seat of the government, the administrative center, it is part of the identity of the population, and the emotional heart of the civilization.

- ✓ A Capital Colony is not a ‘specialized colony’ (see 4 Expansion, p. 925, *infra*) and a colony hosting the Capital receives no particular benefit; it does not require a Writ.
- ✓ A Homeworld has no distinction in game terms, it is considered a colonized planet. Thus positions that begin with a Homeworld must have it as their Capital Colony.

The first colony founded by Invader Primal State positions **must be** accompanied by a News Event declaring the location and Capital Colony status of the first colony. The Capital Colony of Homeworld and Lost Colony Primal States is already known at the beginning of the game, Outposters must announce their Capital Colony before the game begins.

Does the Capital Colony have a capital city? The game does not look at planetary surface details, but it should not be assumed that all Capital Colonies are like Isaac Asimov’s Trantor.

- **Capital Punishment:** The existence of a Capital Colony for each position is the normal assumption underlying the rules of this game. There is no extra benefit to having a Capital Colony, but that it allows positions to efficiently activate powers and direct the activities which are the result of the position’s Power Activations each turn (and do the things positions do in the game). On that basis then, it is the loss of the Capital Colony to conquest or destruction that has a special effect on the position: The loss of the Capital Colony results *in the disruption of the position’s Structural Government Title* (see World Powers Fall, 3 Government Titles, p. 616 and A House Divided, 5 Government Titles, p. 637, *infra*) and the position will also lose Acts or Scenes on the next turns as a result of government disruptions. Finally, an Intervention Potential Plus will be generated due to the disruption in the administration and centralized control from the conquest or destruction of the Capital Colony.

An IP+ (Intervention Potential Plus) *is not* generated for disruption of a Structural Government Title, which has no Conflict Checks, it is not considered a Disruption Event at a colony and cannot affect Constructural Elements, see Rousing the Rabble, 2 Disruption, p. 271, *supra*. So the loss of the Capital Colony will only generate one IP+ unless it also causes an Estate or Social Government Title to become disrupted at the end of the Regular Turn.

- **Fist Fights in Parliament:** As mentioned in 2 Constructural Elements, the *Capital Status* of the Capital Colony is disrupted if the Symbolic Constructural Element on the colony is inactivated for any reason. This *does not mean* that the colony ceases to be a Capital Colony or that the position does not have a Capital Colony. Rather, the symbolic image of the Capital

Colony is tarnished, loses prestige, or disputed such that, in addition to the inhibitions that accompany an inactive symbolic Constructural Element (for example, if Diplomatic Spaces were attached to the Capital Colony), one Intervention Potential Plus is generated each turn the Symbolic Constructural Element is inactive at the Capital Colony. A Special Bulletin may also be published, at the discretion of the Concierge, relating to the image problems.²

- ✓ This rule only applies to Capital Colonies; no other colony's political status is affected by whether or not the Symbolic Constructural Element is inactive.
 - ✓ Disruption of the *Capital Status* of the Capital Colony does not cause the Structural Government Title to be disrupted, because it is still a Capital Colony.
- Capitol Declaration: Each position may only have one Capital Colony at any time. A position would only need to declare a Capital Colony if the previous one is lost to conquest or destruction. A new Capital Colony must be declared on the Regular Turn following the loss of the old Capital Colony. There are two ways that a new Capital Colony can be declared:
- ✓ The first, preferable way, would be by an activation of the Order Power for that purpose, which must be accompanied by a News Event announcing the location of the new Capital Colony. By activating the Order Power, the position may choose the location of the new Capital Colony and avoid additional entropy.
 - ✓ If the position does not have enough Acts and Scenes to activate the Order Power, or chooses not to do so (the position is not required to do this *even if it can*), then the Concierge will choose and declare a new Capital Colony for the position, generate the News Event (as a Special Bulletin), and act pursuant to *Gone with the Wind*, 1 Government Titles, p. 582, *infra*, to restore the position's disrupted Structural Government Title. The Concierge will not provide an advance consultation on where he might place the Capital Colony if the position chooses not to do it, or what might happen as a result.

The baseline rule is 'one Capital Colony at a time.' This is largely for game convenience and sanity. History certainly suggests that in some cases, e.g., Rome and Constantinople, a polity might have two capitals. We all know how that worked out. But it might be possible by use of Writs in GGDM for a very large position to have two Capital Colonies; it might also help to avoid extinction, as Constantinople outlasted Rome by a millennia.

- Inside the Hyperspace Bypass: A position may choose to voluntarily move their Capital Colony during any Regular Turn by activating the Order Power for that purpose, and issuing a News Event declaring the move and the name *and political status* of the new Capital Colony. While the loss of the Capital Colony has dire consequences, moving the Capital Colony does not always have to be in response to military threat; clever players may find a way to make the movement of the Capital Colony a beneficial event.
- ✓ In addition to the activation cost of the Order Power to move the Capital Colony, the movement also costs 10 RPs from the Treasury.
 - ✓ Finally, the Capital Colony is not moved on the Regular Turn the movement is declared, but instead, the colony designated as the new Capital Colony gains that status on the following Regular Turn Cycle (even if the position submits no Actions, no Order Power activation is required to complete the process).

Voluntary movement of the Capital Colony does not require movement of populations between the old and new Capital Colonies (though the Concierge may reject the target colony due to ineligibility, below, and either cancel the move or choose a new Capital Colony).

- ✓ Rome was not the capital of the Roman Empire from the 3rd Century A.D. Milan and Ravenna in northern Italy were the last two capitals of the Western Roman Empire (after Rome became indefensible), and Constantinople was made the capital of the Eastern Roman or Byzantine Empire. The places that became later capitals of the Roman entities quickly grew in size, wealth, and importance, and later served as natural capital cities of other states (and religious and cultural centers) after the Romans.
- ✓ The Persian Empire had several palaces: Darius I built two massive palaces and frequently traveled through the empire, visiting local satraps or leading armies on campaigns. His personal guard, officials, supplies and servants formed a massive caravan. Although expensive, there were some political, military and administrative benefits to this arrangement, and the Persian Empire could easily afford the cost.

Though the Capital status of a colony is not technically an installation or enhancement, in some senses it can be treated as such, for example, that there is a Capitol sector on the colony planet which houses the buildings of government and probably a lot of secret stuff and very expensive equipment. Thus, it is then a target in Special Operations Black-ops (see 2 Special Operations, p. 1297 *et seq.*, *infra*) or Raids (see World in Flames, 4 Carriers & Fighters, p. 1083, *infra*) or Ground Combat (see 4 Combat generally), *infra*, which may be attacked and/or screened or protected as a target.

This process is designed to avoid disruption of the Structural Government Title due to not having a Capital Colony; when this process is followed, the position is not without a Capital Colony.

- ✓ “Although The Hitchhiker’s Guide fails to say whether Alpha Centauri’s planners used cost benefit analysis, they must have done. In all other respects, the practices of the Alpha Centauri planners and their earthling counterparts are identical. Throughout the Galaxy, it seems planners react to protesters in the path of their projects with the same dismissive irritation. Before energising the beams that vaporised Earth, the head of Vogon Constructor Fleet explained that: ‘all the planning charts and demolition orders have been on display in your local planning department in Alpha Centauri for fifty of your Earth years, so you’ve had plenty of time to lodge any formal complaint and it’s too late to start making a fuss about it now.’” – John Adams, “Vogon economics and the hyperspace by-pass – John Adams on a debate in which scientific uncertainty is being transformed into economic farce,” *New Scientist*, September 18, 1993 (reference to Douglas Adams’ Hitchhiker’s Guide to the Galaxy (1979)).
- Capital Eligibility: In any instance where the Capital Colony is either voluntarily or involuntarily moved, the new Capital Colony must be placed on a Friendly Colony within two turns’ ship movement of the old/current Capital Colony and the new Capital Colony must be connected so that it meets the requirements of the position’s Structural Government Title.
 - ✓ If there are no Friendly colonies available, then it may be placed on a Naturalized Colony, and if none are available, then it may be placed on a Converted Colony. As an absolute last resort, a Conquered Colony may serve as a Capital Colony.

- ✓ If the Capital Colony is not located on a Friendly or Naturalized Colony, then it must be moved to one as soon as one becomes available within two turns' movement range of the current colony.
- ✓ Placing the Capital Colony on a Conquered or Converted colony does not change the political status of the colony (*ut infra*).
- ✓ A Capital Colony is lost if located on a Conquered or Converted Colony that reverts.
 - See All Roads Lead To, 2 Government Titles, p. 595 *et seq.*, *infra*. As explained generally in the Government Titles rules, new Pathways will need to be formed on the Public Space, which may displace or cause loss of other objects and formations on the Public Space, so as to properly connect the new Capital Colony to the Government Titles.

There are no minimum population requirements for a colony to become a Capital Colony. Game mechanically, this is intended to insure ease of finding a new Capital Colony (and thus is a concession to playability); the only requirement is eligibility based on political status of the target colony. Realistically, consider that the number of people who live in most modern capitals and work in the national government offices there, is small in relation to the total population (e.g., about 250,000 or 7.56% of US government employees work in Washington, D.C. according to the city's Obama-era employment guide out of 300M U.S. population).

- Capitol Ships: GGDM makes no provisions for use of any sort of ship as the Capital of the position. It is not expressly disallowed, however, and may properly occur in the game possibly with the use of a Writ, one of the main issues being the required Pathways connecting the Capital to the Government Titles on the Public Space. Occasionally ships act as Capitals in space-opera fiction, in extreme circumstances, such as when a position has no ground colonies remaining (as in *Battlestar Galactica*). The space-adapted bioroid Abh race in *Crest of the Stars* and *Banner of the Stars* anime series, maintain an (apparently) immobile Imperial Palace in interstellar space which has grown into a vast fortified hub city (similar to The Colony in the later reimagined *Battlestar Galactica* series).
 - ✓ Even in science-fiction film where the sovereign person or group is shown on a ship, such as the Emperor on the Death Star in *Star Wars*, or the Minbari Gray Council on the dreadnought moving to First Contact with humanity, the position still has a large, urbanized Capital Colony on a planet (e.g., Coruscant in *Star Wars*), usually a Homeworld (e.g., Minbar in *Babylon 5*). The drawbacks to using a ship as the Capital of a position are obvious; as Robert Heinlein said in 1940, "Blowups Happen."
 - ✓ I do not believe it has ever occurred historically to any sovereign, though it is possible that it occurred in situations such as Ching Shih (the 'Pirate Queen') or William II de La Marck (admiral of the Sea Beggars) where a large non-sovereign or nationalist political organization was commanded from ship.
- General Howe in Philadelphia: If the original Capital Colony is conquered or destroyed before the transfer at the end of the Regular Turn, the position will not have a Capital Colony at the end of the Regular Turn, and the Structural Title will automatically be Disrupted, and then restored at the end of the next turn if the new Capital Colony survives.
 - ✓ If the movement of the Capital Colony is in progress, and the colony designated as the new Capital Colony is captured or destroyed before it becomes the Capital Col-

- ony, the movement of the Capital Colony is cancelled, and the old Capital Colony remains the Capital Colony. The 10 RPs are always subtracted from the Treasury in any case. A News Event will be required to announce the cancellation.
- ✓ If the movement of the Capital Colony is in progress and both the old Capital Colony and the colony designated as the new Capital Colony are captured or destroyed at the same time – well, do you still deny the universe is conspiring against you? – the position will obviously suffer the effects of being without a Capital Colony.
 - ✓ [Interview] “What is left for the Confederacy once they have lost Atlanta and Richmond, and Mobile, Alabama, and Nashville, Tennessee? What is left for the Confederacy? You can move the capital wherever you like. If the economic heart of the Confederacy is gone, then all you become is a rabble of rebels. So, once the 1864 election is over, Lincoln is still in power. Lincoln is determined to prosecute the war, and there is nothing that Robert Lee can do to win.” – Dr. Aryeh Nusbacher (Instructor at Sandhurst), Under Siege television series, Episode 3 (documentary, 2008).
 - This is a great example of the interaction of politics (the 1864 election) and military situation (the siege of St. Petersburg and Richmond).

“There are alligators in the swamp who are more mannerly than a few members of the criminal defense bar in Chicago.” – Scott Turow, One L (1977)

Moving the Swamp: Imagine that a President-elect who was born, raised, and lives in Chicago refused to move into residence at the White House. Despite the immeasurable symbolic power and convenience of being *the* resident of the White House, and intensely indignant media backlash, the President remains at his Chicago residence during the term in office, surrounded by extended family, friends, and loyal locals, and an army of Secret Service agents, arguing that Chicago is more representative of the United States than Washington, D.C., and more centrally located.

The most famous example of this type of situation is the 67-year period of the Avignon Papacy, where *seven French Popes* held court at the papal enclave of Avignon, France from 1309 to 1376, refusing to move to Rome.

But there is a stark difference between the two situations: The Pope is a monarch and his capital is wherever he holds court; whereas, only Congress can declare the capital of the United States and thus Chicago does not become the Capital of the United States by virtue of the residency of the President.

- **Capitalizing:** I seem to have acquired a habit of Capitalizing certain terms in GGDM (e.g. Original Populations, Colleges, Fundamental Realities, Concierge, Existential Void, etc.) as if to give them extra or official effect. Whatever the purpose of Capitalization (i.e. imposition of inequality, see Symbolic Constructural Element, 1 Constructural Elements, pp. 176-177, *supra*), it is quite likely that ggdm would be just as well without it. But I still want (as in mental comfort) to Capitalize game terms because I have been trained to think it Emphasizes their Importance:

- ✓ “[John] Hart recommended his readers to use a capital letter at the beginning of every sentence, proper name, and important common noun. By the 17th century, the practice had extended to titles (*Sir, Lady*), forms of address (*Father, Mistris*), and personified nouns (*Nature*). Emphasized words and phrases would also attract a capital. By the beginning of the 18th century, the influence of Continental books had caused this practice to be extended still further (e.g., to the names of the branches of knowledge), and it was not long before some writers began using a capital for any noun that they felt to be important. Books appeared in which all or most nouns were given an initial capital (as is done systematically in modern German) – perhaps for aesthetic reasons, or perhaps because printers were uncertain about which nouns to capitalize, and so capitalized them all.” – David Crystal, The Cambridge Encyclopedia of the English Language (1995), p. 67.³

✓ See also *Metaphysics of Presence*, 1 The Streams of Time, p. 74, *supra*.

The hollowness of this is revealed by the following admonishment from a federal judge:

- ✓ “Defendant ... is apparently a member of a group loosely styled ‘sovereign citizens.’ The Court has deduced this from a number of Defendant’s peculiar habits. First ... sovereign citizens are fascinated by capitalization. They appear to believe that capitalizing names have some sort of legal effect.... [Defendant] appears to believe that by capitalizing ‘United States,’ he is referring to a different entity than the federal government. For better or for worse, it’s the same country... The Court, therefore, feels some measure of responsibility to inform Defendant that all the fancy legal-sounding things he has read on the internet are make-believe ...”⁴

In fairness, the Court’s admonishment in this case was in regards to using ALL CAPS for certain words in legal pleadings, e.g., UNITED STATES instead of United States, as if they were different things, as if one was legitimate and the other, to which the Court belonged, was not. At least I haven’t done that yet. Yet.☺

“Beware, lest in your anxiety to avoid war, you obtain a master.”

– Demosthenes

Glorious Revolution: What is the difference between an invasion and a foreign coup? When was the last time England was invaded? The traditional answer is always 1066 A.D., the year of the Norman invasion by William I.

However, in 1688 the Protestant stadholder of the Netherlands, Prince William of Orange sailed a Dutch fleet to England (*after* receiving an invitation and assurances from dissident elements) with an expeditionary force (i.e. invasion) of 463 ships and 40,000 men (of which 15,000 were land troops), and assumed the throne of England as William III, unseating his *father-in-law*, the Catholic King James II, the brother of Charles II, who was restored after Oliver Cromwell died and his son abdicated. William III’s efforts – The Glorious Revolution of 1688 – were assisted by high level defections from James II’s court – especially Lord Churchill and James II’s own daughter, Anne, who later became Queen of England in 1702 after William III died, and Queen of Great Britain in 1707 after the Acts of Union (possibly related to the failure of the Darien Scheme discussed in 4 Taxation & Census, p. 329, *supra*, and 3 Expansion, p. 911, *infra*).

- ✓ Queen Anne died in 1714, having outlived all of her three children (plus five stillborn and seven miscarriages), and by the Parliamentary Act of Settlement of 1701, German-speaking George, Prince-Elector of Hanover, was crowned George I, King of England.
- ✓ The point of the Glorious Revolution was that for the first time in history, Parliament decided who would be the next monarch of England. George of Hanover agreed that British troops would not be used in conflicts or dynastic disputes involving Hanover. England and Hanover had to be ruled as separate sovereigns by the same person.
- ✓ As a result of dynastic marriages and religious conflict, England (and Great Britain) did not have a native monarch – some didn't speak English – after 1688. There were protests about George's coronation in 1714-1715, much of it associated with Henry Sacheverell, the firebrand High Anglican priest and darling of the Tories, whose lavishly fêted progress through England led in part to the Riot Act of 1714.

“The heaviest penalty for declining to rule is to be ruled by someone inferior to yourself.” – Plato, The Republic (381 B.C.)

Choosing Not to Vote: Similarly in choosing not to vote, one has chosen to let others choose for them. There is a cost even to *the third alternative*, avoiding voting either for the lesser evil or the greater good by not voting.

- ✓ ‘Not to speak is to speak. Not to act is to act’ – quote of unknown origin frequently misattributed to Dietrich Bonhoeffer on Twitter and the internet. But still true.⁵ And it certainly seems like something he might have said if he'd thought of it.

Each time you choose not to vote, you make the votes of all those who did incrementally more powerful and influential on the outcome. If there are five voters, each has a 20% say in the outcome, but if one doesn't vote, each of the remaining four voters has a 25% say in the outcome. You are helping those whom you might disagree with get their way in the election. If there are three candidates, one of whom you dislike, that candidate wins with two votes of only four voted if the other two voted for the other two candidates. Whereas if you had voted for your candidate, it would have at least been a tie if the other voter didn't switch his vote.

- ✓ This issue in GGDM directly relates to end game procedures, see It was the End of History, 1 Resolution, p. 1456, *infra*.

Colony Politics: Colonies have four possible *political status* which govern their relationships. Colonies can be Friendly, Conquered, Converted, or Naturalized.

- **Identity Politics:** This is the area of identity politics; *us and them*, stories and circumstances can develop where some factions of the population could be more friendly and loyal to aliens, or to alien ideals, than they are to their own government. But in most cases, it can be assumed that populations prefer the company of their own kind and to be ruled by their own government, even if they radically oppose those currently holding power or yearn for independence from the interstellar or planetary governments.
 - ✓ “Perhaps it is time that we start to look to politics with a new approach. What did we learn from the last few years' elections? That people are aligning themselves under a new paradigm, which is not political in the sense we have used until now: it is called

IDENTITY. Voters now elect those with whom they identify, and support them because in fact they defend their identity, no matter what. They do not listen to contradictory information, which they dismiss as ‘fake news.’” – Robert Savio, “The Unnoticed Demise of Democracy,” Inter Press Service (IPS) News Agency, July 24, 2017 (emphasis in original).

- Friendly Colony: Friendly colonies are colonies composed of their owner’s Native Population Type, descended from the Original Populations. Friendly colonies are assumed to be completely loyal *for game purposes*,⁶ support the operation of fleets, and produce and grow at full potential, and may also be the site of Colleges and Institutes.
- Conquered Colony: When a Colony and/or Ground Combat ends with the surrender of the colony, the colony has no choice but to hope for the best.⁷ At that point, the colony becomes a Conquered Colony controlled by the attacker and passes to their possession; the former owner exerts no control over the colony and *may not exercise Taxation or Census Powers*.
 - ✓ See Over My Dead Body, 5 Combat, p. 1011, *infra*, for colony surrender discussion.
 - ✓ The newly Conquered Colony is removed from its previous owner’s Public Space and placed on the new ruler’s Public Space and connected subject to the Structural Government Title requirements.

The Monad occupied by the colony is not transferred with the colony (see Monad Imperialism, 3 Order, p. 561, *infra*), it remains available (but now unoccupied) in the original owner’s Public Space. Thus, conquest of colonies is *not* a means to expand the conqueror’s Public Space, but rather, will serve to fill the conqueror’s Public Space with **alien colonies** while expanding their sphere or footprint in Galactic Space. However, see Alienation and Alien Nation, 3 Order, pp. 560-561, and In Spite of Ourselves, 4 Order, p. 574, *infra*.
 - ✓ A Conquered Colony is *not* a Friendly Colony for the new owner and may not be used to support fleets (see Supporting Colony, 1 Movement, p. 840, *infra*) and may not be taxed (see The Taxman Cometh, 2 Taxation & Census, p. 306, *supra*) but may be Looted (see 3 Commerce, p. 1210, *infra*).
 - ✓ Further, the Conquered Colony will instantly *revert* to the control of the *owner of the Native Population Type* of the colony at any time the conqueror has no warships remaining in the system, or ground troops on the colony, regardless of whether or not the previous owner was the position representing the Native Population Type of the colony. However, if the colony was Naturalized by its previous owner, *it may first revert automatically to the previous owner and not to the owner of the colony’s Native Population Type* (this is a political situation on the ground subject to possible Concierge Interventions). The Concierge will make an of-the-moment judgment.
- Converted Colony: The Germans were welcomed as liberators by Ukrainian nationalists, the Japanese were similarly welcomed in French Indochina. For a month. The hopes of the French Revolution were carried to the subject masses across Europe on the point of bayonets:
 - ✓ “‘We come to give you liberty and equality,’ growled old Marshal Lefebre in a Franconian town. ‘But don’t lose your heads about it – the first person who stirs without my permission will be shot!’” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 509.

Although the Philippines eventually were granted independence, the United States was not a great custodian; we did a lot of damage in the meantime, and it was not lost on intellectuals or the public that in 1899 we had put ourselves in the same position as the hated British in 1775. And for the Philippine Republic, they had simply traded the Spanish yoke for the American yoke. It was thus that by stages in 1902, 1916, and 1934, Congress passed legislation granting the Philippines increasing autonomy and a timeline to independence.

- ✓ Although the Okinawans have long resented Japanese rule, the United States was not welcomed as liberators. They would like us to leave too.

In order to make a Conquered Colony productive, it must be pacified, order must be restored, and the colony must be brought into the conqueror's economic system.⁸ This is the process called Conversion ('annexation without representation'), and there are two ways to convert a conquered colony, the long way and the short way:

- ✓ The short way is by either Orbital Bombardment or Pacification Combat (see Making War for Peace, 6 Combat, p. 1020, *infra*), both lasting one Combat Round, following the conquest of the colony, and will result in damage to the colony and the planet.
- ✓ The long way requires activation of the Order Power to attempt Conversion.

A Converted Colony will produce resources during Taxation by the new owner, will support the Operational Flight or Supply of fleets, and may build and do everything a Friendly Colony can, but the populations on Converted Colonies *do not grow* when the new owner's Census Power is activated and it will revert in the same manner as a Conquered Colony any time that the owner does not have a warship in the system and/or ground troops on the colony.

- ✓ Conversion also happens to be – not coincidentally – a legal term for certain similar acts that commonly amount to stealing. As used in this game, 'Conversion' of a colony refers mainly to the problematical transfer of acceptance of legitimate authority over a colony and/or transfer of acceptance of remote authority by the colony government and/or population. It is used mainly in the Roman Empire sense of obtaining long-term legitimate authority of conquered areas, while leaving local beliefs intact.
 - ✓ The term, as used in this game, also refers in part to the legal definition of civil conversion, which is a voluntary possession by one person inconsistent with the ownership rights of another. Conversion of a colony may also, but does not necessarily, imply forced religious conversion, forced change of social beliefs and morals, forced rearrangement of social and political structures, suppression of insurgencies, predatory business practices, enslavement of all or part of the population, winning hearts and minds, and/or co-opting and enrichment of local magnates depending on the story.
- Naturalized Colony: Sometimes called a 'domesticated pet colony,' the Naturalized Colony is a Converted Colony that has been in the possession of its current owner so long that it becomes completely friendly (or *mostly harmless*) and culturally corrupted (well, that's one side anyway) so that the colony becomes in all ways equal to a Friendly Colony, meaning that the population will grow during Census, it will produce Taxation and support the Operational Flight or Supply Limits of starships, and it does not require a warship or Ground Units present to insure loyalty. The only difference remaining between the Naturalized Colony and the Friendly Colony is the Native Population Type of the colony. A Naturalized Colony that is subsequently captured by any other player, including the owner of its Native Population

Type, becomes a Conquered Colony again, but if the owner for whom it was *last* Naturalized recaptures the colony, it immediately reverts to being a Naturalized Colony for that position.

- ✓ Fido (Latin, *to trust, believe, confide in*) as a generic, symbolic dog name originates as the name of Abe Lincoln's favorite dog. Fido was the first presidential dog to be photographed, but had to remain in Springfield, IL when Mr. Lincoln moved to the Whitehouse. Fido was killed by a knife-wielding drunk man in 1866, the year following the assassination of President Lincoln. Though few have ever known a dog named Fido, the national attachment to President Lincoln's legacy made the dog name symbolic of him. Information from Stanley Coren, "Why Are Dogs So Frequently Called 'Fido'?" Psychology Today, October 12, 2011.
- **Balkanized Colony Planets:** For the purposes of the political status of Balkanized Colonies, each population type present on the planet is treated as a separate colony (even if the assumption is that the populations are intermingled). Thus, one part of the population might be a Friendly Colony while the remaining population constitutes a Conquered Colony.

This is far from unheard of in human history; consider the Jewish Ghettos of European cities, or Greek and Turkish sections of Cyprus, the Gaza Strip, or any form of segregated housing, employment, education, or areas designed to gain the skill and work value of minority populations while keeping them socially and physically separated from the majority and inferior.
- **Pilgrimage to Earth:** A Homeworld has no special game qualities or distinctions merely from being a Homeworld (other than sentimentality). A captured/conquered Homeworld becomes a Conquered Colony for the conqueror and is treated as a colony for all subsequent purposes.
 - ✓ "Of course! Earth is old, her minerals are gone and her fields are barren. Her colonies are independent now, and filled with sober folk such as yourselves, who want value for their goods. So what else can old Earth deal in, except the non-essentials that make life worth living?" – Robert Sheckley, "Pilgrimage to Earth" (1957).

Governor Tarkin: *The Imperial Senate will no longer be of any concern to us. I have just received word that the Emperor has dissolved the council permanently. The last remnants of the Old Republic have been swept away forever.*

General Tagge: *But that's impossible! How will the Emperor maintain control without the bureaucracy?*

Governor Tarkin: *The regional governors now have direct control over their territories. Fear will keep the local systems in line. Fear of this battle station.*

– Star Wars, Episode IV, A New Hope (aka Star Wars, 1977)

Green Zone: The GGDM rules make the assumption – for game convenience – that fear of the return of conquering warships, orbital bombardment, and other reprisals, will be and are overcome by courage and the desire for freedom, thus allowing unguarded subjugated colonies to revert automatically.

Whether or not something like the Tarkin Doctrine might eventually keep Conquered or Converted Colonies from automatically reverting is a matter for the game story arc and the position players; it is not an assumption made in the game rules. Certainly, however, if the subjugated

colonies are to be kept in line by fear of planetary destruction, the conqueror will not keep Ground Units, or anything valuable, on the planet that might need to be destroyed.⁹

There is no set threshold for the size of the Ground Unit required to hold a Conquered or Converted Colony from reverting if no warships are present in the system. This is a gray area that could contemplate many factors, such as the hostility of the population (e.g., Insurgency levels resulting from Pacification Combat, see Fabrication of Order, 6 Combat, p. 1022, *infra*) and hostility of the Habitability Class of the planet to the occupying troops, the nature of the conquered native population type (culture and Fundamental Realities), time elapsed since conquest, actions of the conqueror, and so on.

It is certain that a small Ground Unit is more in danger of losing control of a colony than a larger one, and population to Ground Unit ratio is a good measure. Historically, occupiers who have lost control of a population are often buttoned up and hold out in a fortified area (such as a prison or cathedral) to await reinforcements or relief; in GGDM terms, this might mean the colony is liberated but the occupiers hold out in a Ground Base.

This is, as many others, an area more suitable for Special Operations Black-ops by positions, and Interventions by the Concierge.

- Asymmetric Conflict: At several points throughout GGDM, the idea is floated of possible revolts of colonies – mostly Conquered or Converted Colonies, sometimes Naturalized Colonies, and it is even possible (participants should not forget) that Friendly colonies may revolt if the story is ripe for it. All such situations, including insurgencies and partisan or guerrilla warfare against occupying forces (e.g., the French forces in Mexico or the French forces in the Papal States and Rome during the Second Republic and Second Empire), are asymmetric conflicts. This is a discussion which has come to the public consciousness due to U.S. Forces in Iraq and Afghanistan, but there are many other modern examples, such as the Viet Cong, FARQ, the IRA, the PLO, etc. Terrorism is the late 20th Century asymmetric conflict.
 - ✓ Not all insurgencies are effective, some turn out to be mere propaganda, e.g., *Werwolf* in Allied-occupied Germany in 1945 created far more fear than actual results.

The following The Network University should serve as a good primer for GGDM play:

- ✓ “So far we have been considering conflicts of interest between relatively similar parties. These are examples of symmetric conflicts (i.e. conflicts between parties with more or less equal resources). Conflict may also arise between dissimilar parties such as between a majority and a minority, an established government and a group of rebels, an employer and her employees, or a master and his servant. These are asymmetric conflicts (i.e. conflicts between parties with unequal resources). Here the root of the conflict lies not in particular issues or interests that may divide the parties, *but in the very structure of who they are and the relationship between them*. It may be that this structure of roles and relationships cannot be changed without conflict. In some views classical conflict resolution applies only to symmetric conflicts.

In asymmetric conflicts the structure is such that the top dog always wins and the under-dog always loses. The only way to resolve the conflict is to change the structure, but this can never be in the interests of the top dog. So there are no win-win outcomes, and the third party has to join forces with the under-dog to bring about a resolution. From another point of view, however, even asymmetric conflicts impose costs

on both parties. *It is oppressive to be an oppressor, even if not so oppressive as to be oppressed. There are costs for the top dogs in sustaining themselves in power and keeping the under-dogs down. In severe asymmetric conflicts the cost of the relationship becomes unbearable for both sides.* This then opens the possibility for conflict resolution through a shift from the existing structure of relationships to another.” – The Network University (www.netuni.nl), “1.9 Power: Symmetric and asymmetric conflicts,” (unattributed, undated), captured June 26, 2019 (emphasis added).

- **Mess from Planet Naupactus:** Sometimes pacification and conversion can mix with insurgencies (see Fabrication of Order, 6 Combat, p. 1022, *infra*), war, invasion, refugees, and Balkanization of worlds (see Lebensraum, 3 Taxation & Census, p. 321, *supra*) for a complex, heady brew of political and military intrigue (in this case, the Third Messenian War):
 - ✓ “During the same war and after the capitulation of the Spartans besieged in Sphacteria, the Athenians installed a garrison in Pylos composed of Messenians from Naupactus. Thucydides underlines that they had hoped to exploit the patriotism of the latter in order to pacify the region. Though the Messenians may not have triggered full-blown guerrilla warfare, they nevertheless pillaged the area and encouraged helot desertion. Sparta was forced to dedicate a garrison to controlling this activity; this was the first of the ἐπιτειχισμοί / epiteikhismoí (‘ramparts’), outposts planted by the Athenians in enemy territory. The second such outpost was at Kythera. This time, the Athenians set their sights on the helots of Laconia. Again, pillaging and desertion did occur, but not on the scale hoped for by the Athenians or feared by the Spartans: there was no uprising like that which accompanied the earthquake.” – from Wikipedia article, “464 BC Sparta earthquake,” captured July 4, 2019.

The “Messenians from Naupactus” were refugees, rebels who had fled and were settled by the Athenians at Naupactus, also the site of a surprise Athenian naval victory in 429 B.C. following the defeat of the Helot Uprising after the Sparta earthquake of 464; the rebels returned to be used as Athenian local garrison forces in the area they had previously fled. *See?*

“They were eventually assimilated by the Romans, and ceased to exist as distinct people ... By 82 B.C., the Roman dictator Lucius Cornelius Sulla conducted an ethnic cleansing campaign against this most stubborn and persistent of Rome’s adversaries and forced the remnant to disperse. So great was the destruction brought upon them that it was recorded that ‘some of their cities have now dwindled into villages, some indeed being entirely deserted.’ Samnites were granted Roman citizenship, and they were quickly absorbed into the Roman society.”

– from Wikipedia article, “Samnites,” captured October 17, 2018 ¹⁰

Fate of the Samnites: In space-opera fiction, the ecumenopolis Trantor (Asimov, Foundation) was reduced to a few hundred farmers farming open soil spots in the parks surrounding the former imperial Palace and the University grounds. The simple farmers called the remaining scholars of the University “scowlers.” This is ‘collapse of complex societies’ 25 years before Tainter. The reduction and abandonment of urban centers is consistent with Joseph Tainter’s signs of societal collapse; the Samnites eventually suffered a societal collapse inflicted by losses in various wars (possibly Pacification Combats in GGDM terms) against Rome. Although pacification –

conversion and naturalization – does not benefit from societal collapse of the losing population, it is possible and should be borne in mind by the Concierge and players.

Some people think that militant expansionism is inconsistent with the concept of a Republic, largely because of what happened to the Roman Republic. But the situation of the early Roman Republic (e.g., the Social War, Samnites) bears at least superficial similarity to the expansion of the United States across the continent, except that the disparity of forces was much greater in favor of the United States, just as the situation of the Cossacks being encroached by Imperial Russia reminds somewhat of the historically parallel situation of the Native Americans. Some people also believe or have believed in the past that democratic, socialist or communist republics would not make war on each other, leaving war as existing only between democratic and totalitarian states. I'd like to sell you a bridge in Antarctica.

The Ostrogoths (and many other 'barbarian invaders') suffered the same fate as discussed in *Shattered States*, 5 Government Titles, p. 640, *infra*. To wit:

- ✓ “All three peoples [the Ostrogoths, Visigoths, and Vandals] disappeared from history, and with them vanished the last cherished traces of Roman military skill in the West. Only the ruins of broad highways and frontier *castella* testified to the legionary past as the Dark Ages settled down over Europe. Another cycle had been completed...” – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), p. 93.¹¹

*“Paranoia strikes deep,
Into your life it will creep,
It starts when you're always afraid
Step out of line,
The man come and take you away!”*

Buffalo Springfield, “For What It's Worth” (1967)

Endnotes.

¹ Citation: “The story of Mike Pence in a lot of ways is the story of the religious right, a story of the kind of compromises of principles, standards and values that they're willing to make to basically attain political power.” – McKay Coppins, MSNBC, December 5, 2017.

² Commentary: In 1854, Virginia Democratic Congressman Henry A. Edmundson was arrested by the House Sergeant-at-Arms for assaulting Ohio Republican Congressman Lewis C. Campbell during a debate *on the House floor*.

- ✓ On May 22, 1856, Edmundson accompanied South Carolina Democratic Congressman Preston Brooks and South Carolina Democratic Congressman Laurence M. Keitt, in an infamous caning assault on Massachusetts Republican Senator Charles Sumner *on the Senate floor* two days after Sumner had made a sexual-innuendo laced anti-Slavery speech in the Senate (e.g., what would Southern men do without slave women?). Mr. Keitt brought a pistol *onto the Senate floor* and brandished it during the attack to keep everyone away.
- ✓ Congressman Brooks challenged Massachusetts Republican Congressman Anson Burlingame to a duel with rifles (despite the anti-dueling laws passed after Alexander Hamilton's death in a duel with Aaron Burr), which Burlingame accepted, but Brooks backed out. Burlingame was a known rifle expert.
- ✓ Brooks resigned his Congressional seat, but was elected again; then died unexpectedly in January 1857.
- ✓ Congressman Keitt was censured by the House for his part in the caning attack, later in 1858 (after Brooks had died), he got into a fist fight *on the House floor* with Pennsylvania Republican Congressman Galusha A. Grow, which turned into a *brawl* involving 50 Congressmen.

✓ Mr. Keitt died serving the Confederate Army at the Battle of Cold Harbor (1864).

³ Citation: From <https://english.stackexchange.com/questions/10522/capitalisation-of-nouns-in-english-in-the-17th-and-18th-centuries> (February, 2011). See also, <https://english.stackexchange.com/questions/209045/what-purpose-does-capitalization-serve-in-english-today> (November 2014).

⁴ Citation: *United States v. Kenneth Wayne Leaming*, 12-cr-5039-RBL, U.S. District Court for the Western District of Washington, as cited in Wikipedia article, “Sovereign citizen movement,” captured October 12, 2018.

⁵ Citation: See excellent article by Prof. Warren Throckmorton, “The Popular Bonhoeffer Quote That Isn’t in Bonhoeffer’s Works,” August 25, 2016, on his personal site, www.wthrockmorton.com.

⁶ Commentary & Clarification: Originally “Friendly” colonies were called “Native” colonies – I found a remaining reference to Native Colonies when final editing the combat rules on July 4, 2018. At some point, I thought it would be a problem calling them Native colonies – at the least because of the Lost Colonist Primal State, and changed it to Friendly Colony. Friendly Colonies are completely loyal *for game purposes* as long as the legitimate authorities at the colony are loyal to the interstellar government and remain legitimate to the population, military and servants.

⁷ Citation & Commentary: **Deleenn**: They fight bravely. They cannot harm our ships but they continue to try. **Morann**: Whether they fight or not they know they will die anyway so really is this bravery or simple desperation. – Babylon 5 movie, “In the Beginning.”

✓ The surprise Minbari surrender during their overwhelming final attack on the Earth in which they were assured of victory is one of the central elements of Babylon 5 television series. It is never explained what would have happened if Earth had surrendered first, the emphasis is on humanity’s resistance to the end. But there are three options: 1) Minbari occupation of Earth or something similar, setting up a Centauri-Narn-like situation; 2) Genocide of humanity or forced evacuation of the Earth population; or 3) Earth retains sovereignty, but is cowed, controlled, restricted in exploration and expansion, course of development is altered. Conversely, the Minbari ‘surrender’ – a deliberate inaccuracy because “surrender” sounds far more dramatic; inaccuracy and exaggeration are at the core of drama – was effectively a unilateral armistice and withdrawal (imagine if the United States had surrendered to Japan after the atomic bombs were dropped and agreed to mediation), no conditions were imposed on the Minbari (other than the Babylon 5 project): The Earth was not in any position to impose.

⁸ Commentary: Reading recommendation; when I was young, the best Earth-occupation-by-alien-conquerors story I read was Timothy Zahn’s The Blackcollar (1983). It turned out that the Ryqril, the conquering aliens, were primitive warriors who obtained technology from others, the barbarians-with-the-bomb trope. I later found the sequel, The Backlash Mission (1986), at a used book sale in the late 1990s. I was not aware that he had written a sequel. It takes place at everyone’s favorite mountain fortress, Cheyenne Mountain Complex. These might be a good movie.

⁹ Commentary & Citation: Note that during the Dominion War, the Dominion orbital bombarded a Cardassian world inflicting 800 million casualties in an attempt to obtain submission of their former ally who was beginning to resist being peacefully occupied and used by the Dominion. In this, Syria is somewhat in the same position, being in part peacefully occupied by their ally, Russia, upon whom the existence of the Assad regime depends (similar to South Vietnam in the 1960s). George Takei suggested that the Dominion War was the polar opposite of Roddenberry’s vision of Star Trek (i.e. it went off the rails, jumped the shark) while other opinions suggest that the end of the Cold War, Babylon 5, new writers and audience, and series ideological and optimism fatigue played into the darker, morally ambivalent drift of DS9. Information from Wikipedia article, “Dominion War,” October 26, 2018.

¹⁰ Commentary: Wikipedia article cites to, quoting: “Edward Togo Salmon (1967). *Samnium and the Samnites*. Cambridge University Press. p. 30.” Linked to p. 30 of the book on Google Books.

¹¹ Commentary: Montross seems to be following the opinion of Charles Oman, Dupuy & Dupuy disagree:

✓ “Oman suggests that the Franks had learned nothing from their centuries of contact with the Romans so far as weapons, discipline and tactics were concerned, and that their successes were due simply to their extraordinary vitality, and to the degeneration of military art among their enemies. There is undoubtedly much to this; yet it cannot be the complete answer. There is evidence that Clovis was able to instill some discipline in his fierce warriors, and that he was an admirer of the Roman military system. His armies were small, and apparently he was outnumbered by his foes in many of his campaigns – particularly against the heavy cavalry of the Visigoths. He could not then, have been victorious without a greater degree of organization and tactical control than Oman would suggest.” – Dupuy & Dupuy, Encyclopedia of Military History (2nd Rev. Ed., 1986), p. 168.

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See Appendix ORD – Conversion & Pacification Examples
See Appendix WR – Writ Examples, Land Grant Writ, Naturalization

“If a slave has a bad master, his ambition is to get a better; when he gets a better, he aspires to have the best; and when he gets the best, he aspires to be his own master.”¹

“I didn’t know I was a slave until I found out I couldn’t do the things I wanted.”

“No man can put a chain about the ankle of his fellow man without at last finding the other end fastened about his own neck.” – Frederick Douglass

“I freed a thousand slaves. I could have freed a thousand more if only they knew they were slaves.”

“I had reasoned this out in my mind, there was one of two things I had a right to, liberty or death; if I could not have one, I would have the other.”

“I was free; but there was no one to welcome me to the land of freedom. I was a stranger in a strange land.”² – Harriet Tubman

The Chain About Your Neck: GGDM makes no comment or assumption as to whether or not slavery exists among either the Major or minor species in Galactic Space. While there are many arguments against direct slavery – most practically, that machines can always do the work better and faster – creative science-fiction stories (especially up to the late 1960s), including space-opera settings, frequently featured various forms of actual slavery. *However*, thoughtful participants may realize that taxation of Converted Colonies (and even to some extent, Naturalized Colonies) and forced Balkanization might be construed as forced labor and/or a form of slavery.

- ✓ “Unrest simmered in Sicily because of its very subordinate role in Charles’ [Charles of Anjou] empire – its nobles had no share in the government of their own island and were not compensated by lucrative posts abroad, as were Charles’ French, Provençal and Neapolitan subjects; also Charles spent the heavy taxes he imposed on wars outside Sicily, making Sicily somewhat of a donor economy to Charles’ nascent empire. As Steven Runciman put it, ‘[The Sicilians] saw themselves now being ruled to enable an alien tyrant to make conquests from which they would have no benefit’” – from Wikipedia article, “Sicilian Vespers,” citing to Steven Runciman, The Sicilian Vespers: A History of the Mediterranean World in the Later Thirteenth Century (1958), p. 212, captured November 22, 2018.

In fact, depending on the interpretation, even Landing a new friendly colony or Unloading Population onto friendly colonies might be slavery or forced labor. Once the ships leave, the colonist have nowhere to go, no way off the planet. Thus we arrive at the science-fiction classic: corporate-owned colonies where the entire population consists of corporate employees and families.

- ✓ The South African documentary Bhambatha: War Of The Heads (2009) perhaps made the point best: Zulus were forced to return and work for wages on white-owned farms on lands that they knew belonged to their ancestors and had been forcibly annexed by European settlers. The products of their work were then available in stores owned by whites which they had to buy with their wages. We think nothing of this

latter now, as we are *conditioned to a capitalist-consumerism economy* (yes you are!, but you need to know the opposite to realize it...), but to Zulu farmers, formerly sovereign and self-sufficient homesteaders, it was alien and horrifying. While the Zulus were not slaves in the traditional whip-cracking sense, they had been much reduced in the larger economy of Natal colony.

- This would be called ‘culture shock’ by any definition. Add to this the Christianization of the Zulus vs. un-Christian behavior of the Europeans.
- But this is what the Romans did to the Celts in Britain that caused the Boudicca Revolt; the Romans took 1/3 of their harvest in taxes then sold it back to them at high prices. And took their lands and built settlements. History comes full circle through Queen Boudicca’s namesake, Queen Victoria (Victoria is Boudicca Latinized). The end result was the same.

GGDM play can be changed by various mechanisms available to the players and Concierge (the actual slave of the game) if it is important to avoid the appearance of slavery in the game.

GGDM may also assume the existence of oligarchic drift, individual wealth accumulation, economic and social pyramid structures, unless otherwise indicated.

➤ Alcoholism: Both Booker T. Washington and Frederick Douglas noted in their own ways that Negro slavery in the old South was a form of alcoholism for southern society. Compare Brooker T. Washington, “You can’t hold a man down without staying down with him” (or alternatively: “One man cannot hold another man down in the ditch without remaining down in the ditch with him.”) to Frederick Douglas, “No man can put a chain about the ankle of his fellow man without at last finding the other end fastened about his own neck.”

- ✓ “‘Serious historians don’t have arguments about what the [American] Civil War was about,’ [Ta-Nehisi] Coates said. ‘The people who started the Civil War said why they started it. They made it clear,’ he said, referring to the Articles of Secession. South Carolina’s declaration of secession – issued on December 24, 1860 – says the state was leaving the Federal Union because of the ‘increasing hostility on the part of the non-slaveholding States to the Institution of Slavery.’” – Graham Lanktree, Newsweek, November 3, 2017.³

- The entire South Carolina Declaration of Succession is available in PDF at <http://www.atlantahistorycenter.com/assets/documents/SCarolina-Secession-p1-13.pdf>, the referenced text appears at the bottom of Page 7.

I can picture a helot youth reasoning thus: So because your fathers defeated my fathers in battle, I am by law condemned to the life of a serf-farmer? Producing income and food for your warrior children? And my children and their children will be so condemned and required as well to keep this station below your children and their children? I don’t think so! This thought may occur in different ways and under different circumstances, but it will occur over and over again. Thus, the source of generational unrest in subjugated populations clashes against generational wealth degeneration of (and shifting circumstances of) their masters. Only social structures, worldviews, and great material-technological wealth disparity (i.e. Jared Diamond’s “cargo”) perpetuates the oppressive relationship over generations.

- ✓ The base flaw of any system where socioeconomic and legal status are determined solely by hereditary means – whether slavery or rulership – is that such a system discards the adaptive advantage of sapience, that which humans have over an amoeba.

Pre-industrial slavery (and before that, domestication of animals), must follow a set of readily definable conditions, that is, that the labor of slaves must produce enough to support the barest domestic subsistence of the slave population plus the entire ‘masters civilization’ built upon the backs of the slaves. Economist devised formulas describing slave economies.

- ✓ See Joseph Tainter, 2 Government Titles, EN 9, p. 604, *infra*, for discussion of subsistence and resource economics in the Protoclassical and Preclassical periods that probably formed the initial basis for slavery. To wit, slavery required socio-hierarchies to develop, which in turn, arise from warfare over subsistence deficits.

Predictably, a set of beliefs develop among the masters and slaves that support and justify the arrangement (what Friedrich Nietzsche called “master-slave morality”). Youth bulge can occasionally be a problem in slavery cultures as well, leading to slave revolts,⁴ especially when a significant part of the slave population are males of fighting age (*à la* Spartacus), and also among the master class from lack of purpose or from primogeniture inheritance systems that leave the younger siblings poor.

- ✓ “Slavery allowed landowning, slave-owning whites to accumulate massive amounts of wealth while racking up major savings on labor costs (some economists estimate the value of slave labor to be as much as \$14 trillion). This money was passed down for generations, while the descendants of enslaved people are still suffering from the effects of slavery and Jim Crow laws. Going further back, white European settlers were given acres of land under the 1862 Homestead Act, after Native Americans were forcibly removed, and thousands died, following the 1830 Indian Removal Act. In 1790, ‘free white persons’ were given naturalization while immigrants like Asian Americans and other non-white groups were denied citizenship and therefore barred from owning land and accumulating wealth. These barriers to citizenship didn’t change until 1952.” – Lara Witt, “White Liberals Still Don’t Understand White Supremacy,” Harper’s Bazaar, August 16, 2017.⁵

- Ms. Witt cites to the *upper end* of a value range calculated, based on 2009 wages, for an article by Thomas Craemer appearing in *Social Science Quarterly*, Vol. 96, Issue 2, June 2017.

- Morality: By the definition of morality, societies and civilizations rarely do what *they* consider immoral, at the risk of their own legitimacy. The ghastly Cadaver Synod of 897 was apparently too much even for Rome; Pope Stephen VI was shortly overthrown by a popular uprising, imprisoned and strangled. But there has been much worse in the world unpunished.

- ✓ Merriam-Webster online dictionary definition at *morality* generally, but more specifically: **3**: conformity to ideals of right human conduct.

Further, within the moral code of any time, there are expediencies, rationalizations and priorities, with the existential and prosperity topping the list. Examples? Self-defense and defense of others is a defense to charges of harming or killing another, especially when there are no other reasonable options at the moment. Nuclear-armed countries will use nuclear weapons against an existential threat, even if it means the end of humanity or life on Earth.

It thus follows that any society that has slavery or forced labor doesn’t consider it immoral *per se*, but might be neutral toward the practice. It is likely that the very first instances of slavery were war captives, who were taken to make up for the labor losses suffered in battle.

- ✓ “But why had science lost its way in the first place? What appeal did Pythagoras’ and Plato’s teachings have for their contemporaries? They provided, I believe, an intellectually-respectable justification for a corrupt social order. The mercantile tradition which had led to Ionian science also led to a slave economy. You could get richer if you owned a lot of slaves. Athens, in the time of Plato and Aristotle had a vast slave population. All of that brave Athenian talk about democracy applied only to a privileged few. Plato and Aristotle were comfortable in a slave society. They offered justifications for oppression. They served tyrants. They taught the alienation of the body from the mind, a natural enough idea, I suppose, in a slave society. They separated thought from matter. They divorced the Earth from the heavens.” – Carl Sagan, *Cosmos*, Episode 7.

Athens is believed to have had the largest slave population in ancient Greece, but Athens also has the misfortune of being the place we know the most about from that time, and to whom the luster of ancient Greece is most attached (i.e. disproportionate historical representation).

Even societies that find slavery morally repugnant may find their way to various forms of forced labor in the name of social good, for example, prison labor or the late Swiss *Verdingkinder* and *Kinder der Landstrasse* social engineering schemes.

All societies have engaged in social engineering, long before the concept had a modern name attached: It’s called childrearing. The more involved public, governmental and religious institutions are in the raising of children, the more social engineering is applied (e.g., “tyranny in the nursery” – Benjamin Disraeli). It’s just a natural consequence. Children can be taught to be tolerant or intolerant, inclusive or exclusive, moral or immoral. This should not be construed as any argument against public schooling or in favor of homeschooling; however, as home schooling is limited by the parochial views (e.g., racism, etc.) and questionable abilities of the parents and suffers from many other pitfalls, such as a potential lack of socialization.

- ✓ Think about our moral language. To call someone a traitor is a moral judgment; the term (like murder) carries with it an inherent sense of immorality. Most likely, the traitor is aware of the moral judgment that will be levied for the acts (traitor implies an act that reveals traitorous intent). To someone else, the traitor may be a moral hero (depending on circumstances). Countless dramas have been written on these points.⁶
- Encomienda: It is important to realize that those who practiced slavery did so without remorse, shame, guilt or reservation, for example, the Spanish *Encomienda* system in which the plight of the indigenous population was clearly not a consideration.⁷ This point gets lost in most discussions of slavery; we have become numbed by repetition of the arguments and images of brutalities over the last 100 years, and especially in the last half century. Yet this lack of guilt is indicative of a worldview that had rationalized and institutionalized slavery;⁸ remorse, shame, guilt and reservations are for acts that are contrary to the moral view of ourselves and society. We can never forget that this was a worldview, regardless of how wrong we think it is now.⁹
- ✓ “Well, films that were favourites were those that influenced you at the time, rather than when you go back and look at them now. So you have to put them in the context of the time when you first saw them. And when I first saw, for instance, M*A*S*H – the Robert Altman movie – I’d never seen a movie like it, all that overlapping dialogue. When I first saw *The Battle of Algiers*, I never [knew] a movie could be so

real. When I saw Morgan: A Suitable Case for Treatment, for some reason that had a big effect on me. And if I see any of them now, I'm not sure if I have the same response." – George Miller as quoted by Anne Billson, "George Miller Talks about Mad Max, Heroes & Tina Turner: The 1985 Interview," previously unpublished interview published on Multiglom: The Anne Billson Blog, May 12, 2015.

Intellectual amateurs often laugh off the worldviews of preceding ages, or talk condescendingly about them – I remember in my youth we used to joke about the British wearing bright red uniforms and standing in line shoulder to shoulder – if you want to know the technical military reason, see *Shoulder to Shoulder*, 4 Combat, p. 985, *infra* – but along with the military reasons there was a set of vague beliefs about pre-destiny, sin, death and punishment and a low-hanging Christian God that accorded with the age. It is the actions taken by our ancestors based on what they believed, their worldviews, that make them serious matters, *forces us to take them seriously*. *Earnestness* is also important to suspension of disbelief in fiction. And it will be so for our future descendants as well when they look back at a pre-colonial Earth.

✓ **“Anne Billson:** Did you see Bartertown as intrinsically evil?

George Miller: No, just as profane. Just concerned with everyday getting on, making a buck-type world, which we are all part of. And in a sense, because it's not very broad in its vision, ultimately evil in its function. Without people consciously trying to be evil. It's just the way we conceive everyday life as being ultimately corrupt and cynical, but there's no room for the broader issues. Mainly because they're so limited, only evil in that sense. And the people in it don't really see it as evil." *Id.*

One day in graduate History of the Enlightenment class, I mentioned that Tsar Peter the Great had “sold out” the Russian peasants. Dr. Paul Mason, a bit of an odd character himself, thought this comment was supremely amusing. He didn't say anything afterward that I recall, but clearly he was amused by it, likely because it's a modern idea, which probably never occurred to them in quite the same way. Maybe I sounded like a communist revolutionary? But it's true history, Peter the Great gained power and stability by enslaving the Russian peasantry at a time when peasants of other nations were breaking free of economic bonds and/or being displaced. They would not have thought in Moscow or St. Petersburg that the Tsar owed any *Nobless Oblige* to the peasantry since his power did not derive from the peasants, but rather, from royal primogeniture and the support of the Boyars. And when they would not support him either, he abolished the Boyars and relied on his new model European army.

✓ “Political power grows out of the barrel of a gun” – Mao Zedong.

“Pragmatic ethics is a theory of normative philosophical ethics. Ethical pragmatists such as John Dewey believe that some societies have progressed morally in much the way they have attained progress in science. Scientists can pursue inquiry into the truth of a hypothesis and accept the hypothesis, in the sense that they act as though the hypothesis were true; nonetheless, they think that future generations can advance science, and thus future generations can refine or replace (at least some of) their accepted hypotheses. Similarly, ethical pragmatists think that norms, principles, and moral criteria are likely to be improved as a result of inquiry.”

– from Wikipedia article, “Pragmatic Ethics,” captured July 2, 2019

Pragmatic Ethics: Pragmatic ethics is an underpinning of our civilization, even when not named. People can picture civilizations learning moral or good behavior in the same way as a child, for which historiography plays a vital role, e.g., does a person always blame others for their problems?¹⁰ Pragmatic ethics is a function of literary fiction, much science-fiction is about pragmatic ethics leading to true interstellar civilization. It is also part of historical assessment:

- ✓ [Interview] “With the extraordinary ingenuity and real genius that was involved in taking a physical reaction that was discovered on a benchtop in Nazi Germany in 1938, and turning it into this whole new field of energy, for power, for medicine, for all sorts of humane uses, but also for terrible, terrible weapons, it’s easy to shrug and say those were terrible things we should of never have done that. As a historian, I feel that it’s real Monday morning quarterbacking to look back on the past and say those people shouldn’t have done that, those were not nice people. I think, instead the way to think about the past had its own principles and rules and its own challenges and fears. One has to say why? Why did they do that? What was it that led them to make the decisions they made, what can we learn from what they did, and what they thought and what they said about what they did? All of that is part of what we call history and its much more helpful I think to us now, looking at the future we are looking forward to, to try to understand what happened, not simply to condemn them out of hand, and say ‘well we wouldn’t have done that, we’re better people than that.’ Would we not have? What would we have done?” – Richard Rhodes, *The Half-Life of Genius: Physicist Raemer Schreiber* (2018).
- ✓ [Interview] “[The Senator from Illinois] has every right to hide from history if she wants to, but it seems she is trying to hide history from us, and I think that’s a mistake.” – Shelby Foote, *Book TV C-Span 2*, July 26, 1994 (video on YouTube).

The justification for the Nuremburg Trials (Nazi hunting, the ICC) is pragmatic ethics. Still, the Nuremburg Trials were seen then and now, as an exercise of the victors (i.e. the de-Nazification of Germany) and not of justice. On the one side, the crimes of the Red Army against German, Polish and other civilians were never addressed at all (the Soviets never signed the Geneva Convention of 1929, but the Russian Empire had ratified the previous Hague Convention) and on the other, results such as the courts-martial proceedings related to the Biscari Massacre carried out by American soldiers in Sicily in 1943 are hypocritical when compared to the results of the Malmedy Massacre Trials held at Dachau in 1946. One might argue that the atrocities carried out by the German military are far greater than the atrocities carried out by the American military (but not so much more than were carried out by the Red Army), but in the individual cases comparison, the argument is irrelevant: In both POWs and civilians were shot without provocation.

- ✓ This apparent double-standard is one that still haunts and undermines the U.S. credibility in the world; for example, that the United States signed but has not ratified the Rome Statute to join the International Criminal Court (ICC) and has seemed alternately hostile, stand-offish, and cautiously supportive toward the body. This is not likely to change as long as the United States remains one of the major powers on Earth; the absurdity is glaring: U.S. support of the ICC is conditioned on whether or not it promotes *U.S. interests*. This is sovereignty and nationalism laid bare.
- ✓ For their part, the Soviets always complained that the United Nations was just a puppet of or extension of U.S. foreign policy; the United States has long been (embarrassingly) hundreds of millions of dollars in arrears in annual U.N. contributions:

- “...the Senate has refused to appropriate the full amount of the standard United States contribution to the world body, on the ground that the organization is inefficient, wasteful and often contrary to American interests. But now it was praising the United Nations for its recent efforts in mobilizing world opinion against the Soviet occupation of Afghanistan, for example, and for helping with a solution to the Iran-Iraq war.” – Richard Bernstein, “Why Does the United States Refuse to Pay Its U.N. Bill?” New York Times archives, August 7, 1988.

In short, the United States is historically slow making good the promise to pay the piper, but runs to the piper whenever it needs a quick tune! You knew this already.

“A vendor came to Kazanga in a battered spaceship loaded with books. He was gaunt, white-haired, and a little mad. A celebration was held for him, for novelty was appreciated on the outer worlds.”

– Robert Sheckley, “Pilgrimage to Earth” (1957)

A Slave to Starships: Implicit in most space-opera or interstellar science-fiction settings is the idea that starships cost a staggering amount of money/resources and require extensive support, such that they are owned and controlled by governments, corporations and very wealthy individuals, guilds or groups. Until starship technology and interstellar society reaches a very advanced state, starships are not like cars or, before cars, horses, ubiquitous symbols of individual freedom of movement in their times.

There is thus a suggestion that those who travel and colonize new worlds by starship in early interstellar societies are left isolated, vulnerable, subservient to and dependent upon the owners and crews of starships that connect the dots of civilization in space. They may be forced, for example, to mine out the natural resources of their world, filling starship holds, in exchange for meagre returns in supplies, manufactured goods, and culture, without colony development. They may then be abandoned and forgotten, their world becomes a backwater, as depicted in the excellent social sciences study, “Punk Zone,” (Epic Illustrated, October 1981, p. 67) about violent young street gangs, remnants of humanity, and sociocultural degeneration (or evolution) on a strip-mined world.

- ✓ “Well, students, at one time, Devron was a boom planet; that is to say, the people who came here did so with a rampant enthusiasm and sense of hope. There were precious ores to be mined. Of course, that was a number of years ago. Now the planet is that harsh little ball your visi-screens depict ... ill-equipped to offer sustenance to its meagre population of settlers.They were originally hard-bitten individualist bent on making easy fortunes. But their dreams were strip-mined with the ore. ... Exhausted of adventure, they are content with tilling the land (what’s left of it) and carrying on light trade with the more prosperous federation worlds.” *Id.*, Epic Illustrated.

Although GGDM does not make any comment on the existence of slavery in the interstellar setting of the game, it does exist in the real world, today, in the here and now.

- ✓ “The 2016 Global Slavery Index from the Walk Free Foundation said modern slavery comes in many forms, from domestic to sexual to bonded and child labor. The term refers to a situation in which a person has taken away another’s freedom so they can

be exploited.” – Corinne Abrams and Qasim Nauman, “India has the most people living in modern slavery,” Wall Street Journal, India Real Time, June 2, 2016.

Human rights organizations estimate about 45 million people are enslaved and the situation regarding sale of slaves in post-Gaddafi Libya has gained attention after the auctions were filmed and published by a credible international news organization. Slavery is sometimes obvious and sometimes not so, so in some situations a person or group can go voluntarily, legally or illegally, to another country seeking work or opportunities, and end up being held against their will by force or threat of being reported; in other situations, loan systems, economic systems, land ownership, or poverty, such as those in northern India and the early 20th Century in the United States, serve to indenture employees, and their families, to the point of near-slavery condition (e.g., “Sixteen Tons,” sung by Tennessee Ernie Ford, 1955). In conflict zones, child soldiers are a form of slavery, in Thailand, there are reported to be fishing boats served by enslaved crewmen.

➤ Interstellar Law: Slavery, piracy, religious wars drove development of *international law*:

- ✓ “In general, describing the slave trader as *hostis humani generis* emphasized the idea that these crimes were offenses against humanity. One of the most important conceptual developments that led to the development of the contemporary international human rights regime was the idea that violations of human rights are of global and not just local concern.” – from abstract of The Slave Trade and Origins of International Human Rights Law, Ch. 6 “Enemies of Mankind,” Jenny S. Martinez, found on Oxford Scholarship Online, February 14, 2018.

- See further, *Hostis Humani Generis* excerpt, Commerce, *infra*.

By general agreement and actions, the post-WWII sovereigns generally treated Nazi party members (and regime associates) as *hostis humani generis*, except where it suited their purposes otherwise (e.g., German scientists who emigrated after the war, Operation Paperclip); similarly, modern terrorist are likewise generally *hostis humani generis* except where it is inconvenient to a particular sovereign’s purposes (e.g., the Entebbe Raid, Uganda, 1976).

“However, the violence produced an unanticipated paradox. The more violent the Thirty’s regime became, the more opposition they faced. The increased level of opposition ultimately resulted in the upheaval of the Thirty’s regime by Thrasybulus’ rebel forces.”

– from Wikipedia article, “Thirty Tyrants,” captured July 2, 2019

*“Swear allegiance to the Flag
Whatever Flag they offer
Never hint at what you really feel.”*

– Mike and the Mechanics, “Silent Running” (1985) ¹¹

Conversion & Naturalization: Conversion and Naturalization are the processes of bringing Conquered Colonies into the sovereignty, political and economic networks of the conqueror’s society (and to the conqueror’s benefit), as much as can be done considering the situation. Conversion attempts are never required, a colony can remain perpetually a Conquered Colony. ¹²

- ✓ “I am an Indian. I must bow to the laws of the Pueblo, but I cannot accept its ways; I cannot cut the heels off my white man’s boots; I cannot cut the seat from my pants

and cover myself with a blanket. I am an Indian. I went to the white man's school and learned to be a carpenter, but I cannot drink whiskey as the white man does nor go where he goes nor live as he lives ... I am a man who must find out who he is." – Frank Waters, inside cover of The Man Who Killed the Deer (1942).

Conversion and Naturalization require patient effort are not automatically successful, however, as time-consuming as Conversion and Naturalization can be, the colony does not suffer damage.

- ✓ See Pacification Theory, Making War Through Peace, 6 Combat, p. 1020, *infra*.
 - ✓ **Dr. Hans Fallada:** I mean, in a sense we're all vampires. We drain energy from other life forms. The difference is one of degree. – Lifeforce (1985).
- **Conversion:** Only Conquered Colonies may be Converted; colonies that are subjected to Orbital Bombardment Combat by the conqueror are instantly Converted (however, the colony and planet are damaged and there is a risk of *apostasy*). Conversion requires three elements:
- 1) A continuing credible threat of force if the colony does not comply,
 - 2) Restoration of civil order under a central authority (i.e. a puppet regime), and
 - 3) Strategic control of the planet surface, especially resource and population area.

Conversion is a matter of time and force, and is thus suitable for resolution by die roll.

- ✓ Conversion Attempts *are not* subject to failure of the Power Activation due to inactive Constructural Elements on the target colony (their resistance is a given). Game mechanically, Cohering attempts cannot be applied to Conquered Colonies (see Money Can't Buy You Love, 5 Culture, p. 422, *supra*) and Conquered Colonies are likely to have inactive Constructural Elements. However, upon successful Conversion, the conqueror inherits the mess, newly converted colonies may be difficult.
- ✓ Each Conversion Attempt (by activation of the Order Power) requires a die roll on one ten sided die, and is successful if the modified die roll is greater than the population of the Conquered Colony divided by ten.
- ✓ One is subtracted if a Pacification Combat (see 6 Combat, *infra*) has been initiated against the colony (this implies failure to automatically Convert the colony).
- ✓ Two is subtracted from the die roll if the colony was Looted (see Looting, 3 Commerce, p. 1210, *infra*) by the *current sovereign* before the Conversion Attempt.
 - If you orbital bombard a colony, they will instantly submit, but will never join your empire voluntarily. If you send down the troops and lose a ground war (i.e. Pacification Combat) and won't bombard from orbit, they have won a major victory. If you loot them, they will despise you.
 - "Thief, thief, thief! Baggins! We hates it, we hates it, we hates it forever!" – Gollum, in J.R.R. Tolkien's The Hobbit (1937).
- ✓ One is subtracted from all Conversion die rolls if the conqueror has no Diplomatic Spaces (see 2 Diplomacy, *infra*) beyond First Spaces with the owner of the Native Population Type of a Conquered Colony. Colony Combat can be a First Contact.
- ✓ One is subtracted if any population is Loaded, Unloaded, or Landed on the Conquered Colony's planet (even their own) by anyone prior to the Conversion Attempt.

- ✓ One is added to the die roll if the target colony is part of a Balkanized planet that contains a sovereign colony of the conqueror's Native Population Type (i.e. familiarity).
- ✓ One may be added, at the discretion of the Concierge, if the Construction Power was activated at the Conquered Colony after conquest (depending on what was built). It is possible to activate the Construction Power without Unloading RPs, just for show.
- ✓ Two is added to the die roll if RPs greater than the taxation value of the colony were Unloaded from Cargo Ships (see Combat Engineers, 1 Construction, p. 664, *supra* and Downloading, 2 Commerce, p. 1202, *infra*) at any time *prior to* the Conversion Attempt (i.e. bribery, reparations), *but not if the colony was subjected to Orbital Bombardment Combat* by the conquerors. RPs downloaded to Conquered Colonies are at normal value, not enhanced value (opposite of Looting, 3 Commerce, p. 1210, *infra*).
 - Due to processing sequence it is not possible to Unload before Conversion in the same Regular Turn (Order is before Commerce) unless paired with a Construction Power Activation (Material Handling, 1 Construction, p. 664).

Conversion Attempt procedures and modifiers may be altered by the participants through experience (to make conversion easier, more difficult, or more 'realistic') or by development of other abilities in the game, such as technology, Writs, Corporations, etc. The Concierge may also make any judgments necessary based on their top-down view of the situation (i.e. high insurgency levels); in this, the Concierge *must represent the population* of the target colony (see 5 Combat, *supra*). Special Operations Black-ops at the colony may also be a factor.

One factor that game participants may take into account is whether the conquering power supports the legitimacy of the current planetary government, replaces that government with a friendly government (i.e. puppet regime), and/or imports external cadres to govern the conquered world. One might compare Government Titles, etc. As an example, following the defeat of Athens by Sparta in the First Peloponnesian War, the democratic government of Athens was replaced by a pro-Spartan oligarchy known as the Thirty Tyrants (404-403 B.C.).

- ✓ The Tyrants were overthrown after a year; after which Athens suffered a cultural and identity crisis, as discussed in Hand Me The Hemlock, 1 Disruption, p. 256, *supra*. Socrates was tried (on the charge of "corrupting the youth") afterwards on the strong belief that he was a supporter of the Thirty Tyrants and oligarchy. Plato's eyewitness account is the most famous philosophical work in history; Xenophon, the famed military commander, another student of Socrates, who probably was not present, later wrote the book Anabasis (about 370 B.C.). Anabasis possibly inspired Alexander the Great, a student of Aristotle, who was a student of Plato, who was a student of Socrates, to conquer the Persian Empire (334 B.C.).
- Taught Their English To Our Young: It is possible by modifiers and/or large colonies to create a situation where a colony can never be converted unless something changes, e.g., the population is reduced by Orbital Bombardment or forced removal on Colony Ships, creating other problems.

If a Pacification Combat has occurred at the Conquered Colony (risking *apostasy*, see Alieny Apostasy, 3 Disruption, p. 283, *supra*) and the result was a suppression (see Fabrication of Order, 6 Combat, pp. 1022-1023, *infra*), two Conversion attempt rolls (at -1 modifier each, *ut supra*) at that colony may be made in a Regular Turn for each activation of the Order Power for the purpose of Conversion targeting the colony *and the total of the two Conversion*

rolls are added together and treated as one. However, for each failed Conversion Attempt, one population factor is lost from the Conquered Colony.

Pacification Combat may thus be required to convert large colonies, i.e., the ability to add die rolls from two attempts may be the only way to get a sufficiently high number for conversion. When conquering large colonies, bring an occupation army. A strategy for conquest thus might be to conquer small **alien colonies** and then grow and develop them into large colonies; nothing works to make people happy to see you like granting prosperity and peace.

- Incurable Acute Alterity: In extreme alterity situations between conqueror and conquered, the Concierge may simply block any Conversion attempt on the Conquered Colony, declaring that the *otherness* of the two species prevents the colony from ever being Converted (e.g. humans and bees, see *Let it Bee*, 1 Diplomacy, p. 1105, *infra*, or *Truly Alien Primal States*, see 6 Beginnings, p. 64, *supra*). Which raises the question of why conquer those colonies?

- ✓ Merriam-Webster online dictionary at *alterity*: otherness; specifically: the quality or state of being radically alien to the conscious self or a particular cultural orientation.

Should I refrain from stepping on a colony of ants on the sidewalk, would they ever be successfully ‘converted’ or ‘naturalized’ to me? There are many possibilities that the Concierge may take into account that cannot be embraced by the over-simplistic conversion die roll system presented here (e.g., SQ differences), for example, that there are some colonies that might never be converted or that conquest of a colony might cause a complete breakdown of the central systems and authorities. You cannot ‘domesticate’ ants! Of course, I don’t step on an ant colony on the sidewalk, but for other sorts of reasons. And the ants will never know that they were spared; they just keep on doing ant things.

- An Accommodation: While conquest and conversion is clearly a tyrannical situation, there is a limit to which the loyalties and actions of conquered subjects can be commanded or trusted.
 - ✓ “Love Thy Neighbor”; is this a command? Is this a command with which anyone has ever been forced to comply? Can you make me do that? It’s not in the same category as a command to relinquish goods or provide services. You cannot make me believe.

Trust is entirely a different matter, as it requires the acceptance of another’s intelligence and manners as valid and worthy.

- ✓ For example, the Romans knew that people whom they had conquered, and whose lands, liberties, and tribute they had taken would never like them and could never be trusted. The Romans only asked that conquered peoples obey Roman law, acknowledge Roman gods, and pay tribute. The Romans knew, however, that their children and children’s children would grow up in the Roman system and know nothing else (except, apparently, in Palestine). But in the Roman world, the conquerors and conquered were all humans. Would it work that way between distinctly alien species, proud starfaring civilizations? What happens when the new masters are so ... alien?

Thus, at the time that a Converted Colony becomes a Naturalized Colony, and the Naturalized alien population is accepted into the conqueror’s civilization, and vice versa, the alien population assumes all cultural and technological traits of the conqueror (however, this is a tricky bit, e.g., Fundamental Realities, see Alienation section below).

- ✓ “Peace and trust will still win the day, despite all your losing.” – Led Zeppelin, “Immigrant Song” (1970).

- Naturalization: Naturalization of **alien colonies** (‘alien hoarding’) is really a matter of legitimacy (i.e. shortly, a monopoly on legitimate physical force); that the converted populations accept the legitimacy of the conqueror’s rule¹³ while the conqueror on the other tentacle, must also accept the cultural legitimacy of the subject population (e.g., Cnute the Great’s rule of England as opposed to the Norman Conquest).¹⁴ Only Converted Colonies may be Naturalized, and a colony *may not be both* Converted *and* Naturalized on the same Regular Turn.

By way of example, extremes of cultural affinity have occurred in the 19th and 20th Centuries in relation to colonization. Some in India became ‘more English than the English,’ adopting English mannerisms and sensibilities in the extreme; the term “boko harem” originally referred to those of Central Africa who adopted European dress, customs and learning; and despite being treated poorly and culturally suppressed by the Japanese, many in the ancient Ryukyu Kingdom sought to earn the respect of the Japanese and became ‘more Japanese than the Japanese’ while still being treated as lesser savages by their conquerors.

Another very good historical example of the naturalization difficulties is the Tudor Conquest of Ireland from 1529 to 1603 A.D., e.g., The Nine Years War, the Desmond Rebellions, Surrender and Re-grant, the Plantations, the Lordship, etc. Wikipedia has a good article on this subject for participants to reference. It contains all elements: Forced Balkanization (e.g., the Plantations), Pacification Combat and population loss (e.g., Desmond Rebellions and the seneschals), interference by foreign powers (e.g., Spain), religion (e.g., Papal excommunication of Elizabeth I, Henry VIII’s break with the Pope), all caught up in the chaos of The Reformation and dynastic disputes. See *Beyond the Pale*, 3 Reformation, p. 1400, *infra*.

- ✓ Naturalization is the only activation of the Order Power that can fail due to inactive Constructural Elements. When a Naturalization attempt is made, the target colony is checked to see if it obeys the Power Activation (see Power Off, 2 Constructural Elements, p. 193, *supra*). Enlightenment (true enlightenment!) can be used to increase the chances, but if the colony does not obey the Power Activation, the Naturalization attempt fails on that turn regardless of what the participants and Concierge may desire; ‘they’ (‘dem stupid aliens) are not quite getting it yet!
- ✓ Naturalization is accomplished by activation of a Special Writ of Naturalization on the same Regular Turn as the Power Activation that is only applicable to the target colony (and requiring a Fuzzy Group). The Writ must be in proper form, see Form of the Writ, 2 Writs p. 438, *supra*. Acceptance of the Writ is entirely at the discretion of the Concierge, based on judgment of the colony’s true status and the process, and history with the current conquerors (and possibly, also the story arc of the game); but once the Writ is accepted, it only needs to be activated once to Naturalize the colony.
 - E.g. “In their quest for new settlers the German rulers of Brandenburg and Saxony deemed religious affiliation a private ... matter, a position which the Dutch had long accepted.... Nevertheless, because credal affiliation could easily be confused with political loyalty, bigoted rulers like Louis XIV or Leopold I failed to see how non-Catholics could ever be loyal subjects.... Despite

this, however, the notion was in the air that religious association might be irrelevant to citizenship.” – Raymond Birn, Crisis, Absolutism, Revolution: Europe 1648 to 1789, 2nd Ed., pp. 173-174.

- See further citizenship discussion, *ut infra*. See full quote, *ut infra*.

Orbital Bombardment, Pacification Combats, Looting, Raids, and removal of population from the colony by the current owner should all weigh against Naturalization.

Obviously, there is going to be some prior communication between the position and the Concierge regarding Writ of Naturalization. It should not be complex or lengthy, the Concierge is either going to say yea, or nay and then provide reasons why it cannot be accepted at this time. A low-level insurgency is not an *automatic bar*. Positions can, of course, take a blind shot at it, but the Writ must be either submitted in advance or with the Regular Turn actions.

- ✓ If the Naturalization failed due to inactive Constructural Elements the Fuzzy Group *will not be actualized* to activate the Special Writ but the Power Activation is used.

The game optimistically assumes that if enough resources are expended and the position tries hard enough, almost any Converted Colony can be Naturalized. The Concierge is not strictly bound by this; there may be good reasons why any colony, alien or even of the same Native Population Type as the conqueror, will never be Naturalized. Consider Rome and the Jews, two ancient cultures which we understand well and are well studied; it would be hard to find two more incompatible cultures than the Roman Empire and the Jews of Palestine! The Romans would never accept any gap in their complete control of the Mediterranean coastline (which they called *Mare Nostrum*, “our sea”) or interruption of their overland trade routes from Syria to Egypt, and the Jews would never accept the Imperial Cult, any Roman gods, or a king elected by the Roman Senate. History and religion records what happened.

- Cuba Libre!: GGDM does not anticipate that a Naturalized Colony will ever be reduced in status to a Converted Colony without change of ownership. It is not impossible. However, Naturalization is considered permanent, and the Writ of Naturalization cannot be voluntarily undone or revoked by the position, it’s not just a political convenience.

A Conquered Colony that contains the conqueror’s Native Population Type is automatically a Friendly Colony (at the discretion of the Concierge), unless it has been Naturalized by another position. If the colony was ever Naturalized, it cannot (likely) never be a Friendly Colony (they have been culturally contaminated by aliens!) to the owner of its Native Population Type, but a +2 modifier is added to all Conversion Rolls by the new owner and it can (probably) be Naturalized again. This is all at the discretion of the Concierge, of course; it could be decided that the colony can be reintegrated, but there are lots of factors, acceptance, work.

“Despite signs of spiritual revival in the late seventeenth century, secular values gradually were replacing religious ones as major influences on European life. By 1715 it had become unfashionable to go to war in the name of rival Christian creeds, and within states themselves, a few princes noted the political and social impracticality of inconveniencing religious minorities. In their quest for new settlers the German rulers of Brandenburg and Saxony deemed religious affiliation a private ... matter, a position which the Dutch had long accepted.... Nevertheless, because credal affiliation could easily be confused with political loyalty, bigoted rulers like Louis XIV or Leopold I failed to see how non-Catholics could ever be loyal subjects....”

Despite this, however, the notion was in the air that religious association might be irrelevant to citizenship. Nurturing such a position was an accompanying movement that subjected religious practice to rigorous critical analysis, ridiculing unproven credulity, and weakening traditional belief.”

– Raymond Birn, Crisis, Absolutism, Revolution: Europe 1648 to 1789, 2nd Ed., pp. 173-174

Civis Sum: Naturalization should not be confused with the modern process of citizenship. The modern forms and concepts of citizenship – *jus sanguinis*, *jus soli*, *jure matrimonii* – have not always been in effect; for example, the ancient biographer Plutarch was required in the 1st Century AD to be *sponsored* for Roman Citizenship by another Roman Citizen (admission to the bar of a court still operates in that way), even though by that time, the Greeks were arguably ‘naturalized’ to the Roman Empire and he was born to parents who clearly resided inside the Empire. Some places in the modern world still hold conversion to their religion as a requirement of citizenship. Thus, naturalization of an **alien colony** in GGDM should not be considered an automatic grant of citizenship to the population, which could be a whole other matter (science-fiction stories present additional interesting citizenship issues, e.g., The Bicentennial Man’s (1976) curious quest to be declared a human in Isaac Asimov’s Foundation Universe¹⁵); naturalization here refers to political and cultural acceptance of alien legitimacy. Citizenship – reciprocation of legitimacy – has been a long-running issue, and was of early importance to civilizations, consider:

- ✓ “The number of helots in relation to Spartan citizens varied throughout the history of the Spartan state; according to Herodotus, there were seven helots for each Spartan at the time of the Battle of Plataea in 479 BC. Thus the need to keep helot population in check and preventing rebellion was one of the main concerns of the Spartans. Helots were ritually mistreated, humiliated and even slaughtered: every autumn the Spartans would declare war on the helots so they could be killed by a member of the Crypteia without fear of repercussion. Uprisings and attempts to improve the lot of the helots did occur, such as the Conspiracy of Cinadon.” – from Wikipedia article, “Helots.”
- ✓ “As Spartan citizenship was inherited by blood, Sparta increasingly faced a helot population that vastly outnumbered its citizens. The alarming decline of Spartan citizens was commented on by Aristotle.” – from Wikipedia article, “Sparta.”

Only male Spartan citizens (Spartiates) could be hoplites (warriors), so Spartan combat losses were particularly devastating (like the loss of French Knights at Crecy and Agincourt). This military idea continues with concepts such as technology as an offset strategy over quantity, and in militant space-opera fiction (e.g., Starship Troopers (1959), in which Heinlein pontificated a Spartan-like citizenship scheme) where ‘lower tech’ and indigenous aliens always vastly outnumber ‘high tech’ humans (on this latter, see Arthur C. Clark’s “Superiority” (1951)).

- ✓ “What matters is not whether Paul went there [to Spain], or if he really was executed at Rome during the reign of the emperor Nero, but rather the person of Paul himself. When he was arrested as a threat to public order, his Jewish enemies having complained to the Romans, Paul needed only two words to change the balance of power – *civis sum*, ‘I am a citizen’ – a Roman citizen. The fact that he was a Roman citizen meant that, unlike Jesus, he could neither be handed over to the Jewish authorities for judgment nor summarily executed by an angry Roman governor. A Roman citizen

could appeal to the emperor’s justice, and that is what Paul did.” – Prof. Michael Kulikowski (Pennsylvania State University), “Christians were Strangers: How an obscure oriental cult in a corner of Roman Palestine grew to become the dominant religion of the Western world,” *Aeon*, January 30, 2017.

One wonders therefore, how the story of Jesus would have been different if he or his parents were Roman citizens? No crucifixion, no Christianity, mission fail. *The history of the West rests on that one fact.* If you are picking your Messiah, don’t pick a Roman citizen.

✓ See continued discussion of Subjects and Citizens, 2 Government Titles, p. 599, *infra*.

“She was in full-on denial. When confronted with the pictures she actually told my father that someone else must have gone in there and done this. Until then, my father never understood what it was like to stare delusion in the face. He thinks in the end that she actually believed her own fiction because the horror of what she had done to herself and those animals was too much for her psyche to handle. She completely disassociated from reality.”

– Amelia Tait, “The Complex, Tragic Psychology Behind Animal Hoarding,” *Vice Magazine*, May 7, 2015

Alienation: When an **alien colony** is conquered, a piece of the nation is lopped off of the state to which it belongs and appended to the nation-state of the conquering position. The conqueror, whatever the political status of the **alien colony**, inherits the Fundamental Realities of the alien nation to which the population belongs, and those Fundamental Realities, along with all other characteristics of the alien Native Population type (such as planet habitability), will continue to apply to the alien populations no matter where in the universe they live or who controls them.

The conqueror will not be allowed to see the Fundamental Realities that apply to the conquered populations, but will be informed at appropriate times when they can or cannot do something in relation to the conquered population because of the alien Fundamental Realities, and thus the conqueror will eventually become familiar with their alien subjects. Interventions will apply.

- ✓ In the 1980s television mini-series, *Peter the Great* (1986), I recall a striking scene in which the Boyars arrive in traditional dress to petition the Tsar. As they enter court, they see a court – shockingly different from what they expect – modeled after the modern Western European style, as if they had walked into Versailles.¹⁶ They are completely alienated and out of place there, looking obsolete and medieval.
- ✓ Similarly, when the Emperor of Japan recorded a message to be broadcast to the people announcing the surrender of Japan at the end of WWII (the Jeweled Broadcast), the message was spoken in classical court Japanese which could not be easily understood by most of the population.

It is unlikely that Kairotic Moments attached to a conquered planet which is Terra Sancta (see 1 Kairotic Moments, p. 1420, *infra*) would be transferable, and likewise, it is unlikely that Thesis statements (see 2 Reformation, p. 1391, *infra*) of the alien population would have any effect on the new owner; but such are these that there are *too many variables and possibilities* to make an absolute rule. Some odd things might occur in these situations at the judgment of the Concierge.

- **Alien Nation:** When the conquered colony is removed from its previous owner’s Public Space and moved to the conqueror’s Public Space, the population of the planet is alienated

from their own interstellar culture. Thus, *culture and research that were adjacent to or connected to the conquered colony are not transferred to the new owner with the colony (but may be **lost or disrupted**)*. Additionally, Writs, Patents, Colleges, Institutions, and Government Titles of the conquered population are not transferred to or available to the new owner. However, due to the nature of technology, it may eventually be possible to reverse engineer alien technologies found on conquered planets (assuming they survive the battle) with some effort; see 3 Technologies, pp. 712-720, *infra*, for Reverse Engineering procedures.

- ✓ “If the aim of education is to gain money and power, where can we turn for help in knowing what to do with that money and power? Only a disordered mind thinks that these are ends in themselves. Socrates offers us the cautionary tale of the athlete-physician Herodicus, who wins fame and money through his athletic prowess and medicine, then proceeds to spend all his wealth trying to preserve his youth. This is what we mean by a disordered mind. He has been trained in the STEM fields of his time, and his training gains him great wealth, but it leaves him foolish enough to spend it all on something he can never buy.” – John Kaag and David O’Hara, “Big Brains, Small Minds,” *The Chronicle of Higher Education*, May 13, 2016.
 - “Disordered mind” is such a nice, delicate phrase, like if you lived in one of those countries where calling the Dear Leader “crazy” or our Dear Lunatic would get you arrested and tortured until you die, maybe saying he has a “disordered mind” will only get you arrested and tortured until you are crippled for life, as reeducation?☺
- Monad Imperialism: An interesting alternative might have been that when an **alien colony** is conquered, instead of simply transferring the colony planet from one Public Space to another (as stated in *Conquered Colony*, 2 Order, p. 539, *supra*), the Monad which the colony occupies is also transferred, thus altering the respective Public Spaces.
 - ✓ In the ‘lopped off’ sense above, it would **sort of** make sense if this happened.
 - ✓ But in another sense, it would be completely absurd as Public Space is not like real estate, rather, it is more generally analogous to (and related to) sensory perception and cognition; that is, owning more real estate won’t let you see farther, hear better, smell new scents or think better. Real estate is material wealth mainly.
 - ✓ Thus ‘monad imperialism’ was not incorporated into GGDM and was in fact, explicitly rejected. However, this discussion does serve to highlight a gray area in the simulation as most people agree that exposure to new ideas, other people, is a critical part of growth, and that isolation is harmful.¹⁷ This is partially handled in *In Spite of Ourselves*, 4 Order, p. 574, *infra*. Thus the exposure to alien culture by conquest and conversion of colonies may change the conquering position in other ways – but not by transfer of Monads. See further (not farther!) discussion, 1 Diplomacy *et seq.*, *infra*.
 - Perhaps ‘holes’ in the Public Space, if allowed, represent psychological or perception blind spots in a species, or in *Dune* (1965) terms: “Try looking into that place where you dare not look! You’ll find me there, staring out at you!” – Paul Maud’Dib to Reverend Mother Gaius Helen Mohiam.

“Convinced of their technological and methodological superiority over all other peoples, Europeans were starting to question the value of all of the new knowledge if one did not know how to live.”

– Raymond Birn, Crisis, Absolutism, Revolution: Europe 1648 to 1789 (2nd Ed., 1992), p. 169

Endnotes.

¹ Citation: See Frederick Douglass, “My Bondage and My Freedom,” in *Tribes in the Night Sky*, *infra*.

² Commentary: If you think you have heard these last words before, perhaps you may have heard of Robert Heinlein’s famous book about a human raised by Martians who returns to Earth?

³ Citation: Alternate View: “People who say that slavery had nothing to do with the war are just as wrong as people who say that slavery had everything to do with the war. That was a very complicated civic thing. Robert Tomes, or somebody, once gave the best estimate of the war that I ever heard; he said it was a war of one form of society against another form of society and because one of those forms of society included chattel slavery, and the other side didn’t except to a limited extent, it’s always been identified as a war over slavery.” – Shelby Foote undated audio interview, YouTube “Shelby Foote on the Confederate Flag.”

- ✓ Robert Tomes was U.S. Consul at Rheims, France until 1867. In this analysis, I believe he may have had in mind the war between the English (supported by the Burgundian faction) and Armagnac-controlled France, discussed in 2 Disruption, EN 9, p. 280, *supra*, as a comparator to the American Civil War.

⁴ Citation: “The people they passed were a silent, sullen lot. Dull, brutish faces. The faces of slaves and serfs held in bondage by fear and force. These people, Kieron reflected, would go mad in a carnival of destruction if the heavy hand of their lord should falter.... [later] Neg was a shambles. The advent of the Valkyrs had been a signal for the brutish population to go mad. Mobs had thronged the streets, smashing, killing and looting. The few Kalgan warriors left behind to guard the city had had to aid the Valkyrs in restoring order.... Shops and houses had been gutted by fire. Goods of all kinds were strewn about the streets, and here and there a body – twisted and dismembered – awaited the harassed burial detachments that roamed the shattered megalopolis.... Along the street of the Black Flames there was nothing left standing whole. Every hovel, every tenement had been gutted and looted by the mobs.” – Alfred Coppel, “The Rebel of Valkyr” (1950).

⁵ Commentary: Everyone should be cautious in declaring that their family has never owned slaves. A hundred one generations have passed on the Christian calendar (that is 2020 years divided by 20) and few know where their ancestors were or what they did more than three-generations back (e.g., great-grandparents); this also goes for African-Americans as slavery was not uncommon in Africa *before* the arrival of the Europeans. Thus, African-American ancestors may have owned slaves generations before themselves becoming slaves; there were even reportedly Africans who captured and sold other Africans to Europeans as slaves. Thus, ‘African identity’ was externally imposed.

⁶ Commentary: In about March-April 1945, Heinrich Himmler was secretly in contact with Count Bernadotte, head of the Swedish Red Cross, about the possible German surrender and suggested the imminent, impending death of Hitler. Himmler was apparently looking for a situation where Germany surrendered and his remaining SS acted as the police force to keep order (thus, he would remain in power). When Hitler found out, he flew into one of his legendary fits of rage, and declared both Himmler and Göring to be traitors (Göring for an somewhat different reason). Although Himmler’s motives were undoubtedly selfish and self-serving, and he was one of the main architects of the atrocity that was Nazi Germany, viewed through historical hindsight and the inevitability of German defeat in early 1945, and the lens of being on the victorious side of the struggle, it is hard to feel that Himmler committed treason *against* Germany (aside from his crimes against humanity):

- ✓ Did his overtures, as possibly second in the Nazi Government, give comfort and aid to the enemies of Germany? Not likely at that point in time. Rather, he was guilty of insubordination to Hitler, for which he could be legitimately terminated from office in any country, but Hitler was not a person to appreciate such fine lines; rather, he was a ‘traitor’ because in Hitler’s mind, Hitler and Germany were the same entity.

⁷ **Citation & Commentary:** In 1542, Holy Roman Emperor Charles V (whose family also ruled most of Spain), promulgated the New Laws as a result of protests against the cruelties committed against and enslavement of the native Americans in Spanish colonies. The local conquistadors resisted:

- ✓ “In 1544, [Lope de] Aguirre was at the side of Peru’s first viceroy, Blasco Núñez Vela, who had arrived from Spain with orders to implement the New Laws, suppress the *Encomiendas*, and liberate the natives from slavery. Many of the conquistadors refused to implement these laws, which prohibited them from exploiting the Indians. Aguirre, however, took part in the plot with Melchor Verdugo to free the viceroy (who had been imprisoned on the island of San Lorenzo), and thus turned against Gonzalo Pizarro (the leader of the anti-viceroy/New Laws faction). After the failed attempt, they escaped from Lima to Cajamarca, and started to gather men to help the viceroy. In the meantime, thanks to the oidor Alvarez, the viceroy had escaped to Tumbes and gathered a small military force in the belief that all the country would rise up to defend the Crown under the royal flag. The viceroy’s resistance to Pizarro and his deputy Francisco de Carvajal, the infamous ‘el demonio de los Andes’ (‘demon of the Andes’) would last for two years until he was defeated in Añaquito on January 18, 1546.” – from Wikipedia article, “Lope de Aguirre.”

Thus, the Old South was not the first to fight for the ‘right’ to enslave. Now, Lope de Aguirre was certainly not a humane character, any loyalties he expressed were pure politics and personal gain. In 1544, he fought to restore the Viceroy of Peru, in 1554 he was wounded fighting against a rebellion, in 1561, he was killed trying to invade Panama after declaring himself “Prince of Peru” in rebellion against the Crown. He also killed his own daughter:

- ✓ “In 1561, he seized Isla Margarita and suppressed any opposition to his reign, killing the governor. When he crossed to the mainland in an attempt to take Panama, his open rebellion against the Spanish crown came to an end. He was surrounded at Barquisimeto, Venezuela, where he murdered his own daughter, Elvira, ‘because someone that I loved so much should not come to be bedded by uncouth people.’ He also killed several followers who intended to capture him. He was eventually captured and shot to death; his body was beheaded and cut into quarters with pieces being sent to nearby towns as a warning.” *Id.*

This, of course, was always the danger: Explorers and conquerors get to the New World, and they think, why do I need to answer to that guy 3,000 miles away? I am here, I can make myself a king! I made this place! That ignorant fat man in Spain knows nothing about the land I have conquered for him. *And this can happen in GGDM.*☺

⁸ **Commentary & Citation:** As President Truman said, “There is nothing new in the world except the history you do not know.” Long ago, I read The Lombard Laws (1973), translated by Katherine Fischer Drew, which consists of the edicts of five Lombard Kings from the 6th to the 8th Centuries (I have not read the companion Burgundian Code) dealing with a large range of topics. The Lombards do not seem to have had the concept of incarceration as a form of punishment, the edicts instead consist of a system of fines, compensation and servitudes, including slavery, or execution or exile for acts against the state. And there I found not much had changed in over a thousand years; the Lombard Edicts deal with such tacky questions as, if a child is born of a slave and a freeman/master, is the child a slave or a freeman? What happens if two slaves are married and another man commits adultery with the slave woman? Compensation to be paid for killing another’s household slave or for injuring field slaves. Slaves being treated as both property (in compensation cases) and persons (in the ability to marry legally before the Lord, which was denied in the slave states in the U.S.), and various stages of confusion in between. This is possibly some acknowledgment in their system that slaves were people reduced to servitude by crimes and poverty or oath-bound, whereas in African slavery, the slaves were captured and brought as cargo to the New World, Europe and India and were solely legal property. Anyway, slavery was a legal problem for the Christian Lombards that consumed a large amount of pages, and was probably the single most frequently addressed subject in Ms. Drew’s translation.

- ✓ The Lombard legal system assuredly created a downward economic trend and increased stratification in their society. It is clear that a freeman could become a slave (or effectively so) in compensation for crimes, for example, Luitprand 84 (727 A.D.) fines a man half his worth as if he had been killed (plus repentance per religious canon) for consulting with a witch or sorcerer, or praying to a tree or performing religious services at a water spring, or failing to report or concealing others who do this. So concerned were they on this issue that there is even a punishment for skirting the law by sending a slave to consult with a witch or sorcerer for the master, and a punishment for the slave who goes to one without permission. Local magnates could easily manipulate the system to reduce certain families to debt slavery.
- ✓ In the logic of the situation, the edict could not say that a slave who was sent to see a witch or sorcerer on behalf of his master could either refuse, or report his master. Rather, the master would be punished.

- ✓ *Incarceration is an institution of a modern world that produces more than is needed, and can afford to punish people without using them as forced labor. The Lombards probably didn't have such a concept, they would not have had people in cages as punishment, consuming food and doing nothing useful.*

⁹ Commentary & Citation: In the Andromeda episode “Double Helix,” Tyr Anasazi’s bride, Freya Rajput, expresses the cultural expectation of Nietzschean women that all males are always trying to be Alphas, are constantly plotting and scheming to exert their authority, to gain prestige and prove their genetic superiority. Nietzschean women accept the killing and fighting among men and polygamy practice as the natural way to genetic superiority.

¹⁰ Commentary: In this view, Nazi anti-Semitism was vital in preventing Germany from learning anything from WWI; they simply resumed with fanatical ideological fervor in 1939.

¹¹ Citation & Commentary: “I’ll move myself and my family aside, If we happen to be left half alive, I’ll get all my papers and smile at the sky, Oh I know that the hypnotized never lie, Do ya?” – The Who, “Won’t get fooled again.”

- ✓ Contemporary Western music of the late 20th Century, starting with the Beatles “Revolution” in 1968, produced several anthems exploring the nature of modern violent ideological and radical religious revolutions. Without doubt, The Who’s 1971 “Won’t Get Fooled Again” is the best lyrical description and commentary on the subject. The key quality of an anthem is when the listener feels that no one could possibly do it better. Other honorable mentions include the aforementioned 1985 “Silent Running” by Mike + The Mechanics, and Megadeth’s 1992 “Symphony of Destruction.”

¹² Commentary & Citation: Example, in L. Ron Hubbard’s *Battlefield Earth* (1982), the Psychlos conquered the Earth with a preemptive Strike or Orbital Bombardment Combat (depending on interpretation) that killed 99% of humanity (a minor race). They Landed a small mining colony (making Earth a Balkanized Planet) but never attempted to convert the dwindling humans whom they considered wild savages (a Conquered Colony in GGDM terms). In fact, it was a belated attempt to enslave humans that led to the Psychlos very unlikely demise....

¹³ Commentary: The Vandal king Geric, sought marriage of his son into the Imperial Family of the Western Roman Empire, despite the obvious state of collapse overtaking the Empire. Attila the Hun allegedly had the same object in mind. The Mexica/Aztec chiefs sought the same, marriage into existing local aristocratic families, and assimilation into the local priesthood. In Ireland, the Norman conquerors married Gaelic daughters of chieftains and over time, lost their cultural identity (as the English crown slowly lost control beyond the Pale) and their descendants dominated Ireland until the Tudor Conquest and colonization, when they became the “Old English” as opposed to the “New English” settlers (English, Welsh, and Scots).

- ✓ This same pattern has repeated, as conquerors understand the importance of and seek legitimacy among the conquered populations, with some notable exceptions possibly being the Mongol final conquest of China in 1279; the Mongols rejected Confucianism and employed few Chinese elites and bureaucrats. The Mongols were driven out in 1368 by the Ming rebellion, who in turn were overthrown in 1644 by the northern Manchus, who also forbade Manchu marriage to Chinese women and eradicated the Ming elite and aristocracy.
- ✓ Based on the long term experience of the Normans in Ireland (above) and the time periods in GGDM, a Conquered colony that is left isolated for long periods of time by the new sovereign, with no activity, especially if efforts are not made to Convert the colony, might eventually slip from the conqueror’s control, especially so if the position has a Confederation Structural Government Title (see 2 Government Titles, p. 596, *infra*). This could be done by Concierge Intervention, as part of the story or events of the game.

¹⁴ Commentary: Are our dogs and cats ‘naturalized’ to human civilization? Do we make fun of cats and dogs for sleeping most of the day? Actually we do, but not usually in a mean-spirited way, it is not common now (but was in the past) to equate our pets sleeping habits with the capital vice or deadly sin of sloth. Thus, our pets are accepted for what they are, and are not morally judged except by very ignorant people. Modern people understand that is just the way they are naturally, modern science understands that their sleeping habits are related to being predators, storing up kinetic energy needed to catch fleeing prey. We also understand that we sleep (the evolutionary sleep dilemma, a small animal could get killed while sleeping, why sleep instead of simply resting while conscious?) because our brains use more energy than our blood supplies, thus sleep is necessary to replenish our brains.

- ✓ My cats are flatulent and snore, I never snore. Really. I stayed awake all night once listening. I didn’t snore a bit, not one time. Yeah.☺
- ✓ There is a limit to the quality of domestication based on the pet’s phylum and class, non-mammalian or ‘lower order’ Chordates (fish, amphibians, reptiles) are never really ‘domesticated’ (just caged) in the same sense as cats and dogs, with the exception of birds which can approach that level of naturalization to humans. Cats and dogs are clearly our favorites for a reason.

¹⁵ Citation & Commentary: Traveller RPG: The New Era presented some very clever interesting retrospective questions about the Cyberlime chips that, rather than being side issues, were core to the story. The Cyberlime were silicone-based lifeforms who happened to resemble in many ways, computer chips, that were discovered living ‘in the wild’ on a planet within the Third Imperium. Technically, by at least one Emperor’s decree, they were ‘citizens’ of the Imperium by virtue of being natural sophants (as opposed to sophisticated robots, Dave Nilson, Challenge #69), but they were never treated as such, rather, they were used in certain ship technologies and in core processing mainframes throughout the Imperium due to their special properties. They were also susceptible to the AI virus, engineered to target them, that destroyed the Imperium and collapsed interstellar civilization. The lingering question is whether or not by treating them as proper citizens rather than as things, this might have been avoided, and whether the treatment of the Cyberlime was indicative of larger moral-ethical issues in that civilization – similar to slavery. And that brings it back around to the issue of slavery – not whip-cracking slavery – but slavery nonetheless.

- ✓ Traveller RPG was never lacking in deep intellectual material and Traveller RPG: The New Era was cutting edge intellect in the time just before the internet, and just when PCs were becoming ubiquitous artifacts of our civilization. Instead of blithe back stories, such as Skynet in the Terminator movies that were popular then, the Traveller RPG writers in articles and books (e.g., Dave Nilson’s article in Challenge #69) explored the working basis of a technology they could barely imagine (noting however that the 1990s imagined technology development of the Imperium is already looking quaint next to the early 21st century possibility of quantum computing and quantum communication satellites – that’s a risk writers take when they write about the future). But as noted previously, intellect doesn’t count for much in the market (especially one aimed at the under-30 crowd), and the failure of Traveller RPG, and of GDW and of most of the rest of the industry, can only be attributed as David Nilson called it, to the “CCG dementia” which sucked the money and intellect out of gaming, and created a new industry giant based on a collectible card game money-milking machine. And sadly, I was a participant in that debacle, playing MTG CCG almost exclusively from about 1992 to 1998; it was cliquish, it was fast and sometimes fun, and always frustrating, which caused you to continue playing and continue spending money on new cards.
- ✓ The divergence of personalities of Cylon copies in the reimagined Battlestar Galactica (2004-2009) owes much to the AI virus in Traveller RPG: “It is useful to think of the virus not as ‘it,’ but as ‘them.’ The [AI] virus is not a single force that behaves in one single stylized fashion. The reason it is so dangerous and successful was that it does not behave in just one way. Each system infected by the virus that has sufficient computing power to allow it to achieve AI becomes its own separate personality, which learns to operate in different ways, and which spreads versions of itself that are subtly different from other virus infections. These offspring are similar to the specific virus that spawned them, but will also mutate in their own directions.” – Dave Nilson, “When Empires Fall II,” Challenge Magazine, Issue 69, February 1993.

¹⁶ Commentary: See the life of Maj. Gen. Abram Petrovich Gannibal, who arrived in Moscow as an African slave in 1704 as part of the *near neurotic* imitation of Western European Courts by the Russian Imperial Court in Moscow.

¹⁷ Commentary & Citation: For the extreme cases of this, search Google for children raised in social isolation. We’ve all heard the stories, e.g., the 12 year old girl found chained to her potty, children chained to beds, kept in the attic, basement, back room, or their bedroom, or caged, never sent to school, never allowed outside. These children suffer socially and mentally in the long term from lack of socialization and impaired mental development:

- ✓ “As argued, socially isolated children are at increased risk of health problems in adulthood. Furthermore, studies on social isolation have demonstrated that a lack of social relationships negatively impacts the development of the brain’s structure. In extreme cases of social isolation, studies of young mice and monkeys have shown how the brain is strongly affected by a lack of social behaviour and relationships (Makinodan, Rosen, Ito & Corfas, 2012). ... The studies described in this text demonstrate the importance of social interaction, and how social isolation damages not only the physiological functions of the body but also the development of the nervous system’s support cells, which in turn affects the development of cognitive functioning. However, there are reasons to believe that the human need for social interaction is not only the risk factor but is also the ‘lifesaving factor.’ As previously mentioned, when the human stress response is activated, multiple stress hormones are activated. One of the hormones that are released has the function to force us into social contact. As the need for social connection is important to everyone, in a vulnerable situation, this contact is so important that our body forces us to socialise.” – “How does social isolation affect a child’s mental health and development?” staff of noisolation.com, updated September 14, 2018.

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See Appendix IP – Interventions Reference Sheet
See Appendix PUBS – Expansion of the Public Space Select Summary

“We spend our lives fighting to get people very slightly more stupid than ourselves to accept truths that the great men have always known. They have known for thousands of years that to lock a sick person into solitary confinement makes him worse. They have known for thousands of years that a poor man who is frightened of his landlord and of the police is a slave. They have known it. We know it. But do the great enlightened mass of the British people know it? No. It is our task, Ella, yours and mine, to tell them. Because the great men are too great to be bothered. They are already discovering how to colonise Venus and to irrigate the moon. That is what is important for our time. You and I are the boulder-pushers. All our lives, you and I, we’ll put all our energies, all our talents into pushing a great boulder up a mountain. The boulder is the truth that the great men know by instinct, and the mountain is the stupidity of mankind.” – Doris Lessing, The Golden Notebook (1962)

Sisyphean Task: Every structure, construction project, machine, transit, electronic or telecommunications system, or even generation, added to a civilization places a burden of repair, replacement and upgrade on the current and an unknown number of future generations. Sometimes we forget that, in the politics of the moment, when building new cities, complexes, roads and bridges, traffic systems, and all of the other material objects on which civilization depends. If humanity left the Earth suddenly, with buildings and infrastructure intact but unattended, most visible traces of our civilization would vanish from the surface in a thousand years.

Some maintenance, of necessity, occurs as part of domestic subsistence. Additionally, it would be expected that advancing technology and engineering would also serve to blunt the exponential growth curve of maintenance requirements...

- ✓ Similar to the way that our society is built upon the fact that technology has significantly reduced the percentage of the population that must be employed in farming and food production. The farming population numbers have become alarmingly low, as crop yields have expanded exponentially over the last centuries; with the side effect that most farmland has irrevocably disappeared, converted to suburban development.

But at the same time, systems will continue to become more complex, demanding, precise, powerful, such that something can always go wrong. In addition to the maintenance purpose of the Order Power described below, positions may also develop specific targeted technologies and colleges to reduce, but never eliminate, maintenance.

“Another flaw in the human character is that everybody wants to build and nobody wants to do maintenance.” – Kurt Vonnegut

Maintenance Meeting: Activation of the Order Power for the purpose of maintenance is an attempt to keep entropy at bay (maintaining low entropic states), specifically, to prevent the wandering random entropic event from landing so hard on your head (or whatever your species has).

While the word “maintenance” invokes images of repairing machinery and roads, and generally upgrading or preserving the civilized infrastructure and military forces, it is also used here to mean the maintenance of civilization in general, and thus extends to education, indoctrination, pageantry, generational transfer of power, justice, population loyalty and a sense of wellbeing, efficient administrative systems, public health systems, and the distribution of wealth.

- ✓ When the HMS Birkenhead struck a submerged rock off Western Cape, South Africa in February 1852 and started to sink, one of the longboats was unable to be lowered because during maintenance, someone had painted the winches, and when the other longboat was lowered to the water, it immediately began sinking. The women and children were placed on three smaller lifeboats while the soldiers remained onboard.
- The Roads Must Roll: When activating the Order Power for the purpose of maintenance, the position may choose to use one, two or three Acts for the activation. Additionally, the position must pledge an amount of RPs, which are immediately removed from the Treasury. A position may not pledge more RPs than are available in the Treasury.
 - ✓ Maintenance Shield Activations costing three Acts will process *after* Taxation Power Activations costing three Acts. This is advantageous.

Maintenance is automatically successful in that the number of Acts committed are multiplied by the number of RPs pledged, and the resulting number is divided by a *random number* determined by the Concierge. The resulting number are Maintenance Shields generated.

Smaller numbers will tend to generate more Shields and higher numbers less Shields. This is no trivial matter, and it is suggested that the Concierge use a standard d4, d6, d8 or d10. The Concierge should be consistent, using the same die for all positions throughout the game, *unless there is some major story reason* why the die might change during the game or why one position might have a radically different die (e.g., Fundamental Reality might get a d20 instead). The Concierge should not inform the players of the die being used or even the results of a specific die roll. There is also room in this process where the Concierge might decide to use a position's Enlightenment to affect a bad die roll, without the permission of the position's players. Also, the Concierge must decide to round fractions up or down.

- ✓ The RPs pledged will be removed from the Treasury immediately when the Maintenance purpose is processed, which could cause other Power Activations to lack funding, so care should be taken to insure there are enough RPs in the Treasury to cover everything. RPs spent on maintenance, unlike Cohering, will never be returned.
- The Old Handyman: Maintenance Shields carryover from turn to turn, and are used to intercept adverse News Events directed at the position and may affect (but not block) Interventions by the Concierge directed at the position. Maintenance Shields do not last indefinitely, there is a 15% chance that each unused Maintenance ♥ will 'age-out' (expire) at the end of every Regular Turn. For each Shield that is eliminated due to aging, there is a 15% chance that in doing so, it will eliminate an Intervention Potential (generally) or reduce an Intervention Potential Plus currently against the position, to a normal Intervention Potential. There is no limit to the number of Maintenance Shields a position may have at any time.
- Hammer Thumb: A position that has at least one Shield has a 50% chance of automatically blocking each adverse News Event – but not a Special Bulletin – and a position may not choose whether or not to block any particular News Event. It is irrelevant whether the adverse News Event would have had no effect (see Red Purge, 3 Dreamtime, p. 161, *supra*), and other positions are never informed if any News Event effect has been blocked by Maintenance Shields. Blocked News Events have no effect on the position, however, one Maintenance Shield is lost for each block. Unblocked News Events do not affect Maintenance Shield.

- ✓ Modifications to News Events are News Events in their own right, see The Modified Truth, *et seq.*, 3 Dreamtime, p. 160, *supra*. Modifications of News Events can be blocked even if the original adverse News Event was not blocked. Similarly, blocking the original adverse News Event does not automatically block the modification News Event. **Patches:** You’ve got to learn the five d’s of dodgeball: dodge, duck, dip, dive and dodge! – from Dodgeball: A True Underdog Story (2004).

- **Blowups Happen:** It is possible that adverse News Events about poor maintenance, civil government failures, counterculture movements might target removal of Maintenance Shields if not blocked by a Maintenance Shield. This creates a situation where the target position loses a Maintenance Shield either way. However, as all positions are equally empowered in News Events, what comes around goes around, and either this warfare will fizzle, or it will turn into a multi-positional fracas of adverse News Events and Maintenance Shields.

Even though a certain percentage of adverse News Events will be blocked during the game (perhaps 30% overall) by Maintenance Shields, the “keep the sand in the sandbox” cautions in 2 Dreamtime, p. 147, *supra*, remain applicable. Players can still wreck the game by excessive, *dues ex machina* News Events, the equivalent of a global thermonuclear war with News Events in GGDM – nobody wins. Additionally, like adverse News Events that constantly target Constructural Elements, the game may grind to a halt because positions are spending activations and RPs every Regular Turn keeping up a Maintenance Shield and still taking hits from 50% of the *dues ex machina* adverse News Events.

- **Crumbling Castles:** Entropy always wins in the end, even gravity does the work of entropy. The underlying principle of maintenance within GGDM is that maintenance will never work to block all adverse News Events and cannot be allowed to prevent Interventions by the Concierge (who exercises game-master judgment). Because die rolls are involved, it is possible to have outlier runs where positions seem impervious and other runs where if it weren’t for bad luck, the position wouldn’t have any luck at all!

It might be possible with extraordinary coordinated maintenance effort between positions to create a ‘bulwark against the night’ and minimize the Concierge intervention in the game short term. Hopefully this is not because players don’t like the Concierge, but personal animosities sometimes push history along. While Interventions are generally regarded as negative events – natural human negativity bias – they don’t need to be adverse.

- **Cheryl’s She-shed Caught Fire:** Maintenance, like Taxation and Census and most other Power Activations, is an ongoing process (competing for resources and attention with other ongoing processes) that happens to be represented by an occasional activation of the Order Power. At the end of any Regular Turn, after the fourth Turn Cycle of the game that a position ends with no Maintenance Shields, the Intervention Potential generated by that position’s Regular Turn becomes an Intervention Potential Plus (IP+) against that position.
 - ✓ If Maintenance Shields remind you of ... antibodies and/or any part of the defense of living matter against foreign bodies – it seems that this is the natural and logical response of any self-amending system, in this universe, to certain types of external entropic events, whether that system is living matter or larger systems constructed by living matter. And it was the natural, required response of the game design to sandbox-participatory universe mechanics.

“The world thought well of my schoolmaster guardian, because he was neither a liar, nor a scamp, nor a gambler; but he was coarse, avaricious, and ignorant; he knew nothing beyond the confused lessons which he taught to his classes. He imagined that in forcing a youth to become a monk he would be offering a sacrifice acceptable to God. He used to boast of the many victims which he devoted annually to Dominic and Francis and Benedict.”

– Desiderius Erasmus, as quoted in Life and Letters of Erasmus: Lectures Delivered at Oxford 1893-4 (1899) by James Anthony Froude

College Tuition: Long ago, in a business college classroom far away, there was a discussion of why college tuition keeps rising each year if the number of students is not increasing or is, in some cases, decreasing. This ‘long ago’ was back in the early 1990s, a time when, according to the website Statista,¹ annual increase in enrollment in U.S. Colleges had slowed and total enrollment had even decreased slightly, which must have been of great general concern in the higher education industry. Why was college tuition not following the law of supply and demand, that is, if demand for colleges was decreasing, then why were tuitions rising?

The gist of the discussion was to introduce the idea that real estate, structures, appurtenances, personnel, and administrative systems had been extensively developed in colleges throughout the period of the rapidly expanding enrollment up to 1975, when it leveled off and decreased slightly, then resumed slower expansion again after 1980. *Id.* Because the cost of these developments (i.e. structures, both real and social) continued to increase, regardless of the actual enrollment levels or use of the structures, college tuitions would continue to rise predictably as long as the market would support it. The need for the colleges to have the latest, new technology (i.e. PC labs by the mid-1990s) added to the current and future structural costs. Now I am sure there is a name for this argument, and there are criticisms, both of which I am ignorant, and that one might assert that the college instructor was not going to criticize seriously his industry, but the framework of the argument shows the long- and short-term costs of structures and organizations.

Total U.S. college enrollment peaked in 2010 at 21.02 million according to Statista, *Id.* but has steadily decreased, losing 1.18 million by 2016 (19.84 million enrolled). Statista does not project that enrollment will again reach 2016 levels until 2027. But, like the morning sun, tuition will surely keep rising yearly, especially if televised college sports revenues fall off.²

- ✓ Think of the alternatives. If college tuitions were capped by the government, then eventually costs might (*might*, if enrollment doesn’t increase) force an overall reduction in the structure of colleges and some colleges might close or less popular majors programs might be pared away. In the short term, this might not seem a bad result, but it runs counter to our idea of a progressive society (see The Bargain discussion, 5 Culture, p. 426, *supra*). There is also probably an argument that it would curtail slightly the process of credentialism, but would also affect education inflation (see Wossamotta U discussion 3 Disruption, p. 287, *supra*), and decreasing educational space might adversely affect minorities in the long term even if tuitions were capped to make college affordable. It’s not a simple problem and doesn’t fit into political slogans. Thus, lower-cost community colleges will continue to fill the entry level higher education role for diversity and social progress.

Thus, Maintenance Shields in GGDM could be considered as conversion of adverse News Events into or representation of adverse News Events (and some Intervention Potentials) as structural costs of civilization. From a position strategy point of view, can players let other positions ‘off the hook’ by not issuing adverse News Events?

“From its earliest days the power and glory of Rome were derived from a superb military system unmatched in skill or efficiency by any potential enemy. There were many changes in the details of the system in the first 3½ centuries of the Roman Empire: some were normal and evolutionary; others were the result of internal stresses and strains; some were inspired by the example of enemies. The supremacy of the Roman military system – and the continued existence of the empire – was in large part due to the continued pragmatic, logical approach of the Romans to practical problems. They respected tradition but they were not slaves to it, and were extremely flexible in adapting themselves to military change. The fact that there were no more fundamental changes in the Roman military system from about 50 B.C. to 300 A.D., therefore reflects both the lack of technological change in these centuries and the thoroughness with which the Republican Romans had adapted existing technology to the art and science of warfare.

Augustus established certain fundamentals of military policy which could not be improved by his successors. The most basic of these was relating the security of the empire to economic soundness as well as military excellence and adequacy. The Roman Empire had become about as large as could be managed by one man or one single administrative system. Armed forces were required only for the defense of the frontiers and to maintain domestic tranquility. Augustus wished to keep the armies as small as possible, in order to place the least possible strain upon the economic fabric of the empire. By organization and skill, a small efficient army could perform the essential defensive missions. The force of 300,000 men under arms was small, in light of the size and the population of the empire (some 50 million) and considering the number of warlike foes around the frontiers. Yet it was adequate.”

– R. Ernest Dupuy and Trevor N. Dupuy, The Encyclopedia of Military History, 2nd Rev. Ed. (1986), pp. 144-145

Hegemony: Hegemony always depends on the *what*. The larger the defined area or system over which one has hegemony, the greater and at the same moment, less certain, is the hegemony. Only ocean-spanning technology – acting as a force and reach multiplier – has allowed for global hegemony beginning in the late 17th Century. All previous empires have established hegemony over the areas they could reach and to whatever extent they could affect events, circumstances and actions beyond their borders: The Romans had no sphere of influence in China.

- ✓ “The boundary has special significance in systems theory as it, by definition, separates the system from its environment. In so doing, it effectively defines and operationalizes the system. The significance of the boundary for both intra-system relations and inter-system relations cannot be overstated. The principles of self-reference (see Luhmann, 1995; Bailey, 1997) are clearly relevant for boundary analysis in the sense that once a boundary is established, the system references that boundary in virtually all of its future actions, both internal and external.” – Kenneth D. Bailey, “Boundary Maintenance in Living Systems Theory and Social Entropy Theory,” *Systems Research and Behavioral Science*, Vol. 25, Is. 5, pp. 587-597, January 7, 2009.

Defining the bounds of a system is not as easy as it would seem and less clear than this game presents. For example, one popular interpretation of the results of the two World Wars was that hegemony shifted to the West – that *Pax Americana* succeeded *Pax Britannica* as the global hegemon and constabulary in the 20th Century. Or at least, that hegemony had shifted away from Western Europe, as the United States and the Soviet Union faced off in the Cold War. Or as one pundit said, ‘Russia no more got to be a superpower by merely defending its borders than a rich man got to be rich by being robbed.’ Hegemony is aggression.

This provincial view works if and when humanity is not viewed as a global civilization; it works in the state theory of international relations where each nation is a sovereign and distinct bundle of systems and pieces of civilization. If, however, the entire human civilization on Earth is viewed as a singular system, a global view – as it would in the game be a single position with a Homeworld (i.e. Earth) Primal State and a distinct Native Population Type (i.e. humans), then the term “hegemony” would no longer seem suitable; and the results of the two World Wars might better be described as a cultural shift or a relocation of the nexus of the systems from one part of the globe to another, not a hegemonic shift. Hegemony then, is the word that we use only vis-à-vis things *outside* the system, *us and them*.

For game purposes, each position, in the beginning, is considered a separate and closed system. Whether or not one position has hegemony in the game, or whether the concept is even applicable, depends on how the players play the game. Within each position, it may be deemed that there are systems within systems (for example, each colony must be a sociocultural, sociopolitical system); later, as positions expand, explore and interact, it might appear that the positions collectively, have formed or begun a new larger system of interstellar civilization.

- ✓ “At present we are paying eight millions a year for the privilege of living on an ungrateful volcano out of which we are in no circumstances to get anything worth having.” – Winston Churchill, 1922, as Colonial Secretary, regarding Iraq.
- Hegemonic Empires: Human civilization *owes much* to hegemonic states and causes, early hegemonic empires served (for their own selfish purposes) to increase complexity of organization and social interaction, forced cross-cultural exchange, centralized economy, invented currency, and displaced population leading to genetic dispersion and improved travel.
 - ✓ This is a central mystery, paradox of human civilization: That conflict and warfare have somehow been generative in the long term, exceeding the short term entropic effects. That is, emergent effect over time from sociopolitical entropy. It is the ‘natural experiment’ of history, it cannot be ignored, and has not yet been wished away.

Early empires, from the first city states to classical antiquity (and Mesoamerica before the arrival of the Spaniards), seem to have been hegemonic empires – that is, conquered peoples were allowed to keep their leaders and local culture, language, customs, religion (unlike the Spaniards), but were simply required to acknowledge the hegemony of the conquerors by paying tribute, providing brides, and sometimes military forces to the conquering tribe.

- ✓ “Before Cyrus the Great there had been no high art of conquest. The Assyrians knew how to win victories, but their brutal and senseless warfare raised up an inverted pyramid, a structure sure to topple from the weight of oppression. Cyrus, in contrast, erected a temple of military statecraft in which the vanquished were free to retain such customs, prejudices and beliefs as did not interfere with the payment of tribute.

Cyrus even paid the vanquished the tribute of adopting their various forms of religious worship, as if wishing to offend neither his new subjects nor their gods. In proof of his policies, the Persian Empire had managed to survive two centuries of generally weak successors to the throne.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 24, cf. ‘empty-handed’ feature quote, top 1 Colleges, p. 454, *supra*.

A fictional example of the Assyrian style of conquest is the basis of the film *Conan the Barbarian* (1982) when the roving band of raiders surprised and massacred an entire plains village for no reason, looted it, and took the children to be sold as slaves. The bad guy bandit leader, of course, appears later as the leader of a nihilistic cult threatening the king (perhaps a fictionalized reflection of Alexandria about 195 A.D. as portrayed in the film *Agora* (2010)) who sends the stupid barbarian to destroy the cult and free his daughter.

- ✓ The *Twilight Zone* episode “The Old Man in the Cave” (1963) provides another fictionalized version of this. A group of perhaps 20 survivors (with perhaps 3 horses) live an absurd existence in a small town that appears to have been sheltered in the mountains from the thermonuclear war that destroyed the rest of civilization ten years earlier. A group of four men in army uniforms, a major, staff NCO and two lower enlisted soldiers, with rifles arrive in the town in a military jeep that still works and has fuel. They claim to be from the “Central States Command” and are going about reorganizing and uniting the country. The town leader doesn’t believe them, and the major later admits that there are less than 500 people left alive between New York City and Atlanta, making his story highly unlikely. The major claims to be college educated and the story seems to bear this out, he may have been an officer before the war, he may even be the highest ranking legitimate officer left in the non-existent U.S. armed forces, but instead, he uses brutality when his ruse doesn’t work, he displays a kind of canniness in exposing the fraud to wrest control of the group, but ultimately his brash stupidity results in everyone dying from eating poisoned food.

Hegemonic empire boundary expansion is usually halted by their own internal political struggles, many successful commanders have been assassinated or executed by grateful but suspicious, jealous rulers. The smashing victory of Gnaeus Julius Agricola and the Roman army (with Romanized local auxiliaries) over the numerically superior Caledonian Confederation army in North-Eastern Scotland in 83 A.D. at the Battle of Mons Graupius resulted in no long-term gain for the Roman Empire. It is said that he was recalled to Rome and rewarded shortly afterward, his conquests halted because they overshadowed Emperor Domitian’s lackluster results in campaigns he personally commanded along the Rhine against the Germanic Chatti tribe in the same year. The attack on the Chatti was considered unprovoked, unnecessary and a mock triumph for the Emperor who sought military glory to secure his throne, thus, Agricola’s authentic successes against the Caledonians were a political threat.

This is symptomatic of the Roman problem, and of the problems of many hegemonic empires before and since, that internal politics nullifies successful expansion and battlefield victories. Within a few years, the Romans were drawing troops from Britain, and slowly retreated from Caledonia (i.e. Scotland) and northern England until Hadrian’s Wall was constructed in 122 A.D., and for their part, the Germanic Chatti gained 75 km of roads constructed by the legionnaires in the Emperor’s campaign of 83 A.D. and probably had some vengeful part in The Revolt of Saturninus six years later in 89 A.D.

The later addition of *intolerant extremism* to hegemonic concepts, which seems to coincide in the West with the demise of the Western Roman Empire, and later in the Middle East with the rise of Islam, *transformed conquest from political and military hegemony to cultural hegemony* by the forced conversion and imposition of religion. In the 19th and 20th Centuries, the cultural hegemony drive in Europe and elsewhere was transferred to ultra-nationalism.

- ✓ Ultra-nationalism is a kind of cultural self-intoxication; like a drunk man at a bar who jumps up on a table and challenges everyone to a fight (are you hearing Hank Williams, Jr.'s song "Attitude Adjustment" (1984) in your head?), the Axis powers thought they could fight the whole world and win. The registration of *Volksdeutsche* (sometimes mandatory or frequently under coercion) in Eastern areas captured by the Germans in WWII was more about convincing themselves that they were liberators and protectors than it was about convincing the world. As long as ultra-nationalism exists (especially of the imperial or fascist kind) there is always the possibility of the same thing happening on a similar or smaller scale (except for the problem of nuclear weapons...), it has happened many times already since the end of the Cold War.
 - Ultra-nationalism often contains or uses romantic nationalism, ethnic nationalism, and national mysticism. See Romantic Nationalism discussion 3 Government Titles, p. 618, *infra*.

Extremism may seem natural to the participants of the game because it has been built into our culture; it has become virtuous, in many cases being confused with piety, purity, patriotism, dogmatism, dedication, and commitment. The participants of the game, the Concierge in particular, may note various types of hegemony and make judgments accordingly regarding, for example, Social Titles, Balkanization, forced emigration, and Naturalization of colonies.

- Hegemonic Frontier Potentials: After the independence of the colonies was established, the Spanish and English recognized the vast westward expansion potential of the United States and attempted – ineffectively – to thwart the growth of the new nation. The English backed a confederation of Native American tribes hoping to stop expansion into Ohio and along the Great Lakes (the Northwest Indian Wars), while the Spanish engaged in diplomacy and espionage (see the Burr Conspiracy for example). Ultimately, Europe was always consumed with its own wars and rivalries (in this instance, the French Revolution and the Napoleonic Wars), while the United States Navy began to assert global power by first defeating the Barbary Pirates (to which the U.S. and other European powers had paid tribute for decades) and then holding off the British Navy during the War of 1812.
 - ✓ “A night telephone call from Ribbentrop. He is overjoyed about the Japanese attack on America. He is so happy about it that I am happy with him, though I am not too sure about the final advantages of what has happened. One thing is now certain, that America will enter the conflict and that the conflict will be so long *that she will be able to realize all her potential forces*. This morning I told this to the King who had been pleased about the event. He ended by admitting that, in the long run, I may be right. Mussolini was happy, too. For a long time he has favored a definite clarification of relations between America and the Axis.” – Diary of Galeazzo Ciano, Foreign Minister of Italy (1936-1943) (emphasis added), cited in Wikipedia article.

Galeazzo Ciano was the son-in-law of Benito Mussolini, who had him executed in January 1944 for *treason* for voting against him in the Fascist Grand Council meeting in 1943.

Ciano's father was an Italian admiral, a corrupt government minister who amassed wealth and the title of Count, and one of the founders of the Italian National Fascist Party. Minister Ciano, already doubtful about the whole adventure and not pleased about the Germans, understood that one might be careful what they wish for in war, and events quickly proved him correct. Galeazzo Ciano's diary is one of the most important day-to-day records of a Minister in WWII, and was used at the Nuremberg Trials.

One certainly wonders at Ribbentrop's joy and how long it lasted. The United States declared war on Germany and Italy on December 11, 1941, Germany surrendered May 7, 1945, 3 years, 4 months, and 26 days later. Ribbentrop probably thought that the war with Japan would consume and distract the U.S., who would not be able to effectively prevent Germany from winning; if so, he failed to grasp the full potential of the youthful United States. On November 8, 1942, less than a year after Pearl Harbor, the U.S. landed forces in North Africa in the rear of the Axis forces, dooming their North Africa campaign (the Axis forces retreated from El Alamein a few days earlier), and leading to the invasion of Sicily seven months later.

- ✓ “To fear the world we have organized and led for three-quarters of a century, to abandon the ideals we have advanced around the globe, to refuse the obligations of international leadership and our duty to remain ‘the last best hope of earth’ for the sake of some half-baked, spurious nationalism cooked up by people who would rather find scapegoats than solve problems is as unpatriotic as an attachment to any other tired dogma of the past that Americans consigned to the ash heap of history.” – Sen. John McCain, remarks at the Liberty Medal Ceremony, October 16, 2017.

In the opening to Star Trek, Captain Kirk says that space is the final frontier; he could have said that space is the final endless frontier. There are so many stars in our arm of the galaxy alone (along with potentially millions of exoplanets, tens of thousands within 100 LY) that interstellar civilization such as those in GGDM, unless they choose not to, can have an endless ‘Western frontier’ out in space; to have endless hegemonic potential.

- ✓ See exploration ‘looking’ discussion, 2 Expansion generally, *infra*.

King Osaric: *There comes a time when the jewels cease to sparkle, the gold loses its luster, when the throne room becomes a prison. All that is left is a father's love for his child. – Conan the Barbarian (1982)*

In Spite of Ourselves: At the end of any Regular Turn in which a position Converted a Conquered Colony, there is a 1% chance, plus 2% per Converted Colony and 3% per Naturalized Colony owned by the position that a Monad will be added to the position's Public Space adjacent to the location of the colony. A Monad may also be gained each time a colony is Naturalized as above, but the base chance increases to 3% plus modifiers. Additionally, 1% is added to either for every three units currently in *apostasy*. This is an intentional ‘snowballing’ mechanic.

As the edges of the Public Space wrap around to meet, see Edge of Reality, 4 Writs, p 452, *supra*, players should be cognizant that they are actually just inserting Monads into a circle rather than expanding a flat plane. Thus, they may inadvertently push things on the Public or Diplomatic Space out of adjacency; Pathways may need adjusted, pieces moved or removed. This is the cost of empire.

“Many singletons could co-exist in the universe if they were dispersed at sufficient distances to be out of causal contact with one another. But a terrestrial world government would not count as a singleton if there were independent space colonies or alien civilizations within reach of Earth.”

– Nick Bostrom, “What is a Singleton” (2005) (available on his website) ³

Spheres of Influence: To a significant degree, play of GGDM is about ‘Spheres of Influence’ or ‘Spheres of Power.’ The hegemonic empire victory in GGDM is reflected in the Objective Victory Criterion in Victory in Space, 1 Resolution, p. 1459, and Objective Measures of Victory, p. 1470, *infra*. It is also very much a part of the diplomacy of the game. Objective Victory Criterion is only one part of the endgame accounting, and is not the final word in any game.

The ancient kingdom of Armenia, which was almost always within the sphere of one or more empires, was ruled in large part by Chinese descended or exiled aristocratic families, the Mamikonian dynasty, from the 4th to the 8th centuries A.D. The Romans, Greeks, Persians, Sassanids, Parthians, all invaded or intervened in Armenia over several centuries. I recall reading somewhere – and I cannot now locate the reference – of an exiled Chinese Prince who crossed into Armenia with up to 5,000 horsemen in or about the same time the Roman forces or their proxies may have been operating in Armenia.⁴ I thought this would be a great what-if historical tabletop miniatures game, Chinese horsemen vs. Romans in Armenia (why I remembered). Thus the ancient Roman and Chinese cultural-political spheres showed some edge overlap in Armenia.

- ✓ “While interest in trade would have accounted for the vast majority of reasons to interact, was that all it came down to? ... But some historians seem to believe there were even more complex interactions, even intermarriage and warfare. Regarding warfare, while there certainly was never a war between Rome and China, some historians have speculated that Roman soldiers captured in the Battle of Carrhae around 53 B.C. made their way eastward as Persian slaves where later they were put into the service of the Zhan-nu armies fighting against the Chinese. Chinese sources indicate that some foreign soldiers fighting in the Battle of Zhizhi formed a strange fish scale formation, possibly the infamous Roman *testudo* formation. Historian Homer H. Dubs even went on to suggest that these soldiers settled in eastern Asia, though historical and genetic evidence is less supportive of this having occurred and the foreign soldiers at Zhizhi were uncertain to have been Romans. Some suggest that they were Greek descendants of Alexander’s Empire, but they may not have been Europeans or Near Easterners at all.” – Justin [Narrator], “Did Rome and China Know Each Other?” YouTube video by Fire of Learning, posted February 22, 2019.

The Battle of Zhizhi occurred in 36 B.C., 17 years and half a world away from Carrhae, if the foreign soldiers were Roman Legionnaires, they were a bunch of tired old dudes!

The subject of Sino-Roman interaction has strong fascination for some, for example, the Daily Telegraph reported in 2010 on a village in China where “Genetic testing of villagers in a remote part of China has shown that nearly two thirds of their DNA is of Caucasian origin, lending support to the theory that they may be descended from a ‘lost legion’ of Roman soldiers.” (Nick Squires, “Chinese villagers ‘descended from Roman soldiers’” Daily Telegraph, November 23, 2010). The article also contains a quote from Maurizio Bettini of Siena

University (Professor of Classical Philology) calling the Roman soldiers theory a “fairy tale.” So there is still academic skepticism, both East and West, and Homer Dubs’ theory regarding the county of Liqian have been savagely attacked for lack of evidence and plausibility.

- ✓ “The 10,000 Roman prisoners of war appear to have been deported to Alexandria Margiana (Merv) near the eastern border in 53 BC, where they reportedly married to local people. It is hypothesized that some of them founded the Chinese city of Liqian after becoming soldiers for the Xiongnu in the Battle of Zhizhi against the Han dynasty, but this is disputed.” – from Wikipedia article, “Battle of Carrhae,” captured April 30, 2019.

The overlapping of spheres went both ways and included more than silks and soldiers:

- ✓ “It is not clear how much these interactions may have been influential, but authors like Robert Linssen have commented that Buddhism may have influenced Western thought and religion at that time. Linssen points to the presence of Buddhist communities in the Hellenistic world around that period, in particular in Alexandria (mentioned by Clement of Alexandria), and to the pre-Christian monastic order of the Therapeutae ... who may have ‘almost entirely drawn (its) inspiration from the teaching and practices of Buddhist asceticism’ and may even have been descendants of Aśoka’s emissaries to the West. Philosophers like Hegesias of Cyrene and Pyrrho are sometimes thought to have been influenced by Buddhist teachings. Buddhist grave-stones from the Ptolemaic period have also been found in Alexandria, decorated with depictions of the Dharma wheel. The presence of Buddhists in Alexandria has even drawn the conclusion that they influenced monastic Christianity. In the 2nd century CE, the Christian dogmatist, Clement of Alexandria recognized Bactrian śramanas and Indian gymnosophists for their influence on Greek thought.” – from Wikipedia article, “History of Buddhism,” April 30, 2019.
 - This refers to Alexandria in Egypt, as Clement of Alexandria lived there from about 180 to 202 A.D., when he was forced to flee. This is not to be confused with Alexandria of the Caucasus, which was a Hindu Kush stronghold of Indo-Greek kings, and a Buddhist center for missions.

Genes will flow where the silk goes!

“New World societies had just begun making bronze artifacts and had not yet started making iron ones at the time when the arrival of Europeans truncated the New World’s independent trajectory.” – Jared Diamond

Invading Timelines: Ethnic nationalism, dynastic ambitions, religious conflict, colonialism, industrialization, population density, migration to the New Worlds, political revolution, excess resources and wealth, and technology – always present in various combinations in any era or situation – has shaped European history (and much of world history in ripples across the globe) for the last 500 years.

This is the problem with criticisms of Western history as being ‘Eurocentric’; quite simply, it is a fact that the history of the world, in large part, for the last 500 years is Eurocentric. The Europeans invaded everyone else’s history and altered their cultural and political trajectories.

- ✓ “Millenarianism has been found through history among people who rally around of-ten-apocalyptic religious prophecies that predict a return to power, the defeat of ene-mies, and/or the accumulation of wealth. These movements have been especially common among *people living under colonialism or other forces that disrupt previous social arrangements*. The phrase ‘millennialist movement’ has been used by scholars in anthropology and history to describe the common features of these religious phe-nomena when viewed as social movements, and has most often been used to describe the social movements that have taken place in colonized societies. Christianity itself can be seen as originating in a millenarian movement among Jewish people living un-der Roman rule, *although its characteristics as a social movement quickly changed as it spread through the Roman Empire.*” – from Wikipedia article, “Millenarianism in colonial societies,” captured June 14, 2019 (emphasis added).
- See also The Core of Christianity, 1 Kairotic Moments, p. 1423, and Cattle Killing Movement, 2 Wheels in the Sky, p. 1488, *infra*.

“Ethno-racial nationalism is an enormously potent political force; wise politi-cians know this and employ it cautiously. Nationalism arouses genuine pas-sion and is a political motivator like no other... Moreover, once nationalism becomes the main political factor, there’s no putting that troublesome genie back in the bottle.

Politics become tribal, ethnic conflicts waged at the ballot box rather than on the battlefield.... the fires of nationalism, once stoked, are only put out with great difficulty – and ... ethnically diverse societies that play games with na-tionalism are living dangerously. Nationalism transforms politics from ideol-ogy to tribe.... The power of nationalism ought never be underestimated. Ger-man nationalism in the first half of the last century was so potent that it took two world wars – at the cost of ten million dead Germans, most of their cities flattened, plus major territorial losses and decades of foreign occupation – to finish it off as a political force.”

– John R. Schindler, “America’s Emerging Nationalism Crisis,” The Observer, November 14, 2016

Endnotes.

¹ Citation: <https://www.statista.com/statistics/183995/us-college-enrollment-and-projections-in-public-and-private-institutions/> (data from 1965 to 2016, projected to 2027).

² Commentary & Citation: College sports costs, infrastructure, expansions, scholarships and broadcast revenues are another long running, contentious debate, as evinced by the Rocky & Bullwinkle show episodes in the parts of the “Wossamotta U” story arc (1963-1964) where he complains that the college science lab has no equipment, but they built a new college football stadium. But it is possible that college sports revenues may prop up the structure as much or more than they cost.

³ Citation: See AI Nanny, 1 Government Titles, pp. 580-581, *infra*, for full quote and discussion of singletons.

⁴ Citation: See S.A.M. Adshead, China in World History, 3rd Ed. (1999-2000), pp. 34-35, found on Google Books, which seems to reference this same event, and also that the Chinese may have captured Roman POWs stationed by the Parthians on the Old Silk Road who then married Chinese women.

Martin Luther

Luther and Calvin on Secular Authority

If anyone attempted to rule the world by the gospel and to abolish all temporal law and sword on the plea that all are baptized and Christian, and that, according to the gospel, there shall be among them no law or sword - or need for either - pray tell me, friend, what would he be doing? He would be loosing the ropes and chains of the savage wild beasts and letting them bite and mangle everyone, meanwhile insisting that they were harmless, tame, and gentle creatures; but I would have the proof in my wounds. Just so would the wicked under the name of Christian abuse evangelical freedom, carry on their rascality, and insist that they were Christians subject neither to law nor sword, as some are already raving and ranting.

To such a one we must say: Certainly it is true that Christians, so far as they themselves are concerned, are subject neither to law nor sword, and have need of neither. But take heed and first fill the world with real Christians before you attempt to rule it in a Christian and evangelical manner. This you will never accomplish; for the world and the masses are and always will be unchristian, even if they are all baptized and Christian in name. Christians are few and far between (as the saying is). Therefore, it is out of the question that there should be a common Christian government over the whole world, or indeed over a single country or any considerable body of people, for the wicked always outnumber the good. Hence, a man who would venture to govern an entire country or the world with the gospel would be like a shepherd who should put together in one fold wolves, lions, eagles, and sheep, and let them mingle freely with one another, saying, "Help yourselves, and be good and peaceful toward one another. The fold is open, there is plenty of food. You need have no fear of dogs and clubs." The sheep would doubtless keep the peace and allow themselves to be fed and governed peacefully, but they would not live long, nor would one beast survive another.

For this reason one must carefully distinguish between these two governments. Both must be permitted to remain; the one to produce righteousness, the other to bring about external peace and prevent evil deeds. Neither one is sufficient in the world without the other. No one can become righteous in the sight of God by means of the temporal government, without Christ's spiritual government. Christ's government does not extend over all men; rather, Christians are always a minority in the midst of non-Christians. Now where temporal government or law alone prevails, there sheer hypocrisy is inevitable, even though the commandments be God's very own. For without the Holy Spirit in the heart no one becomes truly righteous, no matter how fine the works he does. On the other hand, where the spiritual government alone prevails over land and people, there wickedness is given free rein and the door is open for all manner of rascality, for the world as a whole cannot receive or comprehend it.

King Charles I of England

Defense Speech at Trial, January 1649

I would know by what power I am called hither ... I would know by what authority, I mean *lawful*; there are many unlawful authorities in the world; thieves and robbers by the high-ways ... Remember, I am your King, your *lawful* King, and what sins you bring upon your heads, and the judgement of God upon this land. Think well upon it, I say, think well upon it, before you go further from one sin to a greater ... I have a trust committed to me by God, by old and lawful descent, I will not betray it, to answer a new unlawful authority; therefore resolve me that, and you shall hear more of me.

I do stand more for the liberty of my people, than any here that come to be my pretended judges ... I do not come here as submitting to the Court. I will stand as much for the privilege of the House of Commons, rightly understood, as any man here whatsoever: I see no House of Lords here, that may constitute a Parliament ... Let me see a legal authority warranted by the Word of God, the Scriptures, or warranted by the constitutions of the Kingdom, and I will answer.

It is not a slight thing you are about. I am sworn to keep the peace, by that duty I owe to God and my country; and I will do it to the last breath of my body. And therefore ye shall do well to satisfy, first, God, and then the country, by what authority you do it. If you do it by an usurped authority, you cannot answer it; there is a God in Heaven, that will call you, and all that give you power, to account.

If it were only my own particular case, I would have satisfied myself with the protestation I made the last time I was here, against the legality of the Court, and that a King cannot be tried by any superior jurisdiction on earth: but it is not my case alone, it is the freedom and the liberty of the people of England; and do you pretend what you will, I stand more for their liberties. For if power without law, may make laws, may alter the fundamental laws of the Kingdom, I do not know what subject he is in England that can be sure of his life, or anything that he calls his own.

I do not know the forms of law; I do know law and reason, though I am no lawyer professed: but I know as much law as any gentleman in England, and therefore, under favour, I do plead for the liberties of the people of England more than you do; and therefore if I should impose a belief upon any man without reasons given for it, it were unreasonable ... The Commons of England was never a Court of Judicature; I would know how they came to be so.

It was the liberty, freedom, and laws of the subject that ever I took – defended myself with arms. I never took up arms against the people, but for the laws ... For the charge, I value it not a rush. It is the liberty of the people of England that I stand for. For me to acknowledge a new Court that I never heard of before, I that am your King, that should be an example to all the people of England, for to uphold justice, to maintain the old laws, indeed I do not know how to do it.

This many-a-day all things have been taken away from me, but that that I call more dear to me than my life, which is my conscience, and my honour: and if I had a respect to my life more than the peace of the Kingdom, and the liberty of the subject, certainly I should have made a particular defence for myself; for by that at leastwise I might have delayed an ugly sentence, which I believe will pass upon me ... Now, sir, I conceive that an hasty sentence once passed, may sooner be repented of than recalled: and truly, the self-same desire that I have for the peace of the Kingdom, and the liberty of the subject, more than my own particular ends, makes me now at least desire, before sentence be given, that I may be heard ... before the Lords and Commons ... If I cannot get this liberty, I do protest, that these fair shows of liberty and peace are pure shows and that you will not hear your King.

Judge Bradshaw's Response

There is a contract and a bargain made between the King and his people, and your oath is taken: and certainly, Sir, the bond is reciprocal; for as you are the liege lord, so they liege subjects ... This we know, the one tie, the one bond, is the bond of protection that is due from the sovereign; the other is the bond of subjection that is due from the subject. Sir, if this bond be once broken, farewell sovereignty! ... These things may not be denied, Sir ... Whether you have been, as by your office you ought to be, a protector of England, or the destroyer of England, let all England judge, or all the world, that hath look'd upon it ... You disavow us as a Court; and therefore for you to address yourself to us, not acknowledging us as a Court to judge of what you say, it is not to be permitted. And the truth is, all along, from the first time you were pleased to disavow and disown us, the Court needed not to have heard you one word.

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“What is government itself but the greatest of all reflections on human nature? If men were angels, no government would be necessary. If angels were to govern men, neither external nor internal controls on government would be necessary.” – James Madison, Federalist Papers No. 51 (1788) ¹

Title Search: “Title” in English usage has two primary senses. A title can be what something is called (a book). Title is also ownership of a thing, and all of the bundle of ownership rights that accompany ownership of a land or chattel. In sort of a combination of the first two, a title can also be given to or inherited by a person, or merely used as a matter of formal courtesy, indicating their position or preeminence or office in society. Such titles are often used to indicate adulthood, household position, nobility, knowledge, certification, or elected, inherited or appointed office. A title may also be earned, won, for example, a batting title in baseball or a boxing title.

Title in any sense, inherently indicates an inequality. If you own it, you have the right to exclude others from using it. If something is called by a title, then that thing is identified solely with that title, and no other can (or should) have the same identity. If someone earns a title, as through competition, they are the best, better than the rest. If someone is called by a title, or given a title, such a title indicates a distinction or superiority (especially when capitalized or preceded with “the,” such as the Concierge) socially and institutionally over someone who does not have that same title. Occasionally titles are given in derision. In any form, titles are about power, socially sanctioned and recognized power in distinction, exclusivity, status, peerage, honors, infamy.

- **Staking Your Claim:** The concept of GGDM Government Titles is not merely an exercise in abstract theory; think for a moment of what you claim to be in our world, what takes up the significant part of your waking time? Are you a student, professional, parent, spouse, son, brother, sister, charity worker, sports fan, animal friend, philanthropist, ‘blue collar man,’ ‘workaholic,’ drunk, felon, junkie, movie critic, geek, evangelist, activist ... these are your personal titles that externally define your place in our society and the structure of your life. And they carry with them certain external and internal legitimacy requirements; can someone claim to be a drunk (or be called a drunk) when they haven’t drank any alcohol in ten years (notice that AA always says, “recovering alcoholic”)? Presumably a student is actively engaged in receiving formal education (thus collegiate athletes must (theoretically) actually be students in good standing at the institution to which the team belongs) and a parent cares for children, and a spouse has a spouse with whom they carry on their primary intimate relationships, all of which suggest a required pattern of behavior maintaining their legitimacy.

Government Titles are for convenience in the game, an artifice like inactive Constructural Elements. It’s all a bit relative depending on which way you want to slice the cake. For example, the people of the Middle Ages did not think of themselves as living in the Middle Ages; the term was invented by Renaissance thinkers to describe the middle period between the end of the Western Roman Empire (i.e. the end of classic antiquity) and their own time. We have been stuck with the term since then. Similarly it has been pointed out that the concept of the ‘feudal system’ is a later invention of the 18th Century to retroactively describe (some claim inaccurately) the relationships and society of Medieval Europe (‘feudal’ first appeared in in English in 1602 according to Merriam-Webster online dictionary, is thus, retroactive).

- ✓ Most nations that have ‘democratic’ in their title are not (e.g., Democratic People’s Republic of Korea); in Babylon 5, the Centauri Republic was ruled by the Emperor.

“Member worlds of the Imperium agree to pay taxes and obey a few fundamental laws which the Imperium promulgates, known as the High Laws.... In return, the Imperium agrees to patrol the space between the worlds, to protect interstellar trade, to encourage travel and commerce, and to arbitrate diplomatic relations between worlds. Beyond this, individual worlds are left to their own devices so long as they acknowledge the power of the Imperium to rule the stars.”

– Traveller RPG Wiki, “Third Imperium,” captured June 10, 2018

The Power That Preserves: Governments, by whatever means they are constituted, secure authority over a territory, define the state’s borders, and represent the authority of the state to act. A nation without a centrally constituted authority (that is, a state) is like a body without a head. Inevitably, for reasons good or ill, someone or some group gathers the power to themselves, imposes their will upon others, and is eventually forced to assume the mantle of the state, if only to protect their own selfish interests.² In this game, the mantle of central authority is represented by the sole and unique ability of Government Titles to activate the vital Powers; lacking any undisrupted Government Titles, a position cannot activate any Powers, and is thus unable to act.

- ✓ “The central planets formed the Alliance and decided that all worlds should unite under their rule. There was some disagreement on that point... After the Unification War, many of the Independents who had fought and lost drifted to the edges of the system, far from Alliance control.” – part of Firefly opening narration.
- ✓ The Power that Preserves (1979) is the title of the third book in the Chronicles of Thomas Covenant, the Unbeliever by Stephen R. Donaldson.
- The Singleton: The presentation of Government Titles in the game for the purposes of Power Activations and other game functions is an illusion of unity necessary for the function of the game position. That is, it is vaguely assumed that each position enters the game with a global government (possibly what Nick Bostrom calls a ‘singleton,’ *ut infra*) or a binding arrangement between sovereign authorities that functions as a centralized command.³
 - ✓ **Kate:** The incursion protocols have been agreed internationally. In the event of full-scale invasion, an Earth President is inducted immediately, with complete authority over every nation state. There was only one practical candidate.
 - ✓ **Dr. Who:** That’s your answer for everything, isn’t it? Vote for an idiot.
 - ✓ **Kate:** If you say so, Mister President. So long as you’re on this plane, you’re the Commander in Chief of every army on Earth. Every world leader is currently awaiting your instructions. You are the Chief Executive Officer of the human race. Any questions? – Dr. Who, “Death in Heaven” (2014).

In no case is government considered to be *monolithic structures* even for purely game functions; there is always room for entropy, mischief between competing political factions, cultures, social strata, classes. Thus, *Intervention Potentials* are generated each Regular Turn.

- ✓ [Host David S.] “It is easy to then fall into the trap that from that point to the fall of the Berlin Wall 40 years later, that all members of East German society were firm and loyal supporters of the Communist SED government. Or, at least, that there wasn’t tremendous opposition to the SED.” – from “East German Rebellion 1953 – COLD WAR DOCUMENTARY,” YouTube Cold War Channel, February 1, 2020.

- ✓ The common impression of Middle Ages Europe was a uniform, though slightly variable feudal arrangement, for at least 500 years. And that may be represented by one or more Government Titles in GGDM. But there were areas that understood what was happening and resisted, for example, the independent peasant’s Republic of Dithmarschen resisted conquest and feudal imposition before succumbing late in the period. When the Fourth Crusade conquered Constantinople, the Latin Empire immediately weakened itself by dividing into a Western feudal arrangement which was represented by the new subjects and immediately fell into the usual petty feudal bickering.
 - ✓ “It is high-minded, self-deluding fatuousness to claim that any race has one immutable spiritual trait, and that race acts with one mind as one unified body.” – Dave Nilssen, “When Empires Fall II,” Challenge Magazine, Issue 69, February 1993.
- Associates & Acquaintances: At the bottom of each Social or Estate Government Title are a list of one to three Vital Powers associated with that title. Any Vital Power – except Census – that is not associated with a currently *undisrupted* Social or Estate Title *will cost one more Act* to activate. This direct association of Social and Estate Titles with Vital Powers serves as a defining focus for the Titles and positions overall. It should not be difficult for balanced positions to have Social and Estate Titles covering all or most of the Vital Powers.
- ✓ The additional cost of one Act significantly changes the sequence in which Power Activations are processed during the Regular Turn. See Clockwork Universe, 3 The Streams of Time, p. 90, *supra*. This is a tricky issue requiring consideration; a position’s processing sequence can be changed by Government Title disruption.
 - ✓ If one Act is added to Commerce Power activations, the special rule allowing Cargo Ships to Unload RPs before Construction Power Activations sharing a Scene is abrogated, see Material Handling, 1 Construction, p. 664, *supra*.

The association rule may be considered an *optional rule* if participants desire, but it should be decided *before* choosing Government Titles during set up. Instead, undisrupted Social and Estate Titles with duplicate Vital Power associations should be considered insurance in case of loss of legitimacy of one of the Titles.

*“From this point of view, the history of institutions is the most pathetic of all records. Man has conquered the wild beasts; he has conquered his fellow man; he has conquered nature, but, collectively, he has never succeeded in governing himself. A good government remains the greatest of human blessings, and no nation has ever enjoyed it. There is no ruler, says Plato, who would be **unjustly** condemned by his subjects.”*

– Dean William Ralph Inge, “Democracy and the Future,” Atlantic Monthly, Vol. 129, March 1922, p. 290 (emphasis in original) (free on Google Books)

AI Nanny: Although Plato was speaking about rulers, it surely must have occurred to him that he might just as well be speaking of parents – the rulers of our age of minority who first brought us into existence without our consent (anti-natalism existed in ancient times too): There are no parents who would be unjustly condemned by their children.

GGDM deals directly with the topic of interstellar governments, and indirectly with planetary governments. Earth has never had a planetary government, whether by conquest or any other means. It is possible that global technology and global problems will lead a drift toward an

eventual planetary government, but right now, it's hard to imagine how or by what process (short of heavy-handed external pressure) a planetary government could be achieved on Earth (e.g., Twilight Zone, "A Small Talent for War" (1986)). How much corruption, carelessness and incompetence do we witness on a daily basis in administration of businesses and tasks much less complex than a planetary, in-system or interstellar government would be? This, participants should keep in mind in imagining the complexity and logistics of an interstellar government.

Would Nick Bostrom's "Singleton" (2006) be better?

- ✓ "A singleton has both potential risks and potential benefits. Notably, a suitable singleton could solve world coordination problems that would not otherwise be solvable, opening up otherwise unavailable developmental trajectories for civilization. For example, Ben Goertzel, an AGI researcher, suggests humans may instead decide to create an 'AI Nanny' with 'mildly superhuman intelligence and surveillance powers,' to protect the human race from existential risks like nanotechnology and to delay the development of other (unfriendly) artificial intelligences until and unless the safety issues are solved. Furthermore, Bostrom suggests that a singleton could hold Darwinian evolutionary pressures in check, preventing agents interested only in reproduction from coming to dominate. Yet Bostrom also regards the possibility of a stable, repressive, totalitarian global regime as a serious existential risk." – from Wikipedia article, "Singleton," February 6, 2019.

Nick Bostrom seems to have appropriated a word – I know something about that! Merriam-Webster online dictionary at *singleton*: **1**: a card that is the only one of its suit originally dealt to a player. Merriam-Webster does not include Bostrom's use nor does it mention set theory:

- ✓ "In set theory, a singleton is a set with only one member, but as I introduced the notion, the term refers to a world order in which there is a single decision-making agency at the highest level. Among its powers would be (1) the ability to prevent any threats (internal or external) to its own existence and supremacy, and (2) the ability to exert effective control over major features of its domain (including taxation and territorial allocation). Many singletons could co-exist in the universe if they were dispersed at sufficient distances to be out of causal contact with one another. But a terrestrial world government would not count as a singleton if there were independent space colonies or alien civilizations within reach of Earth." – Nick Bostrom, "What is a Singleton," (2005) (available on his website).

'AI Nanny' is a theme that has appeared in many notable science-fiction works, for example, Kurt Vonnegut's The Player Piano (1952) where a large supercomputer functions exactly as described above (echoed in the backstories of other post-Singularity, post-apocalyptic works such as the board game Ogre (1977), the background stories of the movie franchises The Matrix (1999) and Terminator (1984)), and Isaac Asimov's Robot Eternals who decided that humans would only be happy in an all-human galaxy (The End of Eternity (1955), Foundation's Edge (1982)). It is no intellectual accident that opponents of the Patient Protection and Affordable Care Act (commonly known as "Obamacare") used the term 'nanny nation' to refer to 'big government' social safety nets.

- ✓ In a cute turn on the term, I heard 'singleton' used in a video to describe a single, usually orphaned kitten who may suffer from lack of socialization with other cats due to a lack of a mother and litter playmates, and may be a difficult pet if not socialized.

- ✓ **Rhetorical Question:** Would you be willing to be ruled by a ‘Deep Learning’ AI government, as in Buck Rogers in the 25th Century? Is that the solution? You saw this one coming! See The AI Problem excerpts, Corporations, *infra*.

“Avoid overly pretentious job titles such as ‘Lord of the Realm, Defender of the Faith, Emperor of India’ or ‘Director of Corporate Planning.’”

– Anonymous

Forming a Government: During the setup process, positions obtain their initial Government Titles, which must include one, and only one, Structural Title, and two to four other Social and Estate Titles. See The Power to Choose, 5 Beginnings, p. 50, *supra*. Thereafter, any *voluntary act* relating to restoring, abandoning, adding, or changing Government Titles, must be done by activation of the Order Power for the purpose of Government Formation. Any alteration in the government is a very serious matter that consumes the attention of society during the process, as groups struggle to achieve their agendas, place, or to gain power, therefore, activation of the Order Power for purposes of Government Formation requires two Acts and a Scene on the Capital Colony or three Acts *when and only if* the position currently does not have a Capital Colony.

- ✓ Positions should avoid Government Titles that conflict with ***Fundamental Realities***.
- **Gone With The Wind:** The Concierge will not allow a position to exist for a long period of time without at least one undisrupted Government Title (unless the position is extinct and/or all players have dropped, or as part of the story arc, e.g., Somalia in the 1990s). A position which has no undisrupted Government Titles is a collapsing position, and a helpless position, e.g., a nation without a state, like Somalia in the 1990s, the Palestinians, or the modern Kurds, the largest nation in the world without a sovereign state. All three of these are ongoing ‘trouble-spots’ in our times. Somalia became the epitome of 1990s ‘failed state’ debates.

Each situation will be judged and acted upon independently by the Concierge, however, when a position has no undisrupted Government Titles, the Concierge *may do whatever is necessary* (not, ‘necessary and fair’) including taking Acts and Scenes from other places, shifting RPs, and blocking News Events, to restore the position to at least one undisrupted Government Title so that the position may activate a power to try to restore legitimacy and stabilize the situation. It is quite likely that such a situation will generate tremendous amounts of entropy in the game as well, and losses of resources, colonies, etc. Whenever this occurs, the situation will be posted by the Concierge as a Special Bulletin.

There are three options which could solve this ‘problem’ if participants prefer:

- ✓ The rule could be changed so that each position receives a number of Power Activations equal to the number of undisrupted Government Titles plus one, meaning that any position that has no undisrupted Government Titles will still have one Power Activation. This also means that with five undisrupted Government Titles, a position may (if it has sufficient Acts and Scenes) activate six Powers per Regular Turn.
- ✓ The second option includes the foregoing except that the number of Power Activations per turn is capped at five. In this case, a position is unaffected by the first disruption of a Government Title, making legitimacy less pressing. But the cap also preserves the scarcity restraints imposed by the normal Power Activation rules.

Neither option would grant more Acts and Scenes per Regular Turn as those are received based on uninterrupted Government Titles, and thus a position may still have one Power Activation per turn but is receiving no Acts or Scenes. Likely such a position will still have some Acts and Scenes on the Power Strip.

As Power Activations, Acts and Scenes in GGDM represent the ‘scarcity of means’ (see Shoestring Production, 3 The Sidereal Stage, p. 122, *supra*, also Player Piano, 2 Eras, p. 770, *infra*), participants should be extremely careful and cognizant of any changes that increase the overall availability of any of those three in the game. It creates the same sort of problem as a Monty Haul role-playing campaign.

- ✓ Third, an Expose’ is also an attractive option to attempt to retrieve the situation *as no Power Activation is required* for an Expose’ (see In a Trice, 4 Writs, p. 448, *supra*). In game story terms, this may be most preferable and an Expose’ could be made a requirement whenever a position has no remaining uninterrupted Government Titles.

Any of these options would alleviate the need for emergency Concierge action to artificially restore the position to minimum functionality. If any of these optional rules are preferred, they should be invoked before the beginning of the game.

- Alien Governments: A position’s Government Titles (and the Foresight) are secret, unknown to other positions, unless someone chooses to tell them. However, clever players may be able to see a silhouette profile of your position’s government (*Mens rea*) by observing acts (*Actus reus*) taken in the game – which, incidentally, describes the phenomenology of most relationships between humans, such that the exception is notable. Thus, a game of GGDM might be described as a bunch of people in the middle of an open field (i.e. the Galactic Space).

- ✓ This is why criminal law has found it necessary to develop the concepts of *Mens rea* (i.e. “the guilty mind”) and *Actus reus* (i.e. “the guilty act”) to establish criminal liability. However, these are *simply natural extensions* of what hunters and tribal warriors knew in prehistoric times – that the mind or intent of a creature can be determined *by observing acts and demeanor* (this may be the source of anthropomorphism, see also mythopoeic thinking, see discussion in 1 Temporal Technology, *infra*) – and people of classical antiquity applied these concepts to more complex relations with people. Strict liability laws are those that establish culpability on *Actus reus* alone.
- ✓ As James Baldwin might say, most people have guilty minds; “A reasonably sensible man is satisfied with thinking.” It is the guilty act + the guilty mind that is criminal. Thinking – whether in conformity or non-conformity – is not criminal.

“Our democracy is but a name. We vote? What does that mean? It means that we choose between two bodies of real, though not avowed, autocrats. We choose between Tweedledum and Tweedledee.”

– Helen Keller, quoted by Howard Zinn, [A People’s History of the United States](#), (2005), p. 345

An Unlimited Term: The term ‘government title’ has two meanings at any given moment. First, it is what the form of government is called, such as a republic, democracy, oligarchy, etc., and at the very same time, it is also the rights of ownership of power in that government, the rights (i.e. legitimacy, sovereignty) by which the governors claim to govern. Thus, the title is both the name and the right of the Government Title.

- ✓ **Rhetorical Questions:** What is the difference or relationship between rights and legitimacy; can the concepts be separated in any meaningful way? Do rights exist without legitimacy? Are legal ‘rights’ connected to morally *right*? Are freedom and sovereignty established (and synonymous) by rights or *vice versa*?
- **The Duality:** A Social or Estate Government Title within the game consists of two parts. Part of the Government Title is placed in the Public Space (i.e. occupies Monads), and will occupy a significant amount of the Public Space. The second part of the Government Title is called the Magna Carta,⁴ which describes legitimacy requirements and Conflict Checks.

Dualism and duality have long been a part of at least Western civilization (cf. holism), possibly the center of it (e.g., the mind-body division of the Platonic philosophers that was ported to Christianity, or the pristine heavens vs. filthy, flawed Earth); consider the following:

- ✓ “In 1707 Pope Clement XI declared the Chinese rites idolatrous and ordered the Jesuits to repudiate them. [Manchu Emperor] Kangxi was infuriated that Europeans who could not even read Chinese characters were condemning practices the he himself considered to be civil, not religious, customs.... By now, however, the Chinese themselves were questioning the compatibility of Catholic orthodoxy with their traditions. They recalled that even some Jesuits had once depicted them as unimportant minor descendants of Old Testament Hebrews. Moreover, the dualism of Christian theology was unintelligible to them; the exclusiveness of Western religion was repugnant; its glorification of poverty presented a danger to society. Even China’s earlier receptivity to European technology and the fruits of inductive reasoning waned, and the country turned its back on Western-style modernization.” – Raymond Birn, Crisis, Absolutism, Revolution: Europe 1648 to 1789 (2nd Ed., 1992), p. 170.

Dominance of dualism in religion, politics, and all areas (and later, reductionism, positivism) of human cognition is the reason we now argue about holism as a view. Pristine heavens and the dirty Earth, inside my head, outside my head, mind vs. body, us and them. If *holism* dominated the worldview, would we be arguing now about a philosophy of dualism? Are both necessary?

“No serious sociologist any longer believes that the voice of the people expresses any divine or specially wise and lofty idea. The voice of the people expresses the mind of the people, and that mind is made up for it by the group leaders in whom it believes and by those persons who understand the manipulation of public opinion. It is composed of inherited prejudices and symbols and clichés and verbal formulas supplied to them by the leaders.”

– Edward Bernays, Propaganda (1928)⁵

Endnotes.

¹ **Commentary:** The Federalist Papers are all available for free online, e.g., The Avalon Project, Yale Law School.

² Citation: Star Trek fans may be reminded of the ST:OS “A Piece of the Action” episode (1968).

³ Commentary & Citation: Stephen R. Donaldson explores one possible arrangement at in his Gap Cycle books:

- ✓ “All humans are citizens of one federal democracy, but that state has no military or police force equipped to operate in space. Instead, they delegated human interests in space to the UMCP. Although the United Mining Companies Police is a wholly owned subsidiary of a for-profit corporation, their charter grants them full police powers anywhere in open space. However, each space station has maintained its own security force with jurisdiction over the station itself. ... This seeming incompetence provoked widespread outrage and destroyed public confidence in local security. The legislature responds by passing the ‘Preempt Act,’ giving the UMCP the power to override station security essentially at will. The truth about the theft is that Warden Dios, the director of UMCP, and his boss Holt Fasner, CEO of the UMC, engineered the crisis in order to get the Preempt Act past the legislature. ... Rather than continue to allow Fasner to rule space through his private police, Warden wants the government to nationalize the UMCP, making them answerable to the state. Fasner’s political influence is so great that Warden doesn’t think the government can be persuaded by ordinary activism, and he fears that Fasner will have him killed if he supports a reform movement openly. Warden believes the only thing that could persuade the government to reform the police would be a scandal so devastating that it utterly discredits their moral authority and implicates the CEO, Fasner, and so Warden has decided to make that happen. His plan is to manipulate Fasner into using the police for a variety of heinous crimes – such as bribing station security, working with pirates, or murdering witnesses – and then deliberately fail the cover-up, without allowing Fasner to realize that he is trying to fail.” – from Wikipedia article, “The Gap Cycle,” (series of books by Stephen R. Donaldson).
- Basically, what happens when you send someone else to do your dirty work; the servant CEO Fasner was slowly making himself the master (i.e. *de jure* dictator) through control of the UMCP. As repugnant as this situation appears to us, it is, to Mr. Donaldson’s credit, not implausible:
 - First, it may have been the *de facto* situation already that a major corporation controlled all space traffic, domestic shipping, shipbuilding, technology, and trade and that corporation virtually ruled the Earth or exerted enough political pull to prevent Earth government from exercising sovereignty by forming interstellar police and military forces. Thus, it was easy for Earth government to simply charter the UMCP to do the job.
 - Second, the arrangement makes Earth and the colonies essentially a captive market of United Mining Corporation, a captive market – humanity – which it has a vested and existential interest in protecting. A civil war splitting sovereignty and creating competing military and police powers would be a disaster for that corporation.
 - And third, the human population does not pay taxes to support police and military forces (and what would democratic politicians campaign about if they couldn’t promise to lower taxes?), they do so instead by supporting UMC’s sovereign market monopoly. Recent history has shown the folly of the belief that by contracting out public services to private corporations, the public and politicians can get something for nothing; see the Carillion Collapse, Gross Domestic Product, 1 Construction, p. 662-663, *supra*. But this goes much, much further than that.
 - Finally, taking a page from history, by passing the Preempt Act, the Earth legislature, like the Reichstag’s passage of the Enabling Act in 1933, effectively voted itself impotent; and since it is past history, it is plausible future history in science-fiction literature.

✓ See also discussion of citizenship, Civis Sum, 3 Order, p. 559, *supra*.

⁴ Commentary: The Magna Carta is an actual historical document dating from some centuries before the first UFO was shot down by United Earth Forces over Roswell, however, its literal meaning is “great charter” and it is in that sense that it is used here as part of a Government Title.

⁵ Commentary: Consider the preceding in light of the 2016 U.S. Presidential Election, or, for that matter, every Presidential and major election in U.S. history. Words written in 1928 are revalidated by recent living memory. Three more U.S. Presidential Elections will occur to prove the point before these words are 100 years old.

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See Appendix GT – Emergent Government Titles
See Appendix IP – Interventions Reference Sheet

“It does not matter whether the right to govern is hereditary or obtained with the consent of the governed. A State is absolute in the sense which I have in mind when it claims the right to a monopoly of all the force within the community, to make war, to make peace, to conscript life, to tax, to establish and dis-establish property, to define crime, to punish disobedience, to control education, to supervise the family, to regulate personal habits, and to censor opinions. The modern State claims all of these powers, and, in the matter of theory, there is no real difference in the size of the claim between communists, fascists, and democrats.” – Walter Lippmann, A Preface to Morals (1929)

Republics or Principalities: Walter Lippmann’s idea of the state echoes both Max Weber’s classic definition of sovereignty and also Machiavelli’s famous introductory distinction of two types of sovereign states:

- ✓ “All states, all powers, that have held and hold rule over men have been and are either republics or principalities.” – opening lines to The Prince by Machiavelli (1513), translated by W.K. Marriott.
- ✓ Mr. Weber died in 1920, nine years before the Lippmann book, Mr. Bernays published Propaganda the year before.¹

Note how Lippmann’s description parallels in many respects the Vital Powers described in GGDM – one of dozens of instances where the game design concepts (mainly from 2000-2002) preceded my discovery of intellectuals who already had pioneered the same concepts. This is not to say that I am any sort of intellectual prodigy – I am assuredly not – but that those concepts have become part of our milieu and in my youth, I picked up on the threads of the concepts without knowing or even asking, their origins. This process has been an intellectual version of Zeno’s Paradox, where I play Achilles, forever chasing the tortoise.

- ✓ I did read The Prince when I was about 20 years old. When I later read Albert Camus’ The Fall (1956) in World Literature in my senior year of college – I was 29 years old then – I felt it resembled somehow The Prince, though I still cannot say exactly why. It was just a connection I couldn’t shake. Just something about it...

“Norway is a sovereign nation. Were we to accede to Germany’s demands, we would not be. The answer must therefore be no.”

– Foreign Minister Koht, The King’s Choice (2016), from English subtitles

The Earthly Entanglement: Sovereignty is the necessary, exclusive property of an independent state or entity.² Max Weber famously defined a State as, any “...community that successfully claims the *monopoly of the legitimate use of physical force* within a given territory.”³

- ✓ Within the view of the Marxist-socialist, Max Weber’s formulation is but an expression of the capitalist-bourgeois ideology, to wit:
 - “In the works of the founders of the liberal tradition – that is, the founders of bourgeois ideology – liberty is security and security is liberty. For the

ruling class, security always has and always will triumph over liberty because ‘liberty’ has never been intended as a counter-weight to security. Liberty has always been security’s lawyer.” – George S. Rigakos and Mark Neocleous, “Anti-Security: A Declaration,” 2011, https://www.academia.edu/2292255/Anti-security_A_Declaration.

- ✓ See also, The Bargain discussion at the end of 5 Culture, p. 426, *supra*. ‘Supra-Legitimacy’ was also discussed in relation to Type 3 Fundamental Realities in 3 Beginnings, p. 42, *supra*, and in relation to the ‘Happiness Meta-Aspect’ in 4 Culture, pp. 409, 411, 414, *supra*.
- ✓ In this Marxist view then, security is not a ‘supra-legitimacy’ requirement of all governments, just those of the bourgeois ideology, and there only to the elite rulers, which view I believe would be rejected by the vast majority of humanity.

Sovereignty and legitimacy are the oldest known parts of the ‘structure’ of human civilizations and thus are properly included in any structural discussion.⁴ However, sovereignty is not the application of force alone, it also requires a set of social, cultural, and economic forces that establish that force should not be needed but that if it is needed, it is legitimized.

- ✓ The *Ewiger Landfriede* passed in 1495 universally outlawed the medieval practices of feud and vendetta in the Holy Roman Empire. This created the state monopoly on the use of force in the modern sense, and required the creation of a judiciary to settle disputes, which removed dispute mediation from the direct power of the Emperor. It was the culmination of a medieval peace movement, and its eventual triumph over the next century shows that civilization found it preferable and internalized the idea.
 - A parody of this process must occur in any space-opera setting.
- ✓ The Peace of Westphalia in 1648, made religion a sovereign choice and established inviolate borders, ending the religious wars and establishing international relations.

The structure of a government or political union is determined by who holds sovereignty. Sovereignty in a unitary government system is held by a single person or very small group of elites who can impose their supreme authority on the rest of the population and delegate authority.⁵

Smaller political units hold sovereignty in a confederation and form an intergovernmental umbrella organization for mutual benefit without giving up their sovereignty. A federation is a compromise contractual or quasi-contractual/customary distribution of sovereignty. Civil wars, revolts, succession disputes and insurrections almost always involve a declaration of sovereignty by a group that is not considered to hold sovereignty. Conquest, Conversion and Naturalization of populations (and even reversion) all relate to progressive acceptance of alien or foreign sovereignty.

There is a judicial view that the American Colonies, individually, never at any point had sovereignty, and thus could not have given, granted, conferred sovereignty to or upon anyone, but that sovereignty was conferred upon the colonies collectively by the King of England at the Treaty of Paris (certainly, the Founding Fathers agreed with Judge Bradshaw, see Luther & Charles excerpt *supra*). This view runs counter to the commonly held notion that states gave sovereignty to the federal government in forming the Articles of Confederation, and to the authority under which the state and local police forces have jurisdiction – how can state and local police have jurisdiction if they are not somehow sovereign?

Changes in sovereignty are momentous and, usually not peaceful, events within a society or civilization. There is always some group who has a vested interest in the *status quo* and/or who will perceive a threat arising from any change in sovereignty. Sovereignty is not an abstract concept; it is very real and enforceable by the necessary monopoly on the legitimate use of violence. It is also zero-sum.

- ✓ It is an interesting question for debate, whether each person is sovereign – that is, born sovereign or sovereign at adulthood – and gives up sovereignty by being part of society/civilization, or whether individuals are not sovereign, but that sovereignty is created when a government is formed that claims a geographical territory and certain powers.⁶ Is each animal sovereign? Do our criminal laws treat individual's bodies as sovereign and inviolate? Which side you choose to argue speaks volumes about your philosophical leanings, are you a naturalist, transcendentalist, formalist or legalist?⁷
- Dirty Hands: Monopoly on the legitimate use of physical violence implies death or injury, it implies the willingness to inflict death or injury to keep 'order' and enforce laws. We all like to think we agreed to this by supporting law and order, but really, on a daily basis, our support is irrelevant in that respect; the monopoly was inherited by the current government.
 - ✓ “Civilian authorities left all prerogatives to General Jacques Massu who, operating outside legal frameworks between January and September 1957, successfully eliminated the FLN from Algiers. The use of torture, forced disappearances and illegal executions by the French later caused controversy in France.... On 23 March following a meeting between Massu, Trinquier, Fossy-Francois and Aussaresses to discuss what was to be done with Ali Boumendjel, Aussaresses went to the prison where Boumendjel was being held and ordered that he be transferred to another building, in the process he was thrown from a 6th floor skybridge to his death.

Major Aussaresses was unapologetic regarding the actions he had undertaken during the battle, he said that ‘The justice system would have been paralyzed had it not been for our initiative. Many terrorists would have been freed and given the opportunity of launching other attacks .. The judicial system was not suited for such drastic conditions... Summary executions were therefore an inseparable part of the tasks associated with keeping law and order.’... The battle was the first clearly definable French victory of the war. The Paras and their commanders enjoyed immense popularity with the Pied-noirs and this sense of exuberance and strength would reach its zenith during the May 1958 crisis. ... As details of the use of torture and summary executions became public in the years following the battle and the end of the Algerian War, the French victory and the reputations of many of the commanders became tainted by the methods used in the battle.” – from Wikipedia article, “Battle of Algiers.”⁸

When the revolutionary characters in the movie *Snowpiercer* (2016) discovered that the guards had no bullets, the ultimate Why Not – the threat of instant death or punishment – vaporized in a second. The revolution was on!

- ✓ Irrelevance of consent to monopoly on the legitimate use of force on a daily basis is not the same as arguments about *police effectiveness* on a daily basis. Consent or cooperation of the population has a major impact on policing effectiveness daily (some neighborhoods are known to be or deemed hostile to the police); that is an argument related more to GGDM Enlightenment and Constructural Elements concepts.

- ✓ The core concept of non-violent resistance, non-violent protests is to deprive the authorities of any reason, any opportunity, to legitimize the use of force or violence against the dissidents to disperse the opposition. The second is to be willing to take the risk that they will anyway, the willingness to be victims of the government. Like the Soviets during the Berlin Airlift, if done correctly, with discipline, force of will, and intellect, the government is put into a difficult situation, and the bigger the protest, the better.

The development of the concept of sovereignty is inseparable from and intricately entangled with tribal warriors and heroic stories – the latter morphing into religion and tradition among warriors.⁹ Who else was available to apply physical violence? And to rule and protect, they needed a monopoly on it and a leader to direct them. If for some reason you think this is not conceptually accurate, then we need a new definition of sovereignty. How would the concept of sovereignty develop among other races, for example, sheep or frogs or Emperor penguins? Thus global pacifist movements envision a world without borders – i.e. without sovereignty, and the more anarchist sorts also believe in limited or no government and/or police.

- ✓ “The script, titled *Dead Right*, by the husband-and-wife team of Harry Julian Fink and Rita M. Fink, was originally about a hard-edged New York City police inspector, Harry Callahan, who is determined to stop Travis, a serial killer, even if he has to skirt the law and accepted standards of policing, blurring the distinction between criminal and cop, to address the question as to how far a free, democratic society can go to protect itself.” – from Wikipedia article, “*Dirty Harry*,” September 29, 2019.
 - ✓ “Nothing wrong with shooting as long as the right people get shot.” – *Dirty Harry*, *Magnum Force* (1973).
 - ✓ “Gary Crowds wrote in *Cinéaste*, ‘We are left with the comforting assurance that when we need him, Harry (and all the cops like him who do the ‘dirty’ jobs no one else wants) will be there protecting us from the lunatic fringes of both Left and Right. Sure, Harry may be a little trigger-happy but at least he shoots the right people. The problem, however – one which the film raises but never resolves – is who determines the definition of ‘right’ people?’” – from Wikipedia article, “*Magnum Force*,” September 29, 2019.
 - One critic noted that it would require an hour to explain, for each movie, why *Dirty Harry* is not in prison.
- Glove Cleaner: Power and responsibility go hand in hand, when one exists without the other, chaos or tyranny ensues. In each of us, our megalomaniac and narcissistic inner-selves can imagine power without responsibility; many historical situations feature sovereign power over but without responsibility to select groups or input from those groups resulting in exploitation, discrimination, resistance, and revolts (e.g., the War of the Sicilian Vespers).¹⁰
- ✓ “Freedom, however, is not the last word. Freedom is only part of the story and half of the truth. Freedom is but the negative aspect of the whole phenomenon whose positive aspect is responsibility. In fact, freedom is in danger of degenerating into mere arbitrariness unless it is lived in terms of responsibility. That is why I recommend that the Statue of Liberty on the East Coast be supplemented by a Statue of Responsibility on the West Coast.” – Viktor Frankl.

- There is, in fact, a Statue of Responsibility Foundation for that exact purpose, see <https://www.statueofresponsibility.com/>. It's been around awhile, it doesn't seem to be very close to reality.

Power without responsibility is one of the great injustices that our political and judicial systems have sought to address, in a sense, for example, it might be a cause of the American and French Revolutions, Great Depression or the World Wars, and certainly of the dynastic wars that preceded them. And in our jobs and our lives, we have all experienced being held responsible for events and people we have no power over.

- ✓ Even Yahweh (aka Jehovah) in Robert Heinlein's *Job: The Comedy of Justice* (1984) was held to responsibilities by a higher power: The Branch Office. And Mr. Koshchei (probably related to Ambassador Kosh in *Babylon 5*, both from the Russian fables) had responsibilities to higher-ups, going back in infinite regression. Mr. Koshchei fined Yahweh for abuse of volitionals by forcing him to regenerate the Earth before the Rapture at his own expense from backup files.
- **Might Makes Right**: Implicit in the concept of sovereignty is the idea that might makes right. There is no avoiding it when resistance is removed and disputes are settled by legitimized physical force or resolved by the threat of it. In pre-Socratic societies, the concept had already become entangled with divine sanction, destiny, and heroic tales.
 - ✓ “Rather than upholding a *status quo* and accepting the development of what he perceived as immorality within his region, Socrates questioned the collective notion of ‘might makes right’ that he felt was common in Greece during this period.” – from Wikipedia article, “Socrates.”

Thus Socrates was challenging both the concept of dynastic and aristocratic sovereignty preeminent in his day, but also the mythic religion that supported it. Thus, he was charged with religious impiety and corrupting the youth (see *Hand Me the Hemlock*, 1 Disruption, p. 256, *supra*).

And when hegemony is established by physical force or the threat of it, as is usually the case in history – there are millions of examples – the same problem occurs: Implicitly ‘might makes right.’ This then dovetails into the Hegemony discussion in 4 Order, p. 570, *supra*.

“There’s a reason you separate military and the police. One fights the enemies of the state. The other serves and protects the people. When the military becomes both, then the enemies of the state tend to become the people.’ That quote comes from Battlestar Galactica’s Commander Adama. He says it in the second episode of the first season of the series, ‘Water,’ written by Ron Moore. That episode is 10 years old. It’s kinda crazy that a science-fiction story about interstellar warfare can so eloquently describe the horrifying situation in St. Louis County, Missouri. But it does. And so say we all...”

– Alex Abad-Santos, “Battlestar Galactica’s timely warning about the militarization of policing,” *Vox* (vox.com), August 14, 2014

The Roslin Maneuver: The issue of the ‘militarization of the police’ came to a boil in the summer heat of August 2014 in Ferguson, Missouri. Generally the discussion involved three points: a siege mentality among the police (aggravated by racism), the heavy-handed militant response by the police to protests and rioting, and the questionable decision of the U.S. Government to provide police with discarded military equipment to enhance their ability to fight foreign terrorism and drug gangs (related to the problem created by the Prohibition, see *Flying the Banner*, 4 Government Titles, p. 632, *infra*; see also the Opium Wars, 3 Commerce, p. 1216, *infra*).

- ✓ “On August 14, United States Senator Claire McCaskill (D-MO) stated that ‘militarization of the police escalated the protesters’ response.’ St. Louis Chief of Police Sam Dotson stated he would not have employed military-style policing such as that which transpired. According to Chief Dotson, ‘My gut told me what I was seeing were not tactics that I would use in the city and I would never put officers in situations that I would not do myself.’ Another reason Dotson did not want the city and county police to collaborate was because of the history of racial profiling by police in that county.” – from Wikipedia article, “Ferguson unrest,” captured August 9, 2019 (five years later).

The civil state of any modern country can be judged by the relationship between the military, the police and the population; 2014 provided an unwholesome image of U.S. police departments as a hostile occupation force.¹¹

Sometimes the media can be the police; *All the President’s Men* (1976) was a ‘procedural police crime drama’ with newspaper reporters instead of police because law enforcement authorities were politically conflicted, inept, and untrustworthy in a situation involving the President of the United States.

- ✓ See previous parallel discussion regarding separation of political and military leadership, sociopolitical boundaries, *The Fog of Lützen*, 4 Colleges, p. 510, *supra*.

One of the most effective comments I saw was a post by an Iraqi War (and occupation) veteran which included a picture of him on patrol in Baghdad, with just a rifle and a combat vest and helmet. He commented that he ‘patrolled one of the most dangerous cities in the world with less equipment and heavy-handed force’ than the Ferguson, Missouri police used in responding to an initially peaceful protest.

“There is a contract and a bargain made between the King and his people, and your oath is taken: and certainly, Sir, the bond is reciprocal; for as you are the liege lord, so they liege subjects ... This we know, the one tie, the one bond, is the bond of protection that is due from the sovereign; the other is the bond of subjection that is due from the subject. Sir, if this bond be once broken, farewell sovereignty! ... These things may not be denied, Sir ... Whether you have been, as by your office you ought to be, a protector of England, or the destroyer of England, let all England judge, or all the world, that hath look’d upon it” – Judge Bradshaw’s response to Charles I at Trial in January 1649

Regals and Revolutionaries: In the end, King Charles I lost his stutter and seemed to have understood very clearly the issues. The question he asked was fatal to the future of European monarchies (and of clerical-based legitimacy) and Louis XVI in 1793. Unfortunately, he was so convinced of his hereditary divine right to rule that he could envision no other basis for legitimacy. Judge Bradshaw knew already what position Charles I would take before the High Court convened by the Rump Parliament, and was waiting for the opportunity to *assert supra-legitimacy* as a principle over the King's claim of personal and exclusive sovereignty.

- ✓ See Luther & Charles excerpt, this section.

Giuseppe Garibaldi, the globe-trotting Freemason revolutionary hero of the Italian Unification (and also in South America) was in his youth a revolutionary seeking liberation and unification of Italy, as well as republicanism, social reform, and abolition of the Papacy and all clerical temporal power in Italy. After conquering Sicily and marching to capture Naples in 1860 (at age 53), he seems to have abandoned his campaign for social reform and republicanism – he sided against a peasant revolt in Sicily – instead fighting mainly for the unification of Italy, expulsion of foreign powers, and the recapture of Rome from the French (and abolition of the Papacy). This was a recognition that the forces in play (e.g., Emmanuel II), and his best possible chances for unification of Italy, were not either republican or interested in social reform. Thus, establishing sovereignty and restoring the ancient capital of Italy (and generating international sympathy) was the first priority (and this extended to the liberation of the Balkans, Greece, and Hungary) and the key to long-term self-determination of peoples. Garibaldi likely thought that social reform and republicanism would develop later if the people wanted it.

Subsequent history seems to confirm the validity of this idea; it took nearly a century and a national catastrophe for democratic forces to assert themselves in modern Italy. On July 25, 1943, King Victor Emmanuel III of Italy was able to finally reassert royal constitutional authority, dismiss Benito Mussolini from the government and have him arrested a few days after Rome was bombed by the Allies for the first time. The subsequent Armistice by Italy with the Allies and dissolution of the Fascist Party triggered the German occupation of Italy on September 8, 1943. Italy became a republic by referendum on June 2, 1946, and the King, Umberto II, was forced to abdicate and go into exile. Italy had grown tired of being Europe's centuries-long dynastic game of kick the can, tag, and king of the hill for every would-be conqueror.

- ✓ “I have seen three emperors in their nakedness, and the sight was not inspiring” – Otto von Bismarck (unsourced).
- Wake, Waking: Although the terms “imperial” and “empire” may be distasteful to modern Western citizens of democratic countries, empires are necessary for the development of the structures of human civilization by consolidating and centralizing economies, order, governance, political and military power and forcing the exchange of cultures – they were part of a historical process. In the chaos that follows the fall of the empire; the memory remains.
 - ✓ “‘Genesis, growth, time of troubles, universal state, and disintegration.’ British historian Arnold J. Toynbee published a twelve volume work in 1961 called A Study of History. Those five words are what he deemed to be the stages that all civilizations go through before they ultimately break down. Toynbee argued that civilizations are not brought down by loss of control over the environment or loss of control over the human environment. He also added that attacks from the outside were not necessarily responsible for a society's collapse. But rather it was the societies themselves that

- fail to solve new problems. Instead of creating new solutions to new problems, they overdevelop the structures for solving old ones.” – J.A. Willoughby, “The Promised Land,” This Side of Center (2014), p. 150 (Joseph Tainter seems to agree...).
- ✓ “The old civilisation, with all the brilliant qualities which make many moderns regret its destruction, rested on too narrow a base. The woman and the slave were left out, the woman especially by the Greeks, and the slave by the Romans.” – Dean William Ralph Inge, “St. Paul,” The Quarterly Review, Vol. 220, Nos. 438 & 439, January & April, 1914 (p. 61).¹²
 - ✓ “Quite often the fall of such early empires acquires for later peoples the status of a paradise lost, a golden age of good government, wise rule, harmony, and peace, when all was right with the world. This is clearly evident in the writings of, for example, Gibbon (1776-88) on the Antonine period of the Roman Empire, of the ‘Hundred Schools’ on Chou China (Creel 1970; Needham 1965; Fairbank et al. 1973), or of Nehru on Mauryan India (1959). The attempt to understand the loss of paradise is at the same time a grasping to comprehend current conditions and a philosophy of how a political society should be. Here then is another dimension to the study of collapse: it is not only a scholarly attempt to understand the past and a practical attempt to ascertain the future, but also, in many minds, a statement of current political philosophy (see, for example, Isaac [1971]). This last aspect will not figure highly in the present work, but does account for much of the perennial concern with collapse.” – Joseph Tainter, The Collapse of Complex Societies (1988), p. 39.

St. Augustine of Hippo in On Christian Doctrine (426 A.D.) argued against the complete rejection and abandonment of the cultural achievements of classic antiquity during the terminal decline of the Western Roman Empire (arguing against, for example, his contemporary, St. Cyril of Alexandria whose monks murdered and dismembered Hypatia), but rather that ‘pagan’ skills and knowledge, be incorporated into the new age and repurposed for a Christian world. In his youth, St. Augustine was a teacher of rhetoric in Carthage and was appointed Rhetorical Professor in Milan where he became friends with Ambrose of Milan, also a great orator and rhetorician, thus, St. Augustine saw value for Christianity in pagan arts and knowledge, of which rhetoric was key to spreading the new gospel.

“I can picture in my mind a world without war, a world without hate. And I can picture us attacking that world, because they’d never expect it.”

– Jack Handey, “Deep Thoughts” (Saturday Night Live)

Earth Landing: Most of the classic aliens-land-on-Earth stories involve a violation of some nation’s sovereignty, including – for those who believe – landings by UFOs that have been reported over the years, or even UFOs flying through our airspaces. If aliens, however, landed in the ocean (e.g., The Outer Limits, “Trial by Fire” (1996)), that would be a different issue as no nation can claim sovereignty over the oceans (per classic international law) – do the nations of the Earth as a group have sovereignty over the oceans and would an ocean landing be a violation of collective Earth sovereignty? That is problematical.

Of course, in the classic alien invasion movie, sovereignty is clearly violated, ignored, and is thus not addressed directly in the film. There are a couple of classic First Contact movies that

approach the sovereignty issue – either intentionally or unintentionally – in interesting ways. In *Close Encounters*, it is clear that the U.S. Government invited the alien mothership to land, so no violation of sovereignty occurred; whereas, in the 2016 movie *Arrival*, the heptapods clearly violated the sovereignty of many nations, and the Chinese – probably remembering two centuries of violation of their sovereignty and exploitation by Western powers – were about to initiate hostilities to destroy or eject the alien ship from their territory. Efforts to prevent this action provided the dramatic crucible of the film.

An alien invasion, in the mode of the classic Hollywood movies, would actually demonstrate that humanity is not so bad – because see, the rest of the universe is just like us! That would be the true danger. That is also probably the real reason why we like those kinds of movies. Note for example, that ancient gods of polytheistic religions were – just like us! They stole, they lied and deceived, they were vainglorious, they fought over territories, they were militaristic, jealous, they had craft and technology, they were masters of their realms, they even had children and died. In this sense, alien Earth invasion movies have simply replaced ancient gods.

“The anti-slavery party contends that slavery is wrong in itself, and the Government is a consolidated national democracy. We of the South contend that slavery is right, and that this is a confederate Republic of sovereign States.”

– Laurence Keitt, from Wikipedia article, citing to “Keitt, Lawrence [sic] M. (January 25, 1860). Congressman from South Carolina, in a speech to the House”¹³

Crazy Men with Guns: Though Mr. Laurence Keitt is certainly one of the more ... um ... colorful Congressional characters from that period (see 2 Order, EN 2, p. 544, *supra*), he did summarize the pre-Civil War *structural government dispute* perfectly. The Civil War Amendments (1865-1870, the 13th, 14th, and 15th Amendments to the Constitution of the United States) imposed the anti-slavery party’s vision of the structural relationship of the Federal Government and the States.

An argument has been made by historians that the raid on Harper’s Ferry in October 1859 was an important psychological turning point for the South leading to succession and the American Civil War. Prior to Harper’s Ferry, the South believed and assumed that no white man would ever risk his life or be willing to die for abolition of slavery; ironically, the first person killed by John Brown’s party was a free black man, Heyward Shepard, a baggage handler at Harper station who was shot in the back (looping back to the states had sovereignty argument, *ut supra*, p. 587).

Even though John Brown, who had military experience and a reputation from the 1856 Bleeding Kansas fights against the pro-slavery Missouri Border Ruffians, *was certifiably delusional* – he thought that seizing the armory would create a spontaneous slave revolt and he would gather an army at the arsenal and sweep through Tennessee to Mississippi freeing slaves¹⁴ – *his fanaticism shocked the South* into realizing that militant abolitionist agitators in the North might eventually carry the general population to armed conflict.

The Estate of Southern Slavery was very alarmed by the size and organization of the Harper Ferry raiders, the number of people who knew beforehand (including two U.S. Senators), and by John Brown’s martyrdom in the Northern press. Every school child learns (and forgets as soon as the test is done) the historical coincidence: That future Confederate Army of Virginia commander Col. Robert E. Lee was in charge of retaking the arsenal from Brown’s hooligans, and

that his father was Col. “Light Horse” Harry Lee, who was relieved of command by General George Washington. The history of Arlington National Cemetery is bound up between the descendants of Martha Washington, Robert E. Lee, the American Civil War, and an 1883 Supreme Court decision.

- ✓ Delusional agitators are good excuses for Concierge Interventions in GGDM, *Interventions do not need to make strictly logical sense*. With technology, it takes only one crazy with a gun; imagine the effect of exponential technology and agitators?

Structural Government Titles: There are three types of Government Titles in GGDM. Structural Government Titles (hereafter, “Structural Titles”) reflect *the direction in which the power flows* in a governing system.

Among social creatures, there appear to be only three possible types of structures: Unitary, Confederation, and Dualistic. All positions must have at all times one Structural Title; no position may have at any time more than one *undisrupted* Structural Title.

- ✓ The distinctions really come down to a concept of sovereignty. Sovereignty in turn is a concept of kings. At some point in our early history, a chieftain said, this is my place, these are my people, I rule here, and thus was born the concept of sovereignty. That is, the sovereignty of the people was either vested in, or flowed from (can both be true?) their chiefs whose authority soon became hereditary property, flowing from generation to generation.
- **All Roads Lead To...:** Unlike Estate and Social Titles, Structural Titles do not occupy a separate, ‘exclusive’ area of the Public Space, but rather, dictate the arrangement of other Titles, Pathways connecting the Government to the Colonies, and the placement of the Capital Colony within the Public Space. Whenever the conditions required for the Structural Government Title cannot be met, it is *automatically disrupted* (a very rare occurrence):
 - ✓ A **Unitary Structural Title** requires that all undisrupted Social and Estate Titles be placed together in a bloc, all adjacent to each other, in the approximate center of the Public Space. Each Friendly, Naturalized, or Converted Colony owned by the position must be connected to at least one Social or Estate Title in the bloc by a Pathway of Monads *equal to or less than the total number of Social & Estate Titles plus one* at the time the Pathway is formed. One additional Monad may be added to the length of the Pathway if the Pathway joins another Pathway going to the bloc, but the total length of each Colony’s Pathway must individually comply. The Capital Colony must be connected by Pathways to three Social and/or Estate Titles, using the same rules as other colonies. If a new Capital Colony is declared, new Pathways must be created. The Public Space occupied by the Unitary Structural Title is congruent with the space required by the Estate and Social Titles and Pathways.
 - The Unitary Structural Title generally represents the classic ‘top down’ form of legitimacy (*dominus, basileus, homo summae potestatis*), what Justice Jackson called ‘negative legitimacy’ (e.g., monarchy, dynastic hegemony, divine right).¹⁵ See Romantic Nationalism discussion, 3 Government Titles, p. 618, *infra*. The other Structural Titles are, in varying degrees, rejections of this ideology of force, recognizing *princeps* only

where necessary for military command, preservation of order, and law enforcement. *Führerprinzip* is synonymous with Nazi fascist dictatorship.

- ✓ A Confederation Structural Title requires that no two undisrupted Social and/or Estate Titles can be placed adjacent to each other in the Public Space. Each Friendly, Naturalized, or Converted Colony owned by the position must be connected by Pathway to both: 1) one of the Social or Estate Titles and 2) one other Friendly, Converted or Naturalized Colony controlled by the position. The combined length of the Pathways connecting any colony to both a Social or Estate Title and one other colony *must be equal to or less than* (in Monads) the number of undisrupted Social and Estate Titles plus the number of colonies at the moment the Pathway is formed. The Capital Colony must be connected by Pathways to all of the Social and Estate Titles using the same rules as regular Colonies, plus it must be connected to one other Friendly, Converted or Naturalized Colony controlled by the position. As such, the Confederation Structure may feature long and tenuous pathways that resemble a crazy 🌀🌀 or perhaps the runaround of our daily travels and relationships.

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Confederations in GGDM's interstellar setting represent a sort of bottom-up form of legitimacy (perhaps what Justice Jackson called positive legitimacy, though this is not certain) in terms of planetary governments and a central interstellar authority (without comment on the local planetary power arrangements or government structures).

- “In addition of being a military alliance, the Lombard League was one of the first examples of confederal system in the world of communes. Indeed, the League had a distinct council of its members, called *Universitas*, consisting of representatives appointed by individual municipalities, and which voted by majority in various fields (such as the admission of new members, war and peace with the Emperor), powers that grew more and more with the years, so that the *university* obtained regulatory, tax and judicial power, a system comparable to that of a present-day republic. In the first period of the League the communes had little to do with confederal affairs, and the members of the *Universitas* were independent; in the second period the municipalities gained some influence but, as a counterweight, members were more involved in the municipal council policy. In addition, the League abolished the duties, with the creation of a customs union.” – from Wikipedia article, “Lombard League,” December 11, 2018.¹⁶

Confederations may not be favored by modern people playing this game, but the Confederation is the most probable *voluntary* collective arrangement in an interstellar civilization and if treated in slightly non-standard ways, presents some of the most interesting science-fiction possibilities, for example, Cordwainer Smith's Instrumentality of Mankind setting (1979).¹⁷

- ✓ A Dualistic Structural Title requires the position's Titles to be arranged in two approximately equal blocs (in the manner of the Unitary Structural Title) that are not adjacent. Each Friendly, Naturalized, or Converted Colony owned by the position must be connected to both blocs, each by a Pathway *equal to or less than* the number of

Social and Estate Titles *plus two*, at the time the Pathways are formed. Thus the Dualistic Structural Title position will resemble the hemispheres and corpus callosum of the human brain. The Capital Colony must be nearer to one bloc than the other, but connected to both blocs following the same rules as other colonies. If the Capital Colony is relocated for any reason, the relocation must represent, in the Public Space, a power shift from one bloc to another. Thus, if the Capital Colony was previously nearer to one bloc of Titles, it must then be placed nearer to the other when moved. The space taken up by the Dualistic Structural Title is congruent with the space taken by the blocs and all of the Pathways.

The Dualistic Structural Title in GGDM represents more or less the modern Western notion of the nation-state and probably aligns most with Romantic Nationalism discussed in 3 Government Titles, p. 618, *infra*.

The worldwide trend over the last several centuries has been that the ‘cure’ for most security, social and economic ills has been increased power to national governments. In the United States, the very move from Confederation to Federalism was prompted, in part, by Shay’s rebellion and the external threat of foreign invasion. This trend, in combination with the advent of technology has seen more and more power going to the central constitutional government, making many citizens nervous. The problem is that all of the alternative cures suggested have not worked well. Thus, we are currently in the ‘down’ side of a historical cycle.

“When in the Course of human events, it becomes necessary for one people to dissolve the political bands which have connected them with another, and to assume among the powers of the earth, the separate and equal station to which the Laws of Nature and of Nature’s God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to the separation.” – U.S. Declaration of Independence (1776)

The Claaw is Our Master: The Pathways connecting colonies to Government Titles are inviolate, unmovable, and unavoidable; each colony (other than Conquered Colonies) on the Public Space *must be* connected to Government Titles pursuant to the type of Structural Title the position has chosen. Monads occupied by non-Structural Government Titles (*ut infra*) are inviolate, that is, they cannot be occupied by anything else or used for any other purpose, including connection of Research Groups or Fuzzy Groups. Inviolate means that Monads occupied by the Pathways cannot be used for anything else while the Pathway exists; however, other Pathways can cross a Pathway and Fuzzy Groups can be formed over and are unaffected by Pathways.

The Pathway should be as short and direct as possible and cannot be altered once established, notwithstanding any other items on the Public Space that may be in the Pathway when first laid – they must either be moved or removed at the discretion of the Concierge so that the Pathway can be created.

- ✓ The Pathway from each colony to a Government Title will use at least one of the adjacent Monads, leaving less adjacent spaces for Aspects and Research Pieces and anything else that must be placed adjacent to the colony on the Public Space. A combined Pathway running through a colony will use two adjacent spaces to enter and exit the Monad where the colony is placed, and thus might be disadvantageous.

- **Broken Escalator:** Pathways run between colonies and Government Titles generally, Pathways cannot and should not be connected to stars on the Public Space, connecting a Pathway to a star on the Public Space does not automatically connect all colonies located at that starsystem. For the purpose of Pathways, stars just occupy a Monad on the Public Space and can be moved as long as there is another legal place adjacent to the starsystem's planets on the Public Space.
- **Commons Footbridge:** Two or more colonies can join in a common Pathway as long as the Pathway does not run through a Monad occupied by a Colony. Careful placement of Fuzzy Groups, Government Titles and Pathways on the Public Space is an important aspect of play. Typically, colonies will group around the Government Titles, and the larger a position grows (in number of colonies) the more space will be taken by the Pathways. The economy of Pathways also favors larger colonies, because the same Pathway is required regardless of the size of the colony.
- **Roads Must Roll:** Positions may always choose to connect colonies to Government Titles by more Pathways than are required. This may be insurance against removal or abandonment of the Government Title, but it also consumes more Monads on the Public Space. Extra connectivity *could be interpreted* as extreme loyalty of the colony population.
- **Capitol Chaos:** At any time that the Capital Colony is moved and/or a new Capital Colony is declared, the target colony may need to be moved on the Public Space to a suitable, legal location and/or new Pathways be created to satisfy the requirements of the Structural Title. The Pathways take precedence; some things may be lost. Foresight and planning are key.

*“The term ‘citizen’ supplanted ‘subject’ in this country and others, although not in Great Britain, by a process of lexicographic delineation. Even in the period immediately before the American Revolution, there was no such difference in connotation between ‘subject’ and ‘citizen’ as would predicate reserving the status of ‘citizen’ to the people of a republic and ‘subject’ to those under the sovereignty of a monarch. Distinguished French lawyers, writing during the **ancien regime**, seem to have found nothing preposterous in their occasional use of the term ‘citizen’ with regard to the most absolutistically ruled subjects of the King of France. During the middle ages, ‘citizens’ lived in towns, and so were members of communities exempted from the then almost ubiquitous feudal system. But, when the medieval system of government was replaced by the principles of territorial state sovereignty, ‘subject’ and ‘citizen’ came to be used as synonyms, at least by such eminent writers as Bodin and Grotius, although others, including Pufendorf and Spinoza, obviously inspired by a passage in Aristotle’s **Politics**, attempted to re-establish a distinction between those two terms.*

*Spinoza’s abstractions remained without direct practical effect, until a passage in Rousseau’s **Social Contract**, adapting and somewhat coloring, but not quoting, Spinoza’s proposition, provided the stimulus which made ‘citizens’ the terminology for a self-governing people. An English version of the passage reads, ‘With regard to the associates, they take collectively the name of **People**, and are individually called Citizens, as participating in the sovereign power, and **Subjects**, as subjected to the laws of the state.’”*

– Maximilian Koessler, “‘Subject,’ ‘Citizen,’ ‘National,’ and ‘Permanent Allegiance,’” *Yale Law Review*, Vol. 56, Iss. 1, Art. 12, 1946 (emphasis in original)

Subjects and Citizens: A BBC article put forth the British view that the President of the United States is effectively an elected monarch; that the Founding Fathers had only monarchy to use as example and the presidency was created in that image.

The presidency of the United States combines what is often the president and prime minister in other countries, more or less. At the same time, U.S. Presidential elections, especially in recent years, have exposed the two greatest weaknesses of our democracy: That the process of candidate selection does not reliably produce the best quality candidates for President, and that our system of taxpayer-funded public education does not produce the best electorate either.

The true freedom of the United States was the singular opportunity to cast off the creaking order of the old world (British officers referred to English colonist as ‘Gillies’ – a Scottish term for a servant) to experiment with ideas that others had only dreamt of, such as Judge Montesquieu’s separation of powers and the ideas of Rousseau, Locke, and Hobbes regarding natural and inalienable rights and the duty of government; to rewrite the book. Few people who understand the concept of sovereignty would say that the sovereignty of the United States is in the person of the President (unlike a monarch who has *subjects*). As history has unfolded, the American break from the old order preceded the collapse of the European monarchies (and personal sovereignty of the head of state) and colonial systems into the 20th Century: Subjects became citizens.

- ✓ For example, look at the citizenship listings for Albert Einstein in the Wikipedia biographical article: He was a ‘subject’ of Kingdom of Württemberg (1879-1896), Austro-Hungarian Empire (1911-1912), Kingdom of Prussia (1914-1918) and a ‘citizen’ of Switzerland (1901-1955), Free State of Prussia (1918-1933) and of the United States (1940-1955).
- ✓ See also, Civis Sum discussion, 3 Order, p. 559, *supra*.

“The political organization of space is a particularly powerful source of spatial injustice, with examples ranging from the gerrymandering of electoral districts, the redlining of urban investments, and the effects of exclusionary zoning to territorial apartheid, institutionalized residential segregation, the imprint of colonial and/or military geographies of social control, and the creation of other core-periphery spatial structures of privilege from the local to the global scales.”

– Edward Soja, “The City and Spatial Justice,” JSSJ, January 2009

Social and Estate Government Titles: After the Structural Title requirement is met, each position may have as many Social and/or Estate Government Titles (chosen from the Foresight, see The Power to Choose, 5 Beginnings, p. 50, *supra*) in any combination, as desired up to the limit of five Government Titles, *including* the Structural Title.

The primary purpose of Structural Government Titles ... is to provide the ‘structure’ for a position and are also the most difficult to change or disrupt, they are the bastion of government. The Government Titles which have the most regular and direct effect on the position are the Social and Estate Government Titles.

- ✓ “Activists say these partisan maneuvers undermine democracy and *that politicians shouldn’t be choosing their voters*; politicians who gerrymander like to say that by

winning elections, they've earned the right to draw the districts as they see fit." – Jane C. Timm, "Gerrymandering is alive and well. The coming battle will be bigger than ever." NBC News, December 28, 2019 (emphasis added).

- Social Government Titles: The Social Titles represent the ideals held by the majority of the population (the 'ideal culture' in sociological terms), the way they regard themselves historically and philosophically, their identity. Social Titles answer the questions "Who are we?" and "What do we want?" The Conflict Check for each Social Title is based on the dual questions of how well the Title is fulfilling its own ideals and goals, and later, on how practically attainable those goals are in the current circumstances. Social Titles will tend to occupy larger, irregular shaped areas in the Public Space.
- Estate Government Titles: An Estate is a *cohesive and identifiable group* of people, organizations, or professions in a society that control a vital part of the functioning of the society, who are organized and recognize their potential power, have some leadership, and who actively apply or campaign to exercise or increase that power. Thus, an Estate Title represents a group that claims a share of the power due to their position in society. In any society there may be numerous, overlapping, and shifting Estates of different sizes, all claiming or vying for their share of the authority, trying to make their voices count; the Estate Title represents only the 'major Estates' who at the time the Estate Title is legitimate, control the authority in their society. Thus, the Conflict Check for each Estate Title is based on the goal of the Estate *remaining in power*, and whether or not the rest of society benefits from the Estate's continued power. Estate Titles tend to occupy smaller, regular shaped areas of the Public Space.
 - ✓ The historical inspiration for the Estates Government Title was the late French Estates General system and other similar late Medieval institutions that led eventually to established legislative bodies.
- Resources & Ideologies: A simplified version if you like, Estate Titles represent those who command the resources, while Social Titles represent those who command the ideologies and worldview. Those who have power, and those who have ideas. This does not imply that Estate Titles do not also foster, possess, or require a certain ideology or worldview, which is how Social and Estate Titles naturally overlap. They compete for and combine to form those who command legitimate authority in the civilization. They are not always mutually exclusive or at odds, but they are distinctly different functions, and thus must be regarded separately. In the classic European arrangement, the Church was the Social Title that provided legitimacy to the hereditary nobility and royalty who held Estate.
 - ✓ See discussion of sociopolitical origin of atheism in Europe in Legitimacy, 3 Government Titles, pp. 607-608, *infra*.
- New Kid in Town: The possibilities of Social and Estate Titles in the game are limited by:
 - 1) The words and concepts available to and understood by the designer and participants,
 - 2) What could conceivably work or be applicable to an interstellar civilization (as opposed to a planetary civilization), and,
 - 3) What can be expressed or translated into game terms, in the format in which this game is designed to operate, without granting any 'special powers' or creating new rules.

The game design obviously does not, and cannot, include every possible concept or idea, or every work ever written. Although some science-fiction literature has explored what sorts of governments might exist in the future, most of science-fiction continues with current governments or harkens back to older forms (e.g., Galactic Empires, monarchy, dictatorships, Republics); everything is the same in heaven as on Earth, rarely is anything better.

“The tide turned and the war began to go against the English. This was due in great part to the influence of a young French peasant girl, Joan of Arc. Inspired by the belief that she had been given a mission by God to deliver France from its invaders and to place the Dauphin on the throne of his fathers, she appeared before him, secured his reluctant consent to allow her to lead some troops, inspired them with her own enthusiasm and confidence, and won a great success by driving away the English who were besieging Orleans. The Dauphin himself was then stirred to greater activity and under the persuasion of the Maid of Orleans, as she came to be called, made his way to Rheims, the ancient coronation city of the French kings, and was there crowned king of France. Joan now felt that she had fulfilled her mission and asked to be allowed to return to her home, but the Dauphin insisted that she should remain with the army.

Sometime after this she was captured by the English. After a trial which was planned to end in but one way she was burned as a witch in the marketplace of Rouen. Even one of the persecutors of the innocent French patriot girl wavered and turned away, crying, ‘God have mercy upon us, we have burned a saint.’ The movement of success which Joan had begun continued, and although the French frequently wasted their opportunities, yet on the whole the reconquest of their native land went steadily on. The English were driven out of one province after another; their expeditions from England were more poorly equipped and more unsuccessful. Finally the long war came to a close in 1453 by the defeat of an English army near Bordeaux, and the loss of all their territory in France except Calais.”

– Edward Potts Cheyney, *A Short History of England* (1904), p. 269 (emphasis added)

The Trial of Joan of Arc: Medieval society, due to the late Roman and post-Roman Christianization, seems to have had the most direct and literal reliance on symbols: artifacts, places, and persons. This is the distinguishing feature of the European medieval period; there really were no competing ideologies or any such ideologies were subsumed under dynastic claims (the Renaissance and Reformation then stands as the emergence of competing ideologies in Europe).

A striking example is the affair between Henry VI and Charles VII. Henry VI, the 10-year old son of Henry V of England, was crowned as King of France at Notre Dame in English occupied Paris in 1431 (he had been King of England since 1422). Seven-year old Charles VII, who had been disinherited by his father, was escorted by 17-year old Joan of Arc to Rheims cathedral in 1429 to be crowned as King of France. Rheims cathedral was the usual place of coronation of French kings and thus, in addition to being the surviving son of Charles VI, Charles VII had the stronger claim to legitimacy and the ‘blessing’ of Joan of Arc. Meanwhile, the English Court of Henry VI was consumed with corruption, intrigue and Henry’s bouts of insanity leading to the War of the Roses and death of Henry VI while imprisoned in the Tower of London in 1471.

- ✓ “Of the love or hatred God has for the English, I know nothing, but I do know that they will all be thrown out of France, except those who die there.” – Joan of Arc, Trial records, March 15, 1431.

Joan of Arc was captured by the Burgundy faction, sold to the English and executed as a witch or heretic about a year and a half later in early 1431. Joan of Arc’s trial helped destroy any English

legitimacy in France. It was a political stage act, it broke every rule of ecclesiastical court procedure in that day, the court altered the transcripts of her testimony against her favor, fabricated evidence, and invented crimes on the fly, and it was considered a hideous affair even by the English (similar to Roland Freisler's People's Court in Berlin). All involved must have seen Biblical parallels which placed them on the wrong side of history and the English seemed to have taken extra precautions to insure she was really dead and had her body destroyed.

Further, by keeping her in a secular prison instead of confining her with nuns, the English left themselves open to charges of rape, and in fact, she did allege during her trial an attempted rape by an English Lord who entered her cell as well as groping, torment, and attempted rape by commoner English guards.

“A movement is pioneered by men of words, materialized by fanatics and consolidated by men of actions.”

– Eric Hoffer, The True Believer: Thoughts on the Nature of Mass Movements (1951)

Endnotes.

¹ Commentary & Citation: Consider the following: “After nearly fifty years of practicing law it was really a relief to give so much of myself for a time to the questions that interested me most. I never missed a chance to speak or write against prohibition. It was a matter of fighting for the liberty of the individual. I had no delusions about mankind in general. I knew his origin and the method by which he received his ideas and opinions. I knew the weakness of his intelligence, his narrow experiences, his misinformation on all questions pertaining to life, the depth of his prejudice, and his inordinate conceit; and yet I liked him. Never did I blame him, but I always feared him. In the hands of the powerful and crafty he is like clay in the grasp of the potter. Under the leadership of the tyrant he is dangerous to the peace of the world. I enjoyed talking on social, political, and religious problems particularly. I wanted to make converts. I wished to make every one reasonable and tolerant. To be sure I realized that what really drew me to these endeavors was the self-satisfaction that I got out of it all, and so I am aware that it has not been a desire to help my fellows nearly so much as to gratify certain feelings of my own.” – Clarence Darrow's memoirs on the Sweet Trials, from his book, The Story of My Life (1932), Ch. 34.

- ✓ See Edward Bernays quote, 1 Culture, EN 1, p. 359, *supra*.
- ✓ Mr. Darrow most certainly was aware of and probably had read both Bernays and Lippman, his contemporaries, whom he seems to echo here. The writings of these three together might be taken as representing an intellectual pessimistic realism in post-WWI America.
- ✓ The other attraction of this quote that perhaps led to its inclusion (other than as stated above) here is that I concur in the opinion expressed by Mr. Darrow and likewise confess, with far less eloquence, the complicity of designing GGDM with my own satisfaction and gratification. See also 4 Culture, EN 2, p. 418, *supra*; Mr. Darrow and I are both talking about a sort of self-actualization.

² Commentary: To the extent that anyone else can tell you what to do or not do, you are less sovereign. Sovereignty is generally treated as zero sum by those holding it, and the extent to which you accept sovereignty as a zero-sum quality defines your theory of sociopolitical relationships.

³ Commentary: The presence of two police officers – agents of the state who have legitimate authority to use physical violence – was key during the hostile rescue of Raja the Elephant in 2014. The owner and his friends were intent on intimidating the approximately 30 forestry officers, veterinarians and animal handlers involved, and on physically blocking the animal from being taken. But they were not willing to risk death, injury, or criminal punishment to block the enforcement of a court order for seizure of the animal. The police presence created room for rescue.

⁴ Citation: “The two legal entities ... *Senātus* and the *Populus Rōmānus*, are sovereign when combined. However, where *populus* is sovereign alone, *Senātus* is not. Under the Roman Kingdom, neither entity was sovereign. The phrase, therefore, can be dated to no earlier than the foundation of the Republic. This signature continued in use

under the Roman Empire. The emperors were considered the *de jure* representatives of the people even though the *senātūs consulta*, or decrees of the Senate, were made at the *de facto* pleasure of the emperor. *Populus Rōmānus* in Roman literature is a phrase meaning the government of the People. When the Romans named governments of other countries, they used *populus* in the singular or plural, such as *populī Prīscōrum Latīnōrum*, ‘the governments of the Old Latins.’ *Rōmānus* is the established adjective used to distinguish the Romans, as in *cīvis Rōmānus*, ‘Roman citizen.’

The Roman people appear very often in law and history in such phrases as *dignitās, maiestās, auctoritās, libertās populī Rōmānī*, the ‘dignity, majesty, authority, freedom of the Roman people.’ They were a *populus liber*, ‘a free people.’ There was an *exercitus, imperium, iudicia, honorēs, consulēs, voluntās* of this same *populus*: ‘the army, rule, judgments, offices, consuls and will of the Roman people.’ They appear in early Latin as *Populus* and *Populus*, so the habit of thinking of themselves as free and sovereign was quite ingrained. The Romans believed that all authority came from the people. It could be said that similar language seen in more modern political and social revolutions directly comes from this usage. People in this sense meant the whole government. The latter, however, was essentially divided into the aristocratic Senate, whose will was executed by the consuls and praetors, and the *comitia centuriāta*, ‘committee of the centuries,’ whose will came to be safeguarded by the Tribunes. One of the ways the emperor Commodus (180–192) paid for his donatives and mass entertainments was to tax the senatorial order, and on many inscriptions, the traditional order is provocatively reversed (*Populus Senatusque...*)” – from Wikipedia article, “SPQR,” captured September 27, 2018.

⁵ **Commentary & Citation:** The concept of sovereignty is perhaps demonstrated by the appointment of military commanders by essentially subletting or conferring a degree of sovereignty upon the person of the commander, e.g.:

- ✓ “In April, the diploma by which Suleiman confirmed Ibrahim Pasha’s appointment as *serasker* included the following: ‘Whatever he says and in whatever manner he decides to regard things, you are to accept them as if they were the propitious words and respect-commanding decrees issuing from my own pearl-dispensing tongue.’ Quoted by Rhoads Murphey in *Ottoman Warfare 1500–1700*, p 136.” – from Wikipedia article, “Siege of Vienna” (1529), n. 10, captured December 22, 2018.

The President of the United States is not a sovereign person, but is appointed by the Constitution as the Chief Executive and the Commander-in-Chief of the Armed Forces of the United States. The essential element, sans sovereignty, of transfer of authority remains; the President is responsible for the commissioning of officers and appointment of commanders under his command, though this process now has little actually to do with the President. But the concept is still a part of the oath of enlistment (which I have taken a few times) of the United States armed forces (excepting the National Guard oath which is slightly different):

- ✓ “I, _____, do solemnly swear (or affirm) that I will support and defend the Constitution of the United States against all enemies, foreign and domestic; that I will bear true faith and allegiance to the same; and that I will obey the orders of the President of the United States and the orders of the officers appointed over me, according to regulations and the Uniform Code of Military Justice. So help me God.” (Title 10, US Code; Act of 5 May 1960 replacing the wording first adopted in 1789, with amendment effective 5 October 1962). From army.mil, the website of the U.S. Army, December 22, 2018.

It is notable that the oath first demands loyalty to the Constitution of the United States, the document of the sovereign nation, followed in due order, by an oath to obey the orders of officers appointed by the President. The President of the United States does not exist without the Constitution and has no authority without the Constitution, and thus is not a sovereign person.

⁶ **Commentary:** See King Arthur’s encounter with the Annoying Peasant in Monty Python and the Holy Grail!

⁷ **Commentary:** Philosophical ruminations about the ultimate source and nature of sovereignty should not be construed in any way as supporting the so called “sovereign citizens movement,” which I regard as utter nonsense in all its forms. ‘Sovereign citizens’ are people who want to manufacture an excuse to do whatever they want, weasel-worded anarchist wannabes, without consequence or responsibility – usually after they are caught by law enforcement. They are people who want to enjoy the benefits of civilization – roads, technology, goods and services, commerce, culture, emergency medical assistance, peace and good order – without doing their part, paying their fair share, and being responsible. They are the warped adult version of the juvenile who whines, why do I have to go to school (this is slavery!), why do I have to mow the grass if it’s all going to die in the fall, why do I have to shovel the snow ‘cause it’s all going to melt in two months anyway?

⁸ **Commentary:** Considering the hatred of the French occupiers by the native population, why did the FLN lose? Of course, there were great material and manpower differences between the opposing forces, but the FLN was waging an offset campaign and should have at least survived. However, it is the classic conundrum of ‘terrorist’ resistance: 2 Government Titles – Earthly Entanglement

How can you convince the population that you are fighting for them when civilians are being killed by your planted bombs? When it is the civilian population who are being terrorized, essentially caught between sides and just wants it to end? This is the danger of radicalization of resistance, the more radical they are, the less likely they are to inspire support or even a general uprising. Radicalization leaves them isolated, with no exit, except death.

- ✓ In May 1958, General Jacques Massu, who had come to resent what the French had done in Algiers, was the leader of a military coup d'état that seized control of Algiers, then Corsica, and caused the collapse of the Fourth Republic in France, eight months after they had destroyed the FLN and 'won' the Battle of Algiers. So the victorious military leaders of one day became the rebels of the next day ... not uncommon in history.
- ✓ Three years later, in 1961, a group of four retired generals with some other officers (supporters of de Gaulle in 1958), organized another coup d'état to try to force the French de Gaulle government to stop negotiations for the independence of Algiers. The widespread use of transistor radios allowed the soldiers in Algeria to hear news from France that was not controlled or screened by their officers, which may have caused them to refuse to join the insurgent coup. This is a case where technology affected the outcome of a dicey affair.

⁹ Citation: "When population in the Preclassic became sufficiently dense that productivity fluctuations were a matter of serious concern, the solution to each local group so affected must have been obvious: raid neighboring groups to make up a deficit. Since the only alternative over the short-term was famine, the development of warfare ... was entirely expectable. Long-term solutions included agricultural intensification and the establishment of a hierarchically managed economy. These were not permanent solutions, however, for the archaeologically-evident pattern of population growth indicates that, with each establishment of a higher-capacity production system, population simply rose further. The military option must have been perpetually tempting.

The establishment of competitive relations among local Mayan groups had important implications for the further evolution of ... society. It is no accident that population pressure, warfare, and sociopolitical complexity emerged together in the Middle and Late Preclassic and the Protoclassic, for as Webster has argued, they were systemically related (1976a, 1977). Organization for the initiation, conduct, and resolution of war provided a significant managerial/leadership role that contributed to the emergence of a social hierarchy. Economic stratification resulted from success at war, as the bounty of a successful campaign was subject to expropriation and distribution by the leadership (Webster 1976a, 1977: 349-51).

Although major fortifications did exist, the majority of conflicts (if they were indeed related to subsistence stress) would have involved raids on fields, as crops neared maturity, and on peasant villages and storage complexes, after the harvest. The insecurity that this created among the rural population selected for nucleation around secure, regional centers (Sanders 1981a: 361; Webster 1977: 348). This in turn further intensified subsistence stress, as populations aggregated into smaller areas, leaving large hinterlands with comparatively fewer people and less agricultural production (Webster 1977: 348)...

Complex feedback relations emerged among agricultural production, conflict, and complexity. Productivity fluctuations made military adventures tempting, even essential, while in turn military strategy came to influence agriculture. Dispersed, shifting swidden plots were essentially indefensible (at least at any reasonable cost), and yet were highly vulnerable and essential to subsistence. Concentrated, intensive systems, such as raised fields and terraces, were at the same time more easily defended (being compact, concentrated, and stationary) and productive enough to be worthwhile defending. The same consideration applies to centralized storage facilities. While it would be simplistic to suggest that warfare was the sole reason for agricultural intensification, it certainly made intensification that much more attractive. (And of course once present, such capital assets make tempting targets [Webster 1976a: 111, 1977: 367-8].) Similarly, management of conflict was probably not the only reason for the emergence of sociopolitical hierarchies, but both directly (through the need for military leadership) and indirectly (through the need for labor mobilization and agricultural management), it certainly influenced their development." – Joseph Tainter, The Collapse of Complex Societies (1988), pp. 171-172.

- ✓ "The first set consists of continental differences in the wild plant and animal species available as starting material for domestication. That's because food production was critical for generating large surpluses that could support non-farming specialists, and the buildup of large populations enjoying a military advantage over others. All developments of economically complex, socially stratified, politically centralized societies beyond the level of small nascent chiefdoms were based on food production. Pleistocene extinctions played a large part in the availability of domesticable animals, limiting options greatest in Australia and the Americas. In terms of technology, most societies acquired much more from other societies than they in-

vented themselves. Thus, diffusion and migration within a continent contributed importantly to the development of certain civilizations.” – Jared Diamond, Summary of Guns, Germs, and Steel (2017), p. 45, Kindle Edition.

- ✓ This is key to understanding also the plight of the Plains Indians as the white hunters wastefully decimated the bison population in 1872-1873 with long range rifles and intensive organized hunting to satisfy the demands of the east. They did not kill the bison for food – the whites had plenty of food – but to harvest certain parts that had high value in the markets. The Indians, birds, and wild dogs were left the carcasses to scavenge. In this light, it is understandable why leaders such as Comanche Chief Quanah Parker and Medicine Man Kwihnai Tosabitu (aka Isatai’i) were alarmed by the threat to their people’s existence, the threat of starvation due to the decimation of the bison, and the invasion of white settlers. This led to the Second Battle of Adobe Walls in June 1874, where hundreds of Comanche, Cheyenne and Kiowa warriors were defeated by a small group of white hunters with modern weapons and long-range rifles. A similar result occurred in September 1874 at the Buffalo Wallow Fight where two civilian scouts and four troopers held off over 100 Comanche and Kiowa warriors with accurate rifle fire, though five were wounded and one killed. Native American losses are disputed in both engagements but they were spiritually defeated.

¹⁰ Commentary: Rotten eggs, have you ever smelled them? “Dirty Hands” and “Glove Cleaner” refer to an original Twilight Zone episode, but could just as well refer to Dirty Harry movies.

¹¹ Citation: “The Army is a broadsword, not a scalpel. Trust me, senator, you do not want the Army in an American city... Twelve hours after the President gives the order we can be on the ground. One light infantry division of 10,700 men, elements of the Rapid Deployment Force, Special Forces, Delta, APCs, helicopters, tanks, and of course the ubiquitous M16A1 assault rifle. A humble enough weapon until you see it in the hands of a man outside your local bowling alley or 7-11. It will be noisy. It will be scary, and it will not be mistaken for a VFW parade... I urge you – I implore you – do not consider this as an option.” – General William Devereaux “The Siege.”

¹² Citation: This entire volume of the Quarterly Review is in the public domain and has been digitized on Google Books, free to the internet public.

¹³ Citation: From the *Congressional Globe*, 19th Century predecessor to the *Congressional Record*. Unfortunately the hundreds of pages of images from the record at <https://memory.loc.gov/ammem/amlaw/lwcglink.html#anchor36> are apparently not text searchable and display one page at a time for reading.

¹⁴ Citation: However, see previous feature quotes by Frederick Douglass and Harriett Tubman that slaves didn’t know they were slaves, 3 Order, p. 546, *supra*.

¹⁵ Commentary: As in the Concierge is always divine and always right!©

¹⁶ Citation: Note that the Wikipedia article contains links to both the current and the 1911 Encyclopedia Britannica articles on the Lombard League. A comparison of those articles demonstrated that the Wikipedia article is more detailed than the 1911 Encyclopedia Britannica online article on the same subject. Yet, as mentioned previously, the former would not be accepted in many places whereas the latter would be authority without question in any school writing and research assignment paper.

¹⁷ Commentary & Citation: Walter Jon Williams suggests that Dr. Paul Linebarger, one of the odder intellects of the science-fiction college, who taught at Duke University and John’s Hopkins Institute for Advanced International Studies in Washington, while he worked for the U.S. Government and wrote the manual on Psychological Warfare (Infantry Journal Press, 1948), wrote science-fiction stories under the famous pseudonym Cordwainer Smith to avoid government scrutiny of his fiction and that his fiction was not scrutinized because authorities at the time regarded the science-fiction genre as trivial, ridiculous and not worth scrutiny (consistent with the assertion of my white haired 12th Grade English teacher, in 1984 that science-fiction is not literature). See, Walter Jon Williams, “The What-He-Did: The Poetic Science Fiction of Cordwainer Smith,” October 7, 2016, Tor.com.

- ✓ The 1956 movie, Forbidden Planet, is considered a watershed moment in popular acceptance of science-fiction as literature. MGM, who had never made a sci-fi movie, jumped into the market. Two points distinguished Forbidden Planet: 1) the actors, directors and producers determined that they had to take the story *seriously* and 2) Forbidden Planet had a *serious budget* (along with astounding development of new techniques, sets, and post production) much larger than any of the previous (budget-starved) science-fiction movies. From “Everything you need to know about Forbidden Planet,” JonnyBaak YouTube Channel, August 1, 2019.

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“There is a natural and necessary progression from the extreme of anarchy to the extreme of tyranny, arbitrary power is most easily established on the ruins of liberty abused to licentiousness.”

– George Washington, Circular Letter to the States (1783)

“Liberty may be endangered by the abuses of liberty as well as by the abuses of power.” – James Madison

Tale of Two Revolutions: Why didn’t the American Revolution implode, fragment, collapse, or become corrupted or diverted, as the French Revolution did twenty years later and so many others have done before and since? While some French people and Francophiles might be offended, no one can seriously argue that Emperor Napoleon was the *goal* of the revolution.

Suggested factors in favor of the American Revolution include the character of the leaders (level-headed, practical, educated farmers and businessmen of the Age of Reason), the frontier outlet, availability of resources, European self-preoccupation, protection of the seas, Protestantism, a break from the old world, the Enlightenment and a dose of geographic good fortune (*à la* Jared Diamond). Shay’s Rebellion and the Burr Conspiracy hint at what could have happened.

- ✓ “We seem convinced that majorities exist to impose their will with few concessions and that minorities exist to prevent the party in power from doing anything important. That’s not how we were meant to govern.” – Sen. John McCain, “It’s time Congress returned to regular order,” Washington Post, August 2017.

Note the date of George Washington’s Circular Letter to the States – *sixteen years* before Lucian and Napoleon Bonaparte’s coup of 18 Brumaire. Sixteen years before demonstration of his point in the land of America’s ally in the War of Independence when their revolution imploded.

- ✓ “A shabby compound of brute force and imposture, the 18th Brumaire was nevertheless condoned, nay applauded, by the French nation. Weary of revolution, men sought no more than to be wisely and firmly governed.” – Arthur William Holland, “The French Revolution” (Encyclopædia Britannica, 11th Ed., 1911).

I highly recommend reading about the events of both 18 Brumaire (1799) and 25 Luglio (1943), in the former, the lack of reaction on the streets of Paris from the obvious coup d’état sanctified the end of the Revolution and a weary return to absolutism, in the latter case, the Italian public poured into the streets after the late night announcement and celebrated the fall of the Fascist regime.¹ And in 1660, Charles II returned without opposition to England weary of radicalization.

- ✓ “And the men who spurred us on, sit in judgment of all wrong, they decide and the shotgun sings the song.” – The Who, “Won’t Get Fooled Again” (1971).

Successful coups *d’état*, putsches and revolutions, of necessity, *must retroactively legitimize* whatever process, violence or atrocities occurred during the revolution, regardless of political or social cost to the new regime. Had the American Revolution failed, the Declaration of Independence would be an obscure historical document. Revolutions also frequently feature lies, deceptions and falsehoods and questionable ethics (for example, the Amethyst incident in 1949, or the Great Leap Forward and subsequent Great Chinese Famine), and/or a cast of unsavory characters

(such as Aaron Burr or Han Solo), which acts are all justified by or in the name of the greater cause.

“Al-Otaybi had turned against Bin-Baaz and began advocating a return to the original ways of Islam, among other things: a repudiation of the West; abolition of television and expulsion of non-Muslims.’ He proclaimed that ‘the ruling Al-Saud dynasty had lost its legitimacy because it was corrupt, ostentatious and had destroyed Saudi culture by an aggressive policy of Westernization.’”

– from Wikipedia article, “1979 Grand Mosque seizure,” quoting Robin B. Wright, *Sacred Rage* (2001) ²

Legitimacy: Legitimacy is a test of whether or not a Government, and hence the government’s authority, is generally regarded as *legitimate* by the civilization that it governs; legitimacy is “the quality of state of being legitimate.”³ Legitimate relates to being regarded as true to purpose, lawful, and/or conforming to accepted principles (in part, the ‘legal-rational authority’); that is, what is “legitimate” is based solely on an interpretation of the people within their cultural framework (related to morality, ideology), and not an objective reality.⁴

- ✓ The Revolt of the Comuneros (1521-1522) in Castile, Spain, against Charles V (Holy Roman Emperor mentioned in Unintended Consequences, 2 Entropy, p. 236, *supra*) provides a good example of legitimacy and revolts of the period. The rebels gained legitimacy by claiming to fight for Queen Joanna of Castile (Queen Doña Juana, mother of Charles V, aka Joanna the Mad) as a rightful monarch of Castile (her pushy brother was King Ferdinand II of Aragon). The rebel commander, Pedro Girón, maneuvered himself out of position and opened the way for the Royalist forces – stealing a night march – to capture Tordesillas where Joanna had been confined by her brother on claims of insanity; you can envision this being a very bad chess move (i.e. ‘fool’s mate’). With the loss of Queen Joanna, the rebel’s claims to legitimacy (in the view of that period) vanished (cf. to modern people’s revolutions). Girón resigned command, and somehow avoided being executed by either side; he spent his remaining days in exile in Africa commanding forces against the Moors. Today, the Revolt of the Comuneros remains a *symbol* to Castilian nationalist of revolt against foreign rule.

Most legitimacy occurs in the form of passive acceptance of the *status quo*, ‘the way things are’ even to the point of creating divine⁵ or cosmic reasons supporting the order of things or the rule of a particular group.

- ✓ For example, the MLA has legitimacy as the authority on style and grammar in the English language simply because all of the colleges require their students to buy and abide by the MLA style handbooks. No one ‘elected’ the MLA to be the authority on English style and punctuation (for example, the mid-1980s decision that the period goes inside the quotation marks and not outside, as I was taught in high school); they simply ‘are’ (i.e. were *de facto* appointed by college professors and editors) because of their established reputation which is perpetrated each semester upon unsuspecting college freshman and high-school students. The DSM is another example. And so is Merriam-Webster dictionary; if Merriam-Webster shows an entry as hyphenated, e.g., ‘spin-off,’ then it’s hyphenated, whereas if it doesn’t, e.g., ‘godlike’ instead of ‘god-

like,’ then it is not. You can cite the MLA and Merriam-Webster dictionary in any school paper grading argument and probably will win.

So globally entrenched are modern democratic ideals that non-democratic forms of government are usually considered automatically autocratic regimes who seek to suppress all dissent (which includes democratic leanings) and hold show trials, or hold sham elections in a bid for internal and external legitimacy. Legitimacy in the past has often been achieved by combining religious and secular authority into one person or marriage (e.g., king weds high priestess, the Papal States, 15th-century bishops⁶).

The ability to grant legitimacy literally became a business which was abused to licentiousness by most Popes in the late medieval period. While the Roman Senate had long been the grantor of legitimacy (e.g., Odoacer, Herod the Great), or sometimes the Praetorian Guard (e.g., Year of the Five Emperors, see Household Troops, 6 Government Titles, p. 653, *infra*), as the glow or shadow of the Empire faded, the Pope became more palatable as the adjudicator of legitimacy in Christian Europe.

A good example of this is shown by the War of the Sicilian Vespers:

- ✓ “Pope Alexander IV literally shopped around for a buyer for the crown of Sicily. In 1256 King Henry III of England agreed to buy the crown for his son Edmund for 135,541 German marks. He raised secular and church taxes in England and paid the Pope 60,000 marks, but could raise no more. The people and clergy of England refused to be taxed any further to enable an English prince to sit on the Sicilian throne. On December 18, 1258 Pope Alexander issued a bull releasing Henry from his obligation to buy the throne, but he kept the 60,000 marks already paid (cf. Runciman, Chapter 4).” – from Wikipedia article, “Sicilian Vespers,” captured November 21, 2018 (referencing Steve Runciman, *The Sicilian Vespers: A History of the Mediterranean World in the Later Thirteenth Century*, 1958).

It is certain that no one consulted the residents of Sicily on this matter, and thus the residents of Sicily were treated in a manner similar to shop employees whose new manager is appointed by the large business owner. The business of the Pope was selling ultimate legitimacy and the business of the nobles was local power and wealth. The commoners were just employees in the great enterprise of Western civilization and I believe that this generally describes the arrangements that we now call feudal Europe. The change from subjects to citizens in the west was the shift in the legitimacy granting power from Popes and Kings (via appointments and charters) to the people, when they began to assert themselves by force of arms (see Subjects and Citizens discussion, 2 Government Titles, p. 599, *supra*).

- ✓ “[Atheism] had only a limited amount to do with reason and even less with science.... In reality ... modern atheism was primarily a political and social cause, its development in Europe having rather more to do with the (ab)use of theologically legitimized political authority than it does with developments in science or philosophy.” – Nicholas Spencer, *Atheist: The Origin of the Species*, as quoted in Michael Robbins, “Atheists Used to Take the Idea of God Seriously. That’s Why They Mattered.” Slate Magazine, July 8, 2014.

- **Legitimacy & Authority:** Legitimacy is the first question of authority, just as jurisdiction is always the first question of any court of law. It simply cannot be avoided, they are axiomatic. Both are externally determined; a court cannot grant itself jurisdiction and an authority cannot grant itself legitimacy, not even by claiming divine sanction. The source of legitimacy is always the consent of those who are governed, regardless of what is claimed by those in power; for example, the legitimacy of a theocracy is the faith of the followers that allows the clerics to rule, not the power of some imaginary deity. In general, legitimacy of authority and government is that essence that captures the faith, confidence and hope of the majority of the governed, or at least, their passive acceptance of the current situation.
- ✓ The irony was not lost on anyone either inside or outside of the ‘workers’ paradise’ of Eastern Europe that protests were crushed by occupying Soviet troops, and the use of force blamed on the West. Loss of legitimacy is an inescapable cognitive dissonance.
- Consider the scene in the movie *Lawrence of Arabia* (1962). A member of one tribe kills another in a dispute. Immediately, the situation threatens to break into an open melee between the tribes, endangering the coalition that Col. Lawrence had assembled. He fires his pistol to get their attention and then intervenes: “The Law says the man must die.” After receiving assurances from the chiefs, he declares, “Then, I will execute the Law. I have no tribe and no one is offended.” The man he executed with his pistol is the man whose life he had previously saved (Ali: “That man he killed was the man he brought out of the Nefud.”) suggesting a circumstantial circle, but more importantly, in doing so, he placed himself above the tribal laws (in much the same way as the state) and their acceptance of this legitimized his authority was by at the minimum, passive acceptance.⁷
- ✓ “I have asked some of the Great White Chiefs where they get their authority to say to the Indian that he shall stay in one place, while he sees white men going where they please. They cannot tell me.” – Chief Joseph, a leader of the Wal-lam-wat-kain (Wallowa) band of Nez Perce Native Americans.
 - The return of the Diaspora to Palestine and the re-founding of Israel is a similar enough situation that the Palestinians in Gaza might ask the same question, feel the same way.
 - If my housecats, who have been in my house since they were all kittens, had the cognition and the communicative ability they might ask me the same, why must they stay in the house while they see other outside cats going where they please? On what authority do I keep them in the house?
 - The lawn and hedges might ask the same, why do they need to be trimmed and shaped when other bushes and grasses in empty lots and around abandoned, condemned houses, grow unhindered?
- **Sovereignty & Legitimacy:** Legitimacy should not be confused with official recognition by foreign entities and governments. In theory, recognition by foreign governments should not *matter* for internal legitimacy – but it does when related to sovereignty (as Napoleon III learned).⁸ It is perhaps, by a stretch, similar to pitch framing by the catcher in baseball: Where the catcher’s glove ends up should not have any bearing on whether the pitch is called a strike, but everyone thinks it does influence the umpires’ determination of a called strike.

- ✓ The situation in Somaliland is illustrative. Somaliland succeeded from Somalia in 1991 at the beginning of the Somali Civil War, it has been *de facto* independent, stable and relatively calm (as opposed to the rest of Somalia) but *has not been recognized* by any foreign government (the opposite of Justice Jackson’s ‘quasi-state’). The region immediately south, Puntland, has been autonomous at various points since 1991, but has been at other times under control of the government.

This principle is also the reason why puppet regimes and foreign proxies have difficulty obtaining internal legitimacy:

- ✓ Herod the Great of New Testament infamy, was appointed King of Judea by the Roman Senate and then was sent to unseat another usurper backed by the Parthian Empire (making their internal fight a proxy war between two massive empires over a client state). Being appointed King by an external conqueror, along with other factors leading to questions of his Jewish piety, made Herod’s legitimacy tenuous at best. The Romans, who were masters of this game and held most of the trump cards, knew exactly what they were doing in appointing Herod as King of Judea. The New Testament’s Massacre of the Innocents, whether historically accurate or not to any degree, demonstrates Herod’s faltering legitimacy and he certainly would have had good reason to fear a prophecy of another one claiming to be King of the Jews (such a prophecy in this case acts like the knight in chess).
 - See also Prophecy discussion, 2 Wheels in the Sky generally, *infra*.

There could occur many similar legitimacy situations in the game on both the small planetary scale and on the interstellar scale as powers become entangled; situations for which the Concierge can and should exercise judgment beyond the formal checks of the game.

Thus, a government is not ‘true to purpose’ if the government cannot maintain sovereignty or meaningfully engage other powers in diplomacy and trade. Legitimacy can be lost or tarnished if sovereignty is violated, it cannot control trade, or the government is humiliated by foreign powers, for example, China (rightly) regards the 19th Century as the “Century of Humiliation.” See Opium Wars discussion, 3 Commerce, p. 1216, *infra*.

- ✓ **Dr. Who to Prime Minister Harriet Jones:** “I can bring down your government with a single word.” – Dr. Who, “The Christmas Invasion” (2005).
- **Samurai Crabs:** The most immediate connection between sovereignty and legitimacy is military victory, the most instant failure of legitimacy is a military defeat that destroys sovereignty and prestige (the three are inextricably intertwined). Thus, many conflict checks in GGDM relate to military victory, defense preparedness and prestige. Regarding the Battle of Tsushima, May 1905:
 - ✓ “Imperial Russia’s prestige was badly damaged and the defeat was a blow to the Romanov dynasty. Most of the Russian fleet was lost; the fast armed yacht Almaz (classified as a cruiser of the 2nd rank) and the destroyers Grozny and Bravy were the only Russian ships to reach Vladivostok. In The Guns of August, the American historian and author Barbara Tuchman argued that because Russia’s loss destabilized the balance of power in Europe, it emboldened the Central Powers and contributed to their decision to go to war in 1914. The battle had a profound cultural and political impact upon Japan. It was the first defeat of a European power by an Asian nation in the

modern era. It also weakened the notion of white superiority that was prevalent in some Western countries. The victory established Japan as the sixth greatest naval power while the Russian navy declined to one barely stronger than that of Austria-Hungary.

In The Guinness Book of Decisive Battles, the British historian Geoffrey Regan argues that the victory bolstered Japan's increasingly aggressive political and military establishment. ... Regan also believes the victory contributed to the Japanese road to later disaster, 'because the result was so misleading. Certainly the Japanese navy had performed well, but its opponents had been weak, and it was not invincible... Tōgō's victory [helped] set Japan on a path that would eventually lead her' to the Second World War." – from Wikipedia article, "Battle of Tsushima," January 15, 2019.

The destabilization of the balance of power in Europe by the Russian Baltic Fleet's defeat in Asia is a point not to be lost either in the current world or in the reach of star-spanning civilizations of GGDM. From a legitimacy point of view, the Soviets had to defeat the Japanese at Khalkhin Gol in 1939 or be seen as another Russian government that lost to the Japanese.

In GGDM terms, this game-changing, stunning defeat might translate as Disruption Checks, inactivation of Constructural Elements, failure of Conflict Checks and possible disruption of Government Titles, near annihilation of the main warfleet of the losing position in two Combat Rounds, after a long movement to the combat zone, losses of Acts, Scenes, Power Activations by the losing position, encouragement of other positions, encouragement of continued aggression by the victor, inability to protect smaller colonies, Cargo Ships, Colony Ships by the defeated power. We all know what happened in Russia in 1917 after more defeats.

- ✓ When Napoleon III overthrew the Second Republic to establish the Second French Empire (1852-1870), it is certain that there was a significant segment of the French population – the Victor Hugo crowd (see 4 Colleges, bottom p. 507, *supra*) – who thought, 'oh no, here we go again'; it would have seemed a step backward for France. It was predictable that in order to reestablish the absolute monarchy, the leadership would seek military adventures for glory and public distraction. Indeed, it soon followed that France won territory from Austria in a war over Italy (just as in 1796-1797 under Napoleon Bonaparte, before he embarked for Egypt) but infuriated the Pope and French Catholics, and failed to oust the Austrians; then involved itself in military adventures in Crimea, Syria,⁹ China, and Mexico.

But there were a lot of moving parts, both internally and internationally, Machiavelli would say that Napoleon III never really established as Emperor of France. He was forced to make concessions, easing restrictions on the press, appealed to the masses, re-empowered the legislature, and the liberals, signed a trade union with the UK that hurt French industry, blundered in Italy, and failed to check the rise of Prussia, which was his doom in 1870 when he personally surrendered to the Prussians at Sedan. Having failed before the Prussian invasion, he lost legitimacy and moved to England where he lived out his days, while Wilhelm I, King of Prussia, was crowned Emperor of Germany at Versailles in 1871.

“But what happens if there is no clear choice? Under the thin veneer of clear choices, the component worlds, nobles, businesses, and citizens of the Imperium harbor a maze of conflicting priorities and allegiances.”

– MegaTraveller RPG, [Rebellion Sourcebook](#) (1988)

Status Quo: The *status quo*, in most cases, is the natural and automatic choice. This also reaches to Conversion and Naturalization; as the generations of captivity pass, faith, hope and confidence in their previous governing power fade. Even animals domesticated from the wild become accustomed (like my housecats, all but one of whom I caught as feral kittens), sadly often to their own detriment, even when abused and neglected.

- ✓ “Well, consider this. If a teacher asks a boy in front of the whole class if his father came home drunk again the night before, is the boy obliged to answer ‘yes’? No. Exactly, the teacher is abusing his power in asking the boy that question. The honest answer is for the boy to lie, defending his father. And lie for all he’s worth.” – Dietrich Bonhoeffer, *Bonhoeffer: Agent of Grace* (2000).¹⁰

Because most humans at least respect immediate authority, that rising dictatorships and fascist powers can jail opposition leaders with little actual resistance, gaining a large foothold on power.

- ✓ “If you put fleas in a shallow container they jump out. But if you put a lid on the container for just a short time, they hit the lid trying to escape and learn quickly not to jump so high. They give up their quest for freedom. After the lid is removed, the fleas remain imprisoned by their own self-policing. So it is with life. Most of us let our own fears or the impositions of others imprison us in a world of low expectations.” – John Taylor Gatto.¹¹

There are arguments that legitimacy exists when there is only one clear choice and that choice is to support the *status quo*, the existing government system. On some level, this is true and required, it is a useful observation, but I feel that this definition alone only creates a grudging, surface legitimacy (e.g., Mike + The Mechanics, “Silent Running”); it is the type of definition that legitimizes control by foreign powers and tyrannical or otherwise repulsive regimes as long as there is no other choice (which can be created by oppression). Even the *Ancien Régime*, monarchy by primogeniture, required more than this, they needed the Church to legitimize the process.

The visible government in GGDM consists of the Structural Title, which provides the overall umbrella under which various social groups tussle and elbow for power (Estate Titles) and control of social ideologies (Social Titles) with the end result being some sort of worldview, national identity, and policy. This is clearly a constitutionalist view of government – which may not in the past have been shared by much of humanity – but the U.S. Constitution simply formalized a process that had begun generations earlier in Europe and has spread globally in the generations since. Nearly every nation-state has a written constitution now, whether or not it is followed.

- ✓ In one of the cases I worked on in a rural county of Western Pennsylvania, I downloaded the local Rules of Court, read them and followed the procedures. It didn’t work. When I spoke to the lady at the Prothonotary’s Office, I told her that I followed the rules. Her reply? That’s not how we do it, ignore the Court Rules, this is what you need to do...

- Kings, Queens, and Guillotines: The most basic form of legitimacy in tribal societies and monarchies, is that what is good for the king is good for the tribe or kingdom. This concept flows then to conquest and marriage; a successful king will attract followers who want to benefit from his success, and as the king is expected to take care of his own family first, marriage into the family becomes a most attractive option as well. This rationale continued almost uninterrupted until the mid-19th century in Europe, until dynastic wars and multiplying political, state, economic, religious, scientific, population, and cultural complexities pushed the concept to abstraction and collapse.
- ✓ The situation of Napoleon III is informative; France in the late 19th Century was a much different, probably more complex society than France in the late 18th Century, due in large part to the French Revolution and the experience of Napoleon I, and of course, rapidly increasing international complexity and technology.
 - “Marxist sociologist Göran Therborn has characterized the reign of Napoleon III as the ‘first modern bourgeois regime,’ one which combined a movement of mass support with ‘bourgeois’ rule, albeit through authoritarian statist means. According to Therborn, such a form of rule, ossified upon the point of crisis, proves fatal to such regimes once major external crises emerge, inevitable under Marxist exploitation theory.” – cited in Wikipedia article, “Napoleon III.”

Thus, Napoleon III found it much harder to establish absolute monarchy than did Napoleon I (see also George Washington quote above).

The final collapse was called World War I. It is now called a *conflict of interest* where the pecuniary and familial interests of the executive might exert influence on decisions of state. Nonetheless, monarchy has been a popular form of government in space-opera fiction; many have questioned whether an interstellar civilization could be held together without ironfisted monarchy of starships and heroic-princely captains, and much of imperial space-opera fiction reflects the basic ancient Earth rationale described above (and it makes for great drama in any case). But such stories also always carry with them the 19th Century (the beginning of SF) tensions that finally collapsed the monarchical systems: Complexity, untamed frontiers, dynastic and personal feuds.

*“Kings and queens and guillotines
Taking lives denied
Starch and parchment laid the laws
When bishops took the ride
Only to deceive”*

– Aerosmith, “Kings & Queens” (1977)

Starch & Parchment: Each Magna Carta (see The Duality, 1 Government Titles, p. 584, *supra*) contains a list of between one and four Conflict Checks. Each Conflict Check describes a condition that must be true or false in order for the government to maintain legitimacy.

- ✓ “The gist is, when you look at individual versus group framing, there is a very long history of people acting in ways that don’t seem to be optimized at their individual

level, but are optimized for their group. And as a result, they perceive that it will confer benefits on them.” – David Pakman talking about Jonathan Haidt’s theory, David Pakman Show, May 13, 2020.

The conditions described by each Conflict Check will be based on *objectively verifiable* conditions within the game, such that there should be little dispute about whether or when the conditions have not been met (i.e. when the Conflict Check fails). It is thus that governments seek to establish and maintain the *status quo*.

- ✓ Examples of Conflict Checks might include, Construction Power must have been activated within the last two Regular Turns, no other Government Titles are disrupted, Capital Colony must be the largest colony in population, alien population of position cannot exceed more than 10% of total population, position does not have any colonies on Balkanized Planets, etc. Each of these is objectively verifiable, if they are not true, then the Government Title *may* become disrupted if all Conflict Checks fail. The above examples may fail either voluntarily, through negligence, or through the acts of other positions.

In game play, Conflict Checks are not much different than any other game; in any game, there are things that a player must do, must avoid doing, and must not allow to happen. That is part of the definition of a game. For example, in the 1976 James Dunnigan classic game Panzergruppe Guderian, the Soviet player – to legitimately be the Soviet player – cannot allow the capture of Smolensk without stiff resistance and without bleeding the Germans severely in time and losses; all else in the game revolves around that.

- ✓ A position is not prohibited from an act or failure to act which will cause a Government Title to fail a conflict check or even to become disrupted.
 - ✓ A position may be required to or prohibited from acting in a certain way due to ***Fundamental Realities***, which always hover in the background behind Conflict Checks.
- Esteem & Prestige: Esteem and prestige are important elements of legitimacy (and diplomacy), to wit:
- ✓ “This is not mere mysticism. Most important institutions are protected and empowered by esteem. To the cynic, a judge is an average woman in a robe; a general is a poser in a costume; a priest is a balding man with sweat staining his armpits. But however accurate these depictions, they are not true. Because of the institutions they serve, these people represent the rule of law, the triumph of duty, the presence of God.” – Michael Gerson, Washington Post, February 12, 2018.

Does legitimacy grant esteem and prestige or does prestige and esteem grant legitimacy?

- True & False: Humans prefer True to False. I think this is because knowing what is true is (considered) more useful than knowing what is false. For example, I have a color. What is it? There are probably sixteen million false answers, many of them will be closer to true than others, but there will be only one true answer (in RGB hexadecimal-whatever terms). And the true answer is what we want and if we know what is true, we can say with certainty what is false (anything that is not true), whereas, it seems that false answers don’t often get us much closer to what is true (*ut supra*): Each false answer eliminates only half of the 15,999,999 false answers, the one true answer eliminates all of the false answers and there seems to be something metaphysical, sublime about that. Thus, when writing statements that

must be false in order for the Conflict Check to pass, careful wording is required, and a wider range of possible conditions exist that may allow the Conflict Check to pass.

- ✓ Human students may also prefer true/false answer tests, because it seems they have a 50% chance of guessing correctly if they don't know. Conflict Checks are not, however, a school test question, rather, they are a certain set of objective game conditions that a position wishes to maintain in order to keep the Government Title legitimate (and thus functioning to gain Power Activations, Acts and Scenes).¹²
- Carte Blanche: Conflict Checks for each Government Title are never-ending; theoretically, at all times, at any moment, the legitimacy of the Government Title is being tested. Theoretically, a Government Title loses *some* legitimacy at the moment that it is discovered that the Government Title has failed one or more of the listed Conflict Checks. This may be important in some matters and not in others, the Concierge will judge on a case-by-case basis how to deal with the instant effects of failure of specific individual Conflict Checks by a Government Title, probably including a chance to generate an Intervention Potential.
 - ✓ As a practical matter, the Concierge will perform the Conflict Checks for each of the position's Government Titles at the end of processing each position's Regular Turn.
 - ✓ As mentioned in *The Power to Choose, 5 Beginnings*, p. 50, *supra*, Conflict Checks will not be performed until the fourth turn of the game (a playability concession).

The honeymoon is over! Off with the King's head! Send in the next guy.

The conflict checks for Estate Titles can be somewhat difficult to grasp properly because they are required to be false. For interpretation purposes, a multi-part Estate Title Conflict Check that is partially true is not completely false (it is partially false), and completely false is what is required to pass the Conflict Check of an Estate Title. When a Conflict Check contains "*or*" the statement is not false if either part is true. When a Conflict Check contains "*and*" both parts must be true, or the statement is completely false. "Or/either" is a divisive, separating term, whereas, "and/both" are inclusive, cumulative.

- ✓ The Japanese claimed in the early part of their aggressions that they were protecting Asia against the Europeans; later that they were creating a Greater East Asia Co-Prosperity Sphere (a hollow propaganda conference was held in 1943 in Tokyo). Japan's actions in occupied territories soon made it all into a lie. The idea never gained legitimacy outside of the Japanese imperial government and was corrupted by Japan's military and nationalist agendas.

East Asia would only be trading one master or tyrant for another. Dr. Ba Maw theorizes that had Japan acted differently toward the Greater East Asia Co-Prosperity Sphere, "No military defeat could then have robbed her of the trust and gratitude of half of Asia or even more, and that would have mattered a great deal in finding for her a new, great, and abiding place in a postwar world in which Asia was coming into her own." (cited in Wikipedia article from Lebra, Joyce C. (1975). *Japan's Greater East Asia Co-Prosperity Sphere in World War II: Selected Readings and Documents*, p. 157). In short, Japan never acted in a way consistent with their outwardly expressed ideals, and thus the ideals never had legitimacy (e.g., *Mens rea & Actus reus*).
- Foreclosure of a Dream: "Yet Mr. Xi has consolidated power, sidelining or eliminating rivals, so there are few people left to blame when something goes wrong. 'Politically, I think

he is discovering that having total dictatorial power has a downside, which is that when things go wrong or have a high risk of going wrong, then you also have to bear all the responsibility,’ said Victor Shih, an associate professor at the University of California San Diego who studies Chinese politics.” – Chris Buckley and Steven Lee Myers, “Where’s Xi? China’s Leader Commands Coronavirus Fight From Safe Heights,” *The New York Times*, February 8, 2020.¹³ See similar discussion in *The Fog of Lützen*, 4 Colleges, p. 510, *supra*.

Any Social or Estate Government Title that is *currently failing all* Conflict Checks listed on its Magna Carta, is disrupted and *is removed* from the Public Space (past failures are irrelevant, only current status is checked). All Pathways leading to that Government Title are also removed and new Pathways must immediately be formed (even if objects on the Public Space need to be moved around, and some losses may occur) to connect all colonies to an undisrupted Social or Estate Title pursuant to the rules of that position’s Structural Title.

- ✓ As noted in *Interesting Times*, 2 Disruption, p. 272, *supra*, the chance that a Constructural Element will become inactive due to a Disruption Event at a colony is 5% greater if the position has any disrupted Government Titles. Disrupted Government Titles can ‘snowball’ into an avalanche, collapsing the position.
- ✓ “Failure of the Taxation Power activation at any colony does not count as a Power Activation failure for Government Title Conflict Checks ... unless all eligible sovereign colonies fail Taxation (this could be really bad if you only have one colony...).” See *Tax Revolt and Revolting Taxes*, 1 Taxation & Census, p. 297.

When a disrupted Social or Estate Government Title is removed from the Public Space that Government Title has completely lost legitimacy and *ceases to function*. It does not provide Power Activations or Acts/Scenes (see *Exercise in Vital Powers*, 2 The Sidereal Stage, p. 114, and *On the Soapbox*, 3 The Sidereal Stage, p. 122, *supra*). It is now just a theory or history ripple and has no effect, except that an Intervention Potential Plus is automatically generated per Regular Turn for each instance of disruption of a Government Title (of any kind), see *Changing of the Gardener*, 2 Disruption, p. 271, *supra*.

- ✓ With five Government Titles (one of which is a Structural Title that does not have a Magna Carta, *ut infra*), a position could have up to sixteen Conflict Checks to navigate each Regular Turn, and *some Titles may have only one Conflict Check and be easily disrupted*. Among the Conflict Checks, some may be contradictory or at least, seem irreconcilable; thus it is expected that on any Regular Turn, several Conflict Checks may fail. In addition to passing Conflict Checks each Regular Turn, there is the rest of the game, the strategy, the events on the ground.¹⁴ Some Titles may be good for some situations but are not good for the long term and will eventually fail or need to be replaced.
 - In the time when I worked on NASD/FINRA cases daily, and became increasingly aware of financial industry misconduct, it seemed that if there was a major U.S. headline financial scandal – except HealthSouth – Bear Stearns was somehow involved, e.g., Bear Stearns promoted Worldcom securities while their analyst had doubts,¹⁵ praised Enron nine months before its collapse,¹⁶ ending with Bear Stearns’ famous collapse during the subprime mortgage crisis of 2008.¹⁷ I wondered sometime in 2006, how many scandals, how much *reputational damage*, can a firm survive?

Though my impression may be inexact, it seemed that Bear Stearns was involved in a major scandal every couple of years. Thus, when Bear Stearns finally imploded in 2008 and was annexed by JP Morgan Chase (with some U.S. Government arm twisting), I thought ironically, ‘Well, it couldn’t have happened to a nicer, more upstanding firm’ (echoing Dirty Harry in *Magnum Force* (1973)).

Though the failure of Conflict Checks may or may not be scandalous,¹⁸ the loss of legitimacy by Bear Stearns and final collapse is a parallel to the disruption of a Social or Estate Title.

- ✓ A sunny April 2nd morning, Bee Gee, a smallish white yearling tomcat being pursued by a large gray tomcat ran down the walk, turned the corner into my yard, giving him the slip through the hedges. The gray tomcat in pursuit ran past, then doubled back and sat on the other side of the fence staring at Bee Gee. My oldest large tomcat wandered into the yard, *touched noses with Bee Gee*, then sat down staring at the gray tomcat who shortly wandered off. King Tom I of my yard! Tribal. Sovereignty!

*“The earth starts to rumble
World powers fall
A’warring for the heavens
A peaceful man stands tall
Tall, tall.”*

– Megadeth, “Symphony of Destruction” (1992)

World Powers Fall: There are three conditions under which a *Structural Government Title* can become disrupted (but **does not** generate an IP+): A Structural Title is disrupted:

- ✓ If the position does not currently have a Capital Colony (**after** a position’s Capital Colony has been established, see Capital Colony, 2 Order, p. 532, *supra*),
- ✓ If the position has no remaining undisrupted Social or Estate Titles, or
- ✓ If the position is unable to comply with the requirements of the Structural Title for any reason, including but not limited to, having no undisrupted Social or Estate Titles to connect the colonies by Pathways or being unable to place Titles in required ways.

As *Structural Titles* do not occupy any Monads on the Public Space (except Pathways), there is nothing to remove when a Structural Title becomes disrupted. Rather, the disrupted Structural Title continues to exist in Pathways on the Public Space, but does not collect Acts or Scenes and is not able to provide a Power Activation while disrupted. While disrupted, the placement requirements of the Structural Title continue to apply on the Public Space, until and unless it is replaced by a new Structural Title. A Structural Title becomes undisrupted or restored at the end of any turn when there are no remaining conditions which would cause it to be disrupted.

- ✓ This *automatic restoration* applies only to Structural Titles; restoration of Social and Estate Titles requires an activation of the Order Power and is discussed later.
- ✓ Note that as Structural Titles have no Conflict Checks they are generally less susceptible to the vagaries of game events and decisions. Structural Titles are sort of the

bedrock or spine of the position’s government, and usually always insure a minimum of one Power Activation available each Regular Turn.

“Romantic nationalism (also national romanticism, organic nationalism, identity nationalism) is the form of nationalism in which the state derives its political legitimacy as an organic consequence of the unity of those it governs. This includes, depending on the particular manner of practice, the language, race, culture, religion, and customs of the nation in its primal sense of those who were born within its culture. This form of nationalism arose in reaction to dynastic or imperial hegemony, which assessed the legitimacy of the state from the top down, emanating from a monarch or other authority, which justified its existence. Such downward-radiating power might ultimately derive from a god or gods (see the divine right of kings and the Mandate of Heaven).”

– from Wikipedia article, “Romantic nationalism,” captured November 28, 2018 (emphasis added)

Romantic Nationalism: As I am a product of the 20th Century and the participants are of the 20th or 21st Century, there is little doubt that GGDM was designed and will be played from the view of romantic nationalism (defined, *ut supra*). Certainly the Conflict Checks discussed above, reflect romantic nationalism, but whether this is appropriate for an interstellar government with isolated colony worlds separated by vast distances is very questionable.

Notably, much of space-opera and interstellar-set science-fiction features heavy-handed imperial, dictatorial, or top-down legitimacy (“dynastic or imperial hegemony,” *ut supra*), the agents of which are the starship captains and crews, see *Nobless Oblige* discussion, 4 Movement, p. 869, *infra*; also Status Quo, *ut supra*. See also discussion of ethnic and ultra-nationalism in Hege-
monic Empires and Invading Timelines, 4 Order, pp. 571, 576, respectively, *supra*.

- ✓ “...in the mid-nineteenth century, it was common to believe in collective spirits embodied in ‘the nation’ or, under Hegelian and Marxist influence, in other collectivities such as ‘the bourgeoisie’ or ‘the proletariat.’” – Michael Accad, M.D., “An introduction to praxeology and Austrian school economics,” alertandoriented.com (blog), April 13, 2016.
- ✓ “National mysticism (German *Nationalmystik*) is a form of nationalism which raises the nation to the status of numen or divinity. Its best known instance is Germanic mysticism, which gave rise to occultism under the ‘Third Reich.’ The idea of the nation as a divine entity was presented by Johann Gottlieb Fichte. National mysticism is closely related to Romantic nationalism, but goes beyond the expounding of romantic sentiment, to a mystical veneration of the nation as a transcendent truth. It often intersects with ethnic nationalism by pseudohistorical assertions about the origins of a given ethnicity. National mysticism is encountered in many nationalisms other than Germanic or Nazi mysticism, and expresses itself in the use of occult, pseudoscientific, or pseudohistorical beliefs to back up nationalistic claims, often involving unrealistic notions of the antiquity of a nation (antiquity frenzy) or any national myth defended as ‘true’ by pseudo-scholarly means.” – from Wikipedia article, “National mysticism,” captured November 28, 2018.

- “Ancient History Encyclopedia was founded in 2009 by Jan van der Crabben. He realized that the internet was missing a reliable and comprehensive resource for ancient history. What was available online was either scattered across various websites, illegible due to poor presentations or tainted with a distinct nationalist agenda.” – from About page, Ancient History Encyclopedia, August 30, 2019.

A possible early example of a national mysticism is the Novgorod Republic (1136-1478), ruled by a council (after expelling the Grand Prince of Kiev) who invited various Rus’ princes to rule at times when they needed military assistance and command. However, sovereignty always remained with the council, and *the city* (not the Prince) was referred to as “His Majesty Lord Novgorod the Great” indicating personification, gender, and possible mystical transcendent meaning assigned to the state.

- ✓ Information from Wikipedia article, “Novgorod Republic,” captured December 7, 2018.
- ✓ See also, *romantic narcissism*, Hand-Wringing Aspect, 3 Colleges, p. 487, *supra*.

“Nietzscheans used to say we act out of enlightened self-interest. The problem with Bolivar and his ilk is that they’ve forgotten the most important word: Enlightened.”

“Our people were meant to be living gods, warrior-poets who roamed the stars bringing civilization, not cowards and bullies who prey on the weak and kill each other for sport. I never imagined they’d prove themselves so inferior. I didn’t betray our people – they betrayed themselves.”

– Telemachus Rhade, Andromeda, “The Unconquerable Man” (2003) ¹⁹

“The reality of the conflicts between the Europeans and Xhosa involves a balance of tension. At times, tensions existed between the various Europeans in the Cape region, tensions between Empire administration and colonial governments, and tensions within the Xhosa Kingdom e.g., chiefs rivalling each other which usually led to Europeans taking advantage of that and meddle [sic] in the Xhosa kingdom politics. A perfect example of this is the case of chief Ngqika and his uncle chief Ndlambe.” – from Wikipedia article, “Xhosa Wars,” June 15, 2019

Between Nietzscheans & Xhosa: The Nietzscheans in the Andromeda television series (2000-2005) were predatory (like the colonial British), the Xhosa in real-world history were victims.

- ✓ There was considerable jostling going on; the Xhosa chiefs fought each other (e.g., the Battle of Amalinde in 1818) and were under pressure from other expanding or displaced South African tribes.
- ✓ The classic answer is that there must be a higher power to keep all smaller units in order, and that was, of course, the European colonial power, Britain.
 - “So this is not a situation where two states each mistakenly worry that the other is hostile. Rather, it’s what international relations scholars might call a classic problem of anarchy, in the sense *that there is no power above states that can enforce agreements they make with each other.*” – James D.

Fearon, “The Big Problem with North Korea isn’t that we can’t trust them. It’s that they can’t trust us,” Washington Post, August 16, 2017.

This classic answer is the basis of science-fiction’s galactic or interstellar empire trope (or in Star Trek, the Federation, an ‘Americanized’ form of interstellar empire). See also Hegemony discussion, 4 Order, p. 570, *supra*.

- ✓ After the Battle of Amalinde, fueled by opposing Xhosa chiefs and millennialist seers, the British intervened, destroyed one of the chiefs and settlers invaded and colonized large tracts of fertile lands which were never recovered to the Xhosa.²⁰ The loser of the civil conflict was the Xhosa Kingdom which vanished in three generations.

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Vir Cotto: *“Politics and morality on the same side? That doesn’t happen every day, Deleenn.”* – Babylon 5, “Between the Darkness and the Light” (1997)

And the Parting on the Left, Is Now a Parting on the Right: Governments exist because of needs, conditions and circumstances. Morality and the common good only become part of the government when their absence is intolerable.

- ✓ When a bad, oppressive government survives, it is not solely because of the leader (who usually receives all of the blame), but because that leader had plenty of other people helping him mislead, oppress, rob, and murder his own or other people.²¹ Thus, bad regimes are a result not of the leader who is blamed, but the state of the civilization, the ideals of the people, from whom it rose to absolute power.

The Conflict Checks necessarily focus on needs, conditions, and circumstances that brought about the Title, and how that Title maintains legitimacy. Good and morality are optional.

- ✓ For example, the primary question asked with regard to Estate Titles is “what condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”
- ✓ Whereas Social Titles represent the ideals and prevailing beliefs of the civilization, and therefore, the question asked is, “what ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

As a practical matter, however, when looking at the Conflict Checks for various Estate and Social Titles, there may appear to be no major differences between the two or between the way that they play in the game (that is, the differences between Estate and Social Titles are ‘a little fuzzy’), and many may regard the designation of “Estate” and “Social” as window-dressing. Indeed, there is no special game mechanic for either one anywhere in the rules, however, beyond the rules, the Concierge will frequently take into consideration the position’s current Social and Estate Titles (the current sociopolitical milieu), as representative of the position, when deciding other matters, or applying Interventions, and the conditions imposed by the Conflict Checks do serve to guide the position’s activities and conduct (in the form of negative stimuli/negativity bias), gives the position a personality.

- ✓ Government Titles should not be viewed as any sort of *advantage* in the game, they do not grant any special ability (their game function is Power Activation and Acts and Scenes), rather, their effect is to guide the position's conduct and development by the conditions required to maintain their legitimacy.

OV-VO Schemes: Many years ago I wondered, what is the cognitive difference between:

- 1) Native speakers of languages where the *object comes first in the sentence* (i.e., the OV – object-verb languages, that is, SOV – subject, object, verb, [e.g., “Charles cereal ate”]) and OSV, OVS languages, e.g. Latin, Japanese, Korean and about half the languages in the world), and
- 2) Native speakers of languages where the *verb generally occurs first in the sentence* (i.e., the VO – verb-object languages, specifically SVO – subject-verb-object languages [e.g., “Charles ate cereal”]) VSO, VOS languages, e.g., English, Russian, Cantonese and about half the languages in the world)?

Does the word order of the language make one group of speakers more “object/noun oriented” and the other group of speakers more “verb/action/tense” oriented? And what, if anything, does that indicate about their cognitive processes and worldview? In case you are wondering, I don't have any great answers to these questions (or even a clue) and I doubt that it has been the subject of much research or literature. I have little idea of how it might be testable.

If you are having difficulty learning a foreign language, part of the problem may be a switch from VO to OV order (e.g., an English speaker learning Japanese or Korean), which demonstrates that there is a real natural, learned cognitive divide caused by the common preferred word order of the speaker's native language. In intro linguistics class, I even found the concepts of declination and masculine, neuter and feminine verbs (e.g., in Latin) difficult to *grok*.²²

- 3) Another Angle: Justin, the narrator for *Fire of Learning* (<https://www.pat-reon.com/FireofLearning>), noted in the YouTube video “How Latin Works” that Latin derives meaning from word endings (i.e. noun endings are changed by location in sentence, but do not change meaning – I think this is the declination problem I couldn't grasp) and not word order (he suggests that Russian may be somewhat similar) and thus any word order is grammatically correct in Latin if the correct word endings are used. This is obviously much different than modern languages. He does go on to say, however, that the Romans preferred subject-object-verb order (like English) and that memorizing all of the word endings-placements in Latin is tedious. The first millennial shift from changing word endings to word ordering to create meaning is curious, it is difficult to discern what it means, if anything, cognitively.

The problem of distinguishing clearly between Estate and Social Titles feels similar to the OV-VO language cognitive schema discussion, but one more accessible and resolvable (i.e., cognizable), perhaps because it is outside us, or perhaps because I have developed mental tools for it.

“If any one basic cause could be assigned to Europe's first great conflict since Waterloo, it might have been found in the consent of the various peoples. For half a century they had given their rulers full powers in the secret dealings of diplomacy and strategy, and during the summer of 1914 the blank check was presented for payment.”

– Lynn Montross, *War Through the Ages* (3rd Ed., 1960), p. 683

Endnotes.

¹ Commentary: Fascist Italy was like the kid who goes along with what the neighborhood bully is doing, then after things go bad, wants out, but finds out then that it is too late. The bully and his gang occupy the kid's apartment, antagonize the neighbors and 𐀀 the place until the police arrive.

² Commentary: I specifically remember the Iran Hostage Situation, Skylab and Abscam from 1979; I don't have any memory of the Grand Mosque Seizure. I turned 12 in 1979, it is likely that I remember the first three because they had to do with the United States, i.e. they were closer to home. It is also likely, for the very same reason, that the first three dominated the half-hour network evening news in a time when we still had 13 channels on the dial. Thus, the Grand Mosque standoff may not have received much air time in the United States.

³ Citation: Merriam-Webster's 11th Collegiate Dictionary.

⁴ Commentary: Did you ever notice that the Spanish, French, Native Americans (all major landholders in North America), and slaves were not invited to the *Continental Congress*? How continental was it? A group of white men from part of the east coast of North America. Nor did they deign to call themselves the Colonial Congress instead.

⁵ Citation: "When he said in 2012 that the Constitution was 'either inspired by God or written by brilliant people, or perhaps a combination of both,' Romney was echoing Mormon teaching. The Church of Jesus Christ of Latter-day Saints (LDS) has a deep and doctrinal devotion to the U.S. Constitution, which it considers to be divinely inspired.

The first rumors of a possible 'Senator Romney,' which began to swirl in April 2017, brought new life to the long-whispered 'White Horse Prophecy' that combines this messianic constitutionalism with Mormon politics. Depending on whom you ask, the White Horse Prophecy holds either that Mormons will one day save the American constitutional system in its darkest hour, or that Mormons will overthrow American democracy to create a latter-day theocracy. The prophecy is attributed to Mormonism's founder, Joseph Smith Jr. In 1843, Smith purportedly told his followers that on the day when 'the Constitution of the United States is almost destroyed... hang[ing] like a thread,' out of the 'Rocky Mountains' the 'great and mighty' Mormon people will, like the 'White Horse' of the Book of Revelation, rush east to save the Constitution.

While the White Horse Prophecy itself is almost certainly apocryphal, Mormon leaders in the nineteenth century consistently taught, as Joseph Smith's successor Brigham Young did in 1868, 'if the Constitution of the United States is to be saved at all it must be done by this [Mormon] people.' Likewise, in the twentieth century, LDS Church leaders as well as Mormon politicians continued to invoke the spirit of the prophecy, if not the prophecy itself. During his own presidential run, in 1967, George Romney explained that what Smith, Young, and other early LDS Church leaders meant in their prophecies about the Mormons' special role in American political history: 'Sometime the question of whether we are going to proceed on the basis of the Constitution would arise and at this point government leaders who were Mormons would be involved in answering that question.' Forty years later, as Mitt Romney positioned himself for a White House bid in 2007, he denied that the prophecy had anything to do with his own political aspirations or religious beliefs.

Romney's forceful denunciation came in response to the virulent anti-Mormonism that helped derail his first presidential bid. After all, the negative attention Romney's campaign generated for the church, the LDS Church officially repudiated the prophecy in 2010. Mormon scholars downplay the prophecy as 'no more than a fun bit of Mormon folklore,' as political scientist Russell Arben Fox put it to me. But like all folklore it reveals something about the culture from which it emerges. And for that reason, 'the prophecy has long functioned as a kind of metaphor,' Fox said, 'helping to organize Mormon aspirations and ambitions for political service.'" – Max Perry Mueller, "Mitt Romney's Mormon Mission," *Slate*, February 20, 2018.

⁶ Commentary & Citation: In 1459 Diether of Isenburg won election as Archbishop of Mainz. Although elected, the Archbishop was effectively a ruler-prince of the territory, controlling its foreign policy, military forces, taxation, law and order, etc. He lost a war against the Count Palatine the next year. After being elected, he had to pay 20,000 guilders to secure confirmation from the Pope, then the Pope sacked him two years later in 1461 for attempting to introduce reforms and for opposition to the Papacy and Holy Roman Emperor. Hmm... 1461 was five years before Erasmus was born, and 22 years before Martin Luther was born in Eisleben about 375 km (233 mi) northwest of Mainz, and 21 years after Gutenberg invented the mechanical movable type printing press in Strasbourg (his family left Mainz for political reasons 50 years earlier following a craftsmen revolt).

So the Pope took his money, then sacked him and installed his rival, Adolf of Nassau as Archbishop of Mainz. The people of Mainz however supported Diether and he refused to leave. With a conflict brewing, everyone else jumped in – bishops, archbishops, counts, and princes – all secular rulers of territories – and took sides. Towns, land, castles

and gold were ceded or exchanged to secure alliances. There was a big war called the Baden-Palatine War, the Baden allies sacked and burned towns on both sides of the Rhine River on the way to invading the Palatinate, until they were ambushed and defeated in a forest by the Prince of Palatine's forces after being deceived as to the location of enemy forces. The Prince of Palatine took high-level prisoners, held them as hostages in his castle until their huge ransoms were paid, and this ended the war between Baden and Palatine.

But not between the competing Archbishops of Mainz. Eventually, Adolf of Nassau snuck into Mainz with 500 men and captured the town, Mainz was plundered and damaged, outlying settlements were burned and plundered. Deither was deposed by force and expelled with about a hundred families from Mainz. One of those expelled from Mainz in 1462 was the elderly Johannes Gutenberg, who returned in 1465, died in 1468 and was buried in Mainz. Information from Wikipedia articles, "Johannes Gutenberg," and "Mainz Diocesan Feud."

⁷ Citation: Earlier in the movie at their first – unfortunate – meeting, Lawrence had said to Ali: "Sherif Ali. So long as the Arabs fight tribe against tribe, so long will they be a little people; a silly people; greedy, barbarous, and cruel, as you are." *Id.*

⁸ Commentary & Citation: Perhaps the concept of negative and positive sovereignty might be useful in GGDM:

- ✓ "As Jackson argued, negative sovereignty is focused on sovereigns, whereas positive sovereignty is more responsive to those who are subject to sovereign power." – Miriam Ronzoni, "Two Conceptions of State Sovereignty, and Their Implications for Global Institutional Design," <https://ecpr.eu/Filestore/PaperProposal/4ecd5722-de86-403f-ada9-a89c675765b7.pdf> (European Consortium for Political Research).

Justice Jackson is the foremost modern American judicial authority on sovereignty, his most famous book being about "quasi-states."

- ✓ "A controversial thesis underlies this theoretical book: much of the Third World consists of 'quasi-states' that exist because of their formal acceptance by the international community rather than their post-colonial attributes. These countries, it is asserted, are unable to protect human rights or provide social benefits and economic welfare. Thus they have 'negative' rather than 'positive' sovereignty." – Andrew J. Pierre, reviewing Justice Jackson's Quasi-States: Sovereignty, International Relations And The Third World, Foreign Affairs, Is. 22, Winter 1991.

⁹ Commentary & Citation: The French had a long history in Syria ending finally in 1946, when the British invaded Syria to end spiraling-out-of-control protests and violent responses between the Syrians and French troops.

- ✓ "[T.E.] Lawrence had a sinister reputation in France, both during his lifetime and even today, being seen as an implacable 'enemy of France'; the man who was supposedly constantly stirring up the Syrians to revolt against French rule throughout the 1920s. The French historian Maurice Larès wrote that the real reason for France's problems in Syria was that the Syrians did not want to be ruled by France, and the French needed a 'scapegoat' to blame for their difficulties in ruling the country. Larès wrote that far from being a Francophobe, as he is usually depicted in France, Lawrence was really a Francophile. Larès wrote: 'But we should note that a man rarely devotes much of his time and effort to the study of a language and of the literature of a people he hates, unless this is in order to work for its destruction (Eichmann's behavior may be an instance of this), which was clearly not Lawrence's case. Had Lawrence really disliked the French, would he, even for financial reasons, have translated French novels into English? The quality of his translation of *Le Gigantesque* (The Forest Giant) reveals not only his conscientiousness as an artist but also a knowledge of French that can scarcely have derived from unfriendly feelings.' Larès concluded that the popular thesis in France that Lawrence had 'virulent anti-French prejudices' is not supported by the facts." – from Wikipedia article, "T.E. Lawrence," January 10, 2019, referencing Maurice Larès "T.E. Lawrence and France: Friends or Foes?" (1984). T.E. Lawrence is also commonly known as "Lawrence of Arabia."

¹⁰ Commentary: You could 'read into' this scene that he is suggesting that humans are not entitled to the truth and thus it is hidden from them (by God). I trip over the word 'entitled' because it probably doesn't apply and I am not sure what it means in that context. Dietrich Bonhoeffer, by implication of his profession, believes that truth is completely objective in the form of God. But in the most literal sense, he is talking about the Nazis and specifically, about is interrogator, Manfred Roeder ("He's got no right to the truth" *Id.*); earlier in the film Bonhoeffer had preached that Adolf Hitler was trying to put himself in the place of Jesus Christ in demanding unquestioning obedience (e.g., the Nazi oath of allegiance to Hitler) to which he is not entitled even as the elected leader of Germany.

¹¹ Citation & Commentary: "Daniela described how she went from being a bright and promising high school student in Mexico with dreams of becoming a scientist to being pulled into the self-help curriculum of Nxivm, and eventually kept in isolation in a room for nearly two years at the direction of members of the cult-like group. 'Was

the door locked?’ prosecutor Moira Penza asked. ‘No,’ Daniela testified. ‘Did you feel like you could leave the room?’ Penza asked. ‘No.’ Daniela testified that Raniere and other Nxivm members convinced her own family that she had done something horrible enough to warrant being held in a room in isolation, and that they enlisted her family’s help to keep her there. She went years without seeing her family. ...

Daniela testified that Raniere and other Nxivm members enlisted the help of her own family to ‘work on her.’ They were told, ‘Your daughter is prideful and destructive.’ Her family didn’t know that the basis of Daniela’s ‘ethical breach’ was that she had developed feelings for another man. Instead, Raniere told her family about an incident years earlier in which she had stolen and promptly returned money. Raniere encouraged her family to be strict with Daniela. ... Every waking hour of her life was focused on how to repair her so-called ethical breach, Daniela testified. She said her parents and high-ranking members told her the only way to fix things would be to stay in isolation in a room in her family’s home indefinitely.” – Sonia Moghe, “‘Please let me out’: Former Nxivm member testifies about being held in a room for 2 years,” CNN, June 2, 2019.

- ✓ Think that humans have nothing in common with fleas? Authority is the legitimacy to put the lid on the dish. The real question to ask in the Nxivm case is why or how Raniere and his little group obtained legitimacy of authority over the ‘victims’ of the scam? Daniela’s door was not locked, but our prisons are locked and guarded at public expense to keep the criminals inside and the public outside. Disturbing?

¹² Commentary: Sometimes I wonder if I am ‘doing it right’? But what does that mean in the design of GGDM (or life even)? Does it mean I did it wrong because while GGDM is a game, it is likely never to be played? Did I do it wrong if it is deemed likely that few will ever read GGDM or give a damn about it? Did I do my life ‘wrong’ by being obsessed with GGDM? What would constitute ‘doing it wrong’ – or in this case, what would be a ‘false’ answer if ‘doing it right’ is the only ‘true’ answer? I can’t know if I am doing it right if I don’t know within what framework or objective it is to be measured. And thus, I do what seems right each time and the game evolves, emerges and slowly drifts toward some unknown destination. The goal post has been moved left and right and down the field many times since 1992. I continue to “comb and curl” my dialogues (Dionysius of Halicarnassus). I have read interviews and commentary by fiction writers who claim that when they begin a story, they don’t know where it will go and they are sometimes ‘surprised’ by what the characters do in the story and how it ends; that is, whether they are ‘doing it right’ or not is unknown until the work is finished. This has sometimes happened in GGDM too.

¹³ Citation: “‘It’s a big shock to the legitimacy of the ruling party. I think it could be only second to the June 4 incident of 1989. It’s that big,’ said Rong Jian, a writer about politics in Beijing, referring to the armed crackdown on Tiananmen Square protesters that year. ‘There’s no doubt about his control over power,’ he added, ‘but the manner of control and its consequences have hurt his legitimacy and reputation.’ Mr. Xi himself has recognized what is at stake, calling the outbreak ‘a major test of China’s system and capacity for governance.’” – Chris Buckley and Steven Lee Myers, “Where’s Xi? China’s Leader Commands Coronavirus Fight From Safe Heights,” The New York Times, February 8, 2020.

- ✓ In a late March 2020 CNN interview with Jake Tapper, the head of the CDC suggested that the Chinese government may (intentionally) not be accurately reporting deaths from the coronavirus outbreak in China.

¹⁴ Commentary: When I was about 9 years old, I was at a family get-together at a remote trailer. I decided to climb a huge evergreen tree on a hilltop. I got up into the tree and kept climbing up, wending my way around close branches and needles, as only a 9-years-old boy can. I was apparently quite determined, and having fun, and didn’t give much thought about how far up I was in the tree (some people would say I am still far up the tree) or all the bumps and scrapes I was receiving. Suddenly, I emerged at the top of the tree – literally the top of the tree – looking around at the tops of the other trees below me, and the wind started blowing. I was holding onto the swaying tree top for dear life! I hadn’t anticipated it. Legitimacy in GGDM Social and Estate Government Titles feels this way; in addition to the position’s own actions or inactions, actions of other positions (sometimes seemingly innocuous) and adverse News Events effects, and even some luck of die rolls, buffet against Conflict Checks each turn.

¹⁵ Commentary & Citation: Laurence Vile Davidson (Bloomberg News), “Bear Stearns Analysts Had WorldCom Doubts,” Washington Post, November 3, 2004.

¹⁶ Commentary & Citation: Bear Stearns was sued by Enron, settled with the Enron Creditors Group, a 2001 analyst memo from Bear Stearns praising Enron nine months before it collapsed was posted to Wall Street Oasis in October 2015 (Mike Bird, “A hilarious 2001 Wall Street research note praised Enron’s ‘revolutionary’ business model 9 months before it started to collapse,” Business Insider, October 26, 2015; Sloane Ortel, “Enron Revisited: Highlights from Bear Stearns Research,” <https://blogs.cfainstitute.org/investor/2015/10/28/enron-revisited-highlights-from-bear-stearns-research/>, October 28, 2015).

¹⁷ Citation: Matt Egan, “The stunning downfall of Bear Stearns and its bridge-playing CEO,” CNN Business, March 16, 2018, describing the hands off management style at Bear Stearns:

- ✓ “Cayne served as Bear’s CEO for 15 years. He held that title until January 2008, when he stepped down as CEO but stayed on as chairman. In the tense months around that time, Cayne’s hands-off management style led him to miss critical events that foreshadowed the meltdown. When a pair of Bear Stearns hedge funds that bet on mortgages collapsed in July 2007, Cayne was playing a bridge tournament in Nashville, Tennessee, without a cellphone or email access, The Wall Street Journal reported at the time. Despite the tremors on Wall Street that summer, Cayne typically took long weekends to play golf at a country club in New Jersey. On Thursdays, the CEO would take a \$1,700 helicopter ride from Manhattan – he paid for it himself – to squeeze in a late-afternoon golf game and then another on Friday, the Journal reported.”

¹⁸ Commentary: For example, I heard at various times in my youth an assertion that the U.S. government knew in advance that the Japanese were going to attack Pearl Harbor and either acted indifferently, or more sinister, deliberately allowed it to happen. There seemed to be some circumstantial evidence. The Japanese, aware of how the attack would be perceived in America without a formal declaration of war, instructed their ambassador to deliver the declaration of war shortly before the scheduled attack time. However, the ambassador was kept waiting for an hour and a half outside the Oval Office and thus missed delivering the war declaration in advance of the attack. Thus it was perceived in America that the Japanese attack was treacherous and without reason; however, unknown to most of the public, the U.S. had previously threatened to intervene against Japan in French Indochina (i.e. Vietnam) and moved the Pacific Fleet half way across the Pacific Ocean to Pearl Harbor (which did not have underwater torpedo nets) from San Francisco (which did have) which the Japanese took as a direct threat of force by the United States.

- ✓ Note however, that in November 1914, the British and French naval forces ‘tested’ the Ottoman Empire defenses of the Dardanelles with a 20-minute bombardment before any formal declaration of war was issued against the Ottoman Empire. This ‘test’ attack alerted the Ottomans who then added mines and new defenses, brought up more ammunition; the minefields caused the Allied fleets much difficulty and lost ships on subsequent attacks in February and March 1915, leading ultimately to failure.

¹⁹ Commentary: The current trend toward ‘tribalism’ in our political culture – bemoaned by many over the last five years – is the next generation of 1960s to 1980s activism that became self-interest without the enlightened part.

²⁰ Commentary: The English had long practice at this; the Normans had done essentially the same to the Welsh and Irish in the 11th and 12th Centuries.

²¹ Commentary: This is an adjunct of functionalism historiography holocaust arguments; that whatever focus is placed on Hitler by intentionalism holocaust historians, he was but one man: Germany as a nation with the help of local auxiliaries committed the crimes, especially in Poland, the Baltic States and the Ukraine.

²² Commentary: My undergrad intro linguistics course was the worst course (even compared to pre-calculus with a professor who barely spoke English). In my last semester as an undergrad, I had to take six courses to complete the requirements to graduate. I had three law courses, world literature, intro linguistics, logic, and a graveyard shift security guard job at a tourist-trap mall, plus Marine Reserves drill at Anacostia Naval Base. The world literature and intro linguistics courses were taught by professors who were husband and wife, the first of two times that happened to me. The first two weeks of the linguistics course taught the IPA (International Phonetic Alphabet) which I recognized as similar to Speedwriting Shorthand, of which I had completed three courses in secretarial school.

But after that, we began the course textbook. I told the professor that reading the linguistics textbook felt like wading through mud (i.e. reading without comprehension), and that I had three law courses and a world literature course (all with substantial reading assignments), and with limited reading time, which books do you think I will spend my time reading? The intro linguistics course was such a disaster that the professor, who barely lectured or whose lectures were barely intelligible, ended up significantly curving the grades, which was the only reason I passed. The worst aspect of it was that I had been generally interested in linguistics since the time I had switched to an Anthropology major, I was looking forward to the course (it was an elective), and I felt that I should be able to *grok* it, that it was accessible. But alas it was a big concrete wall, apparently I do not have a linguistics (or pre-calculus) mind.

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See Appendix EGTEX – Emergent Government Titles Example
See Appendix GT – Emergent Government Titles

“THE real trouble with this world of ours is not that it is an unreasonable world, nor even that it is a reasonable one. The commonest kind of trouble is that it is nearly reasonable, but not quite. Life is not an illogicality; yet it is a trap for logicians. It looks just a little more mathematical and regular than it is; its exactitude is obvious, but its inexactitude is hidden; its wildness lies in wait.

I give one coarse instance of what I mean. Suppose some mathematical creature from the moon were to reckon up the human body; he would at once see that the essential thing about it was that it was duplicate. A man is two men, he on the right exactly resembling him on the left. Having noted that there was an arm on the right and one on the left, a leg on the right and one on the left, he might go further and still find on each side the same number of fingers, the same number of toes, twin eyes, twin ears, twin nostrils, and even twin lobes of the brain. At last he would take it as a law; and then, where he found a heart on one side, would deduce that there was another heart on the other. And just then, where he most felt he was right, he would be wrong.”

– G.K. Chesterton, Orthodoxy, Ch. 6 (1908) (emphasis in original) ¹

Two Hearts: Perhaps G.K. Chesterton is the origin of Dr. Who’s two hearts – he is distinguishable from humans in that he has two hearts, both physically and metaphorically. Sometimes the viewers forget that he is actually an alien in human form, he is not one of us, it is both human and an alien time lord.

- ✓ Mr. Chesterton also, probably not coincidentally, describes exactly why the ancient Greeks and Medieval scholars were wrong about Terra Australis Incognita.

Cockeyed Universe: Sometimes you wonder if the universe is ‘programmed’ in some cockeyed way and we occasionally get a glimpse of it. On Wednesday, November 28, 2019 the Pittsburgh Penguins were down 3-0 to the Avalanche in Colorado. Penguins captain Sidney Crosby then scored three consecutive goals – a natural hat trick in 5:35 of game time – to tie the game, but the Penguins lost the game 6-3. On Tuesday, December 4, the Colorado Avalanche were down 3-0 to the Penguins in Pittsburgh. The Avalanche scored three quick goals in the 2nd Period to tie the game 3-3. But in the 3rd Period (after an Avalanche goal was disallowed for goaltender interference), Penguins winger Patrick Hornqvist scored three consecutive goals – a natural hat trick in 2:47 of game time and a new Penguins record on hat giveaway night – to put the Penguins up 6-3 over the Avalanche, which was the final score. Many of the free hats ended up on the ice.

- ✓ Sometimes I think my life was programmed, every human has thought this at least once. Is it that we look back on our lives in see the inevitability of our current situation in the events of the past, or is it just the human need to try to assemble meaning out of random events? It is the source of the ideas of destiny and pre-destiny, ideas which any reasonable person rejects quickly, which is supported only by the barest stretched circumstantial evidence, but to which humanity holds onto intuitively.

Emergent Titles: About 15 years ago, I designed a set of 100 Government Titles by the process of first thinking of a name or concept (e.g., oligarchy, matriarchy) and then matching to it up to four Conflict Checks that seemed to reflect the requirements of the concept or ideology.

This was a decently useful process in forming the idea of Government Titles; however, game designers, especially those of tabletop games, long ago discovered that combinations of randomly generated attributes are superior for encouraging emergent game narrative (not to mention the

exponential number of possible combinations from just a few attributes) because sapient beings will naturally try to make sense out of apparent randomness. While such a system may not be suitable for fuzzy concepts such as Fundamental Realities, it is eminently suitable for concrete, objective at-the-moment game situations such as are Conflict Checks in Government Titles.

- ✓ The later switch to emergent Government Titles provided a structure supporting a much more diverse, thought-provoking range of Conflict Checks, a better distinction of Social and Estate Titles, and a more realistic depiction of existential realities of governments.² Much of the commentary and various discussion points in the GGDM text are reflected in the Themes.
 - ✓ There are 600 Conflict Checks in 60 Title Themes. Each Government Title will use at most 4 Conflict Checks and each position will have a maximum of 16 Conflict Checks to satisfy. The Themes and Conflict Checks cover all subjects important to the game that can be expressed in objective game data.
- Shaking the Bingo Balls: Construction of an emergent Government Title is accomplished in the following steps (a decision tree which easily can be automated):
1. It must first be decided whether the proposed title is a Social Title or Estate Title. This can be done by a 50-50 die roll, or it can be a conscious decision.
 2. Next must be determined the ‘scope of the concept’ in GGDM terms, a die is rolled to determine if the Government Title has 1, 2, 3, or 4 Conflict Checks.
 - During the 2016 Presidential Election, there was more than the usual talk about the rise of a third major party to break the monopoly and declining effectiveness of the two-party system instituted in 1858. I read an article (which I cannot find now, so I will paraphrase) written by a journalist who attended a fringe political party national convention where they nominated their 2016 Presidential candidate. The journalist noted that the convention was held in a hotel at the same time as a large comic book convention, and people from the latter wandered in and out of the political convention. He also vaguely mocked the list of fringe speakers at the convention and lamented the range of small, one-issue, limited appeal political parties. His suggestion in the end was that if one of these parties could get serious (and serious donors) and ‘get rid of their tin-foil hat,’ they might attract enough support to become a major party in the current climate. The two major parties, of course, have broad appeal and platforms covering all major issues. Thus, the number of Conflict Checks can vaguely equate to the major issues represented by the Government Title.
 3. The third step is to determine whether one of the Conflict Checks will come from the Interstellar Civilization Themes instead of either the Social or Estate Title Themes. This can be done on a 50-50 die roll as well. If the result is positive, one of the Social or Estate Title Theme Conflict Checks is replaced by using a randomly-determined Theme from the Interstellar Civilization Group to generate that Conflict Check. This is done even if the proposed Title has only one Conflict Check; that is, a single Conflict Check Social or Estate Title can arise from Interstellar Civilization Themes, and still act as either a Social or Estate Title in the game.

4. The forth step then is to make two rolls for each Conflict Check, one to determine which Emergent Government Titles Theme is to be used (#1-20), and the second roll is to determine which Conflict Check is selected from the Theme (#1-10). Do not re-roll duplicates of the first die roll (i.e. two Conflict Checks can come from the same Theme), but do reroll duplicates on the second roll (i.e. a Government Title should not have exact duplicate Conflict Checks). Conflict Checks can be contradictory.
5. After determining the Conflict Checks, the final step to creating an Emergent Government Title is to first roll a die to determine how many Vital Powers are associated with the Government Title and then to roll to determine which Vital Powers are associated with the Title, rerolling all duplicates.

For example, a new *Estate Title* is being generated, the die roll result indicates that it will have four Conflict Checks (Steps 1 and 2).

- A die is rolled and on an even result it is determined that one of the four Conflict Checks will be rolled from the Interstellar Civilization Themes (Step 3). So let's get to it! One d20 is rolled and the result is a 15 which is the Security and Survival Theme (i.e. ICT15). A d10 is rolled in that theme group and the result is a 1: "(T) No other **alien colonies** exist in systems where a Friendly Colony is located *or* all **alien colonies** in a starsystem with a Friendly Colony are owned by the position." This is the first Conflict Check for the new Estate Title. Hmm...
- A d20 is then rolled three times for the Conflict Checks from the Estate Themes (Step 4), with results of 1, 1, and 9, meaning that two Conflict Checks will come from EGT1 – First Estate – Legitimizers and one from EGT9 - Military-Industrial Complex of the Estate Title Themes.
- On EGT1, two d10 are rolled resulting in Conflict Checks: #5 "(F) Friendly population factors (including related Lost Colonist population) are under the control of alien sovereigns (i.e. other Major Positions)." and #9 "(F) The position has lost a colony to alien conquest within the last three turns."
- On EGT9, one d10 is rolled, resulting in Conflict Check: #4 "(F) Position has not lost any Warships, Logistical Ships, Bases, or Fighters or fired any Ship Missiles in Combat in the last two turns (in order to lose something in combat, you have to be involved in a combat...)."
- Note that Conflict Checks which begin with (T) pass if they are objectively true, and Conflict Checks which begin with (F) pass if they are objectively false.
- Taken together, the final Estate Title looks like this:
 1. (T) No other **alien colonies** exist in systems where a Friendly Colony is located or all **alien colonies** in a starsystem with a Friendly Colony are owned by the position.
[Must be TRUE to pass]

2. (F) Friendly population factors (including related Lost Colonist population) are under the control of alien sovereigns (i.e. other Major Positions). [Must be FALSE to pass]
3. (F) The position has lost a colony to alien conquest within the last three turns. [Must be FALSE to pass]
4. (F) Position has not lost any Warships, Logistical Ships, Bases, or Fighters or fired any Ship Missiles in Combat in the last two turns (in order to lose something in combat, you have to be involved in a combat...). [Must be FALSE to pass]

Players are free to name Social and Estate Titles whatever they wish, I might call this one an ugly bit of xenophobia. To satisfy all of the Conflict Checks the position would 1) need to have exclusive control of all stars where they have Friendly Colonies, 2) control all population factors of their Native Population Type in the game, 3) not lose any colonies to alien attackers and 4) lose ships, bases, fighters or fire Ship Missiles in combat every two turns. This Title may be one of up to ten choices available to the position and the position may choose to install it when conditions warrant.

Finally, the last step, a die roll indicates that two Vital Powers are associated with this Estate Title, and two more rolls result in the Taxation Power and Combat Power being associated. I smell ‘evil’ empire! And it’s not a new type of cologne.☺

“Here, again in short, Christianity got over the difficulty of combining furious opposites, by keeping them both, and keeping them both furious. The Church was positive on both points. One can hardly think too little of one’s self. One can hardly think too much of one’s soul.”

– G.K. Chesterton, Orthodoxy, Ch. 6 (1908)

Furious Opposites: The two-party system of the United States is often one of furious opposites, more so lately. Contradictory or seemingly irreconcilable Conflict Checks are possible and allowed (the example above is rather straightforward); they should not be rerolled. Contradictions require creative and emergent explanations and are not unknown to history:

- ✓ For example, as a youth in Italy, Louis-Napoleon Bonaparte was involved with the Italian resistance to the Austrian occupation of Northern Italy. He and a friend eventually fled across the French border to avoid arrest.
 - Decades later, when he overthrew the French Second Republic and became Emperor Napoleon III (1852-1870), he personally led French troops to join those of Piedmont-Sardinia in a war to oust the Austrians from Italy in 1859 and was present at two battles (following his Principle of Nationalities). Like his famous namesake, he could claim to fight the Austrians in Italy, nominally for the liberation of Italy from the Habsburgs.
 - However, the French Catholics were a strong force in French popular politics such that, as Prince-President of the Second Republic, Louis-Napoleon Bonaparte was pushed into supporting French troops sent previously

to protect Rome (and to restore the clerical power in the Papal States), which was then temporally ruled by the Pope, and those French troops fired upon *Republican* Italian troops led by Garibaldi in 1851 who sought to liberate Rome for the new Italian Republic. The French troops in Italy were resented as occupiers propping up a corrupt regime by both the population of the Papal States whose clerical rulers were reactionary, inept and corrupt, and by the Republican elements in French society (similar to the U.S. experience in South Vietnam³). Thus the Prince-President (and future Emperor) was forced to attempt to broker compromises between the Pope, papal supporters (e.g., Ultramontane party) and radical republicans.

- Later, after the war with Austria, Emperor Napoleon III was forced to continue defending Rome (despite his own nationalist beliefs) against liberation attempts by Garibaldi in 1862 (Garibaldi was arrested by the Italian government) and 1867 (Garibaldi was defeated in battle with French and Papal troops); Garibaldi finally captured Rome in 1870 after the final evacuation of French troops following Sedan. Rome then became the capital of modern Italy and the Pope retained the sovereign Vatican.

- Pool of the Abyss: The pool of emergent Government Titles (the Foresight, see *The Power to Choose*, 5 Beginnings, p. 50, *supra*) generated at the beginning of the game will remain available to the position during the game for use whenever a change of Social or Estate Titles occurs. At the discretion of the Concierge, new emergent Government Titles may be generated from time to time during the game whenever necessary – for example, if all Social or Estate Titles have been used, or possibly some titles may ‘age-out’ of the pool every ten turns to be replaced by new potential Government Titles.

However, caution should be exercised in replenishing the pool before it is fully drained – as Government Title changes are made during the game, the players will first take those they like the most, are most comfortable with, leaving less immediately desirable titles in the pool. Later in the game, this may cause positions to ‘evolve’ in another direction, for example, from peace to xenophobia and war, or vice-versa, as their civilization changes with a succession of Titles. Replenishing Titles in the pool prematurely may alter the course of the game.

- Sides of the Coin: Conflict Checks that require a Power activation or event to have occurred within X turns, or that a certain condition currently exist, guide the position’s conduct by requiring the position to do or not do certain things in the game *as long as the position is interested in not failing that Conflict Check*, that is, the position players must be diligent and cognizant. A position may, at its own risk, allow or cause a particular Conflict Check to fail by action or inaction.
 - ✓ Most Conflict Checks are capable of multiple interpretations, for example, does “(T) Position has Naturalized a Converted Colony within the last five turns” imply an empire building or imperialist drive, or does it suggest a developing pan-galactic civilization? It depends which side of the argument you embrace, but within GGDM’s standard rules, only Converted Colonies can be Naturalized. And only Conquered Colonies can be Converted. And colonies don’t get conquered on their own will.

- ✓ Participants should be cognizant that some actions which seem positive can cause a Conflict Check to fail. For example, a Conflict Check that reads, “(T) No Naturalized, Converted or Conquered Colonies owned by the position are within Short Movement of the Capital Colony at the current best ship movement speed” can be caused to fail by increases in Ship Speed, by moving the Capital Colony, etc. It can also cause the position to destroy **alien colonies** by Orbital Bombardment if they are too close, rather than Conquering them, or it might cause the position not to attack and conquer those colonies, providing an umbrella of sorts. Or maybe the position simply doesn’t increase Ship Speed.
- ✓ While some Conflict Check fails are permanent and some Conflict Checks may fail as soon as the Government Title is active (as long as the Title isn’t instantly disrupted, see A House Divided, 5 Government Titles, p. 637, *infra*), in most cases, there is some grace period to restore the conditions necessary before all other Conflict Checks fail and the Government Title is disrupted. For example, “(T) The position had either a successful Research Attempt or Development Attempt last turn” can fail one turn and then ‘un-fail’ or pass the next turn, depending on many factors, including luck, in research and development. *Past failure has no effect on Conflict Checks*. As long as it was not the last Conflict Check to fail, the Government Title will not be disrupted.

“My attitude toward progress has passed from antagonism to boredom. I have long ceased to argue with people who prefer Thursday to Wednesday because it is Thursday.”

– G.K. Chesterton, *New York Times Magazine*, February 11, 1923 (from the website of The American Chesterton Society)

“There are two kinds of fools: one says, ‘This is old, therefore it is good’; the other says, ‘This is new, therefore it is better.’”

– Dean William Ralph Inge, *More Lay Thoughts of a Dean* (1931) ⁴

Second Sight: The first group of Themes created were the Interstellar Civilization Themes which simply followed through the sections of GGDM rules in order, so the ICT (i.e. Interstellar Civilization Themes) are really ‘GGDM game themes’ and can be followed in that manner if participants wish to create or add their own.

- ✓ Second sight is another term for intuition, see discussion in Foresight, 2 Colleges, p. 472, *supra*. Sometimes I have felt second sight in the design of GGDM when decisions I make lead to unintended, unanticipated, but pleasing developments or incidentally solves design problems in other parts later. Here I use the term more literally and humorously in reference to ‘doing over’ the Government Titles design in 2018.
- Lowering the Drawbridge: In working through the Themes for emergent Estate Titles, I have found that it comes down to a couple of basic questions of understanding (for those who may wish to create or add their own Conflict Checks and Estate Title Themes):

- ✓ **What does X occupy?** It is said, not without reason, that possession is nine-tenths of the law. This is the question of what X group owns in society, more specifically, what critical real estate (the Castle, both literally and figuratively) is owned by X group. This is not a question of whether what they are doing with it is beneficial to society (that is more in the territory of Social Titles), only that it is critical enough to society to create power, control, wealth, etc. In this way, the medical profession is in the same place as a drug kingpin, excepting that one is legitimate and regulated and the other is illegal and prosecuted.
- ✓ **What is characteristic of X group?** This question I have found covers more diverse situations, such as the Youth Bulge, by allowing a historical approach. For example, what was characteristic of the post-Roman Scandinavian Youth Bulge? Viking raids, invasion of England and France, migration into the Ukraine (e.g., the *Rūsiyyah*, the Kievan Rus' polity). So this youth pressure can be translated then into objective game terms of what it would take to maintain an Estate Government Title based on the youth bulge (e.g., baby boomers, youth *as an Estate*). Occupy Wall Street?
- **Flying the Banner:** Social Titles can likewise be framed in a couple of questions similar to Estate Titles:
 - ✓ **What is their ideal result?** This is similar to what does the group want, however, distinguishable in that the social movement has the most power before the ideal result is achieved and significantly less power afterward or the closer they get.⁵ Thus, social movements are often self-defeating. An egregious example is the early 20th Century Temperance Movement which reached the height of its power with the ratification of the 18th Amendment to the U.S. Constitution (i.e. the Prohibition). The unanticipated effects of the Prohibition were a massive jump in the power, wealth, and organization of criminal syndicates, an increase in their armaments and chaos, resulting in a substantial increase in Federal police power and further erosion of the power of the states to the central government to combat social ills that transcended state borders. The Prohibition was ended by the 20th Amendment fourteen years later, but the temperance idea collapsed, substance abuse was 'accepted' as a fact of civilization and it has been very hard for subsequent efforts to curb its growth or stop the sophisticated illicit power of violent criminal cartels.

Although the preceding is framed in terms equating a Social Title to a historical social movement, it is not helpful beyond basic understanding to equate all Social Titles with the type of social movements that are historically famous (e.g., the Civil Rights Movement or Gandhi). Social movements represent the ideals and desires of society (whether good or ill in the long run, e.g., the March on Rome 1922) and only those who meet the greatest resistance and have the greatest support on the other side become the conflicts we know in history. Many and rather tamer social movements are going on at any given moment in a civilization, e.g., current civilizations desire prosperity, some kind of conformity, obedience to authority, and continuation of whatever makes civilization work and continue into the foreseeable future.

- ✓ **What is the practicality of the ideal?** Seemingly, the greater the ideal, the less attainable it is in any practical sense. This works as a dynamic; the ideal survives because it is great and distant (*ut supra*), but at the same time, attracts little serious support because it is great and distant, seemingly unattainable and impractical. Social

movements that take hold are those that seem to offer some immediately attainable ideal or goal, but those movements are also the ones most likely to lose momentum after initial political success.⁶ An example of this might be the triumph of labor in the U.S. in 1935 and 1938 with the Wagner Act, the FLSA, and the height of union power in the early 1960s, the Equal Pay Act of 1963 and Age Discrimination Act of 1968. Although additional rights have been created for labor, union membership and effectiveness has declined since the mid-1970s (I remember the ‘wildcat strikes’ in the 1970s) as organized labor has achieved all of its goals generally, corruption and organized crime had infiltrated the unions (e.g., Jimmy Hoffa), and parental government and successful litigation secured the results of the crusade. Much the same can be said of the Civil Rights Movement: Ultimate legal and legislative success has sapped momentum, leaving only a residue of political correctness and media reporting of continued systemic discrimination (e.g., disproportionate criminal sentencing).

This is useful in explaining much of the sociopolitical history of the 20th Century, to greater or lesser degree depending on circumstances, peculiarities and details of each situation. The initial goals of the Russian Communist revolution: Overthrow of the tottering *ancien regime* and establishment of a worker’s state, were immediately attainable in the shadow of WWI, even if at great cost. The practical realization of the rest of the ideology, the promises ... well, the history speaks to that. Within ten years (and after the defeat of the Soviet invasion of Poland in 1920), the same old power and corruption crept into the new institutions (“Meet the new boss, same as the old boss.” – The Who), and the German invasion of Russia in 1942 probably extended the existence of the Soviet Union by 30 to 50 years because they won the war (like a successful cancer treatment can extend the life of a terminal patient).

- Into the Breach: Estate vs. Social Titles might then be characterized as a contrast of control of civilization’s needs vs. wants (or possibly in philosophical terms, *is vs. ought*, see 2 Culture, p. 374, *supra*). At the bottom of all of these questions is the last question of how to form a true or false query from game data which will represent some aspect of the questions being asked for that Government Title Theme. In a larger sense, this is the entire process of GGDM design in a nutshell.

The actual process is one of picking your spots, especially when creating the Social Titles, I have found that there are thousands of words that express concepts about our civilization, history, what sort of society we are descriptively, but not all, in fact, a surprising few are actually expressible as Government Title Themes. Many words, such as you might describe our civilization as empirical or materialistic or oligarchic, are included within the range of other terms in GGDM, such as Constructural Elements, Colleges, or Technology. Many concepts do not have any expression in game terms, for example, the discussion of mythopoeic thinking and parallelism in *More Than a Feeling*, p. 808, and *The Fine Print-isms*, p. 811, 1 Temporal Technology, *infra*. What usually happens is that I am working, watching television, sleeping or walking to work, and my mind is deep processing; suddenly it will all come together, a theme and several possible Conflict Checks will emerge into my consciousness.

- ✓ “The architecture supporting our conceptual knowledge of abstract words has remained almost entirely unexplored. By contrast, a vast neuropsychological, neurolinguistic and neuroimaging literature has addressed questions relating to the structure of the semantic system underpinning our knowledge of concrete items (e.g. artefacts and animals).” – Sebastian J. Crutch, Elizabeth K. Warrington, from abstract of “Abstract

and concrete concepts have structurally different representational frameworks,”
Brain, Vol. 128, Is. 3, March 2005, pp. 615–627 (free article on Oxford Academic).

*“And the world looks just the same;
And history ain’t changed;
‘Cause the banners,
They are flown in the next war.”*

– The Who, “Won’t Get Fooled Again” (1971)

Won’t Get Fooled Again: For participants who wish to design their own new Social or Estate Title Themes, there are ‘cardinal sins’ to avoid when writing new Conflict Checks:

- ✓ Avoid Conflict Checks which can never fail, e.g., “(T) Position has stardrive technology” passes 99.99% of the time and cannot fail once it passes. Conversely, there are Conflict Checks that can fail permanently – perhaps a cosmic negativity bias.⁷
- ✓ Avoid self-fulfilling Conflict Checks, e.g., “(T) This title has never been disrupted” is bad because the Conflict Check can never fail, and so the Title can never become disrupted.
- ✓ Avoid Conflict Checks that do not require regular affirmative action (e.g., Power Activations, RPs spent) or that do not curtail the position from doing something the members may want to do (checks and balances, decisions are made) to pass each turn.
- ✓ Avoid turn requirements that are too long (e.g., “(T) Expansion Power has been activated at least once in the last 20 turns,” – one activation would allow the position to pass the Conflict Check for 20 straight turns, making the Title undisruptable).
- ✓ And avoid Conflict Checks that are impossible or convoluted (I certainly pushed the envelope a few times on this one).

“But this involved accuracy of the thing makes it very difficult to do what I now have to do, to describe this accumulation of truth. It is very hard for a man to defend anything of which he is entirely convinced. It is comparatively easy when he is only partially convinced. He is partially convinced because he has found this or that proof of the thing, and he can expound it. But a man is not really convinced of a philosophic theory when he finds that something proves it. He is only really convinced when he finds that everything proves it. And the more converging reasons he finds pointing to this conviction, the more bewildered he is if asked suddenly to sum them up.

Thus, if one asked an ordinary intelligent man, on the spur of the moment, ‘Why do you prefer civilization to savagery?’ he would look wildly round at object after object, and would only be able to answer vaguely, ‘Why, there is that bookcase . . . and the coals in the coal-scuttle . . . and pianos . . . and policemen.’ The whole case for civilization is that the case for it is complex. It has done so many things. But that very multiplicity of proof which ought to make reply overwhelming makes reply impossible.”

– G.K. Chesterton, Orthodoxy, Ch. 6 (1908)⁸

Endnotes.

¹ Citation: The entire book is available for free online at LeadershipU (leaderu.com), a Christian apologetics website. The copyright would long ago have expired.

² Commentary: Admittedly, the Conflict Checks being written in 2018 are, unlike the previous Government Titles, being written on the assumption that the Conflict Checks will be assisted by automation and not involve the Concierge poking around the data. If the game data is properly tagged, and the checks are objective, I am certain that a query can be written for each of the 600 Conflict Checks.

³ Commentary: The French occupation of the Papal States was similar to the U.S. experience propping up the corrupt, inept government of South Vietnam, except in one very important respect – the cultural, historical and linguistic differences, and climate and geography, between Western troops and Indochina was much greater and the environment much more alien and hostile. This is *the more likely condition* in GGDM situations.

⁴ Commentary: One can imagine from this statement that Dean Inge had little patience with ‘old tyme religion’ tent revivalists who were popular across the United States in that time (e.g., the subject of Neil Diamond’s song, “Brother Love’s Traveling Salvation Show” (1969)).

⁵ Commentary: Though it might not be considered a ‘social movement,’ the First Crusade is a perfect example of the phenomena. Though the leaders feuded, lingered and delayed after securing Antioch in June 1098 (this is the strange incident of the Holy Lance of Antioch described in *White Rose*, 1 Constructural Elements, p. 178, *supra*), eventually the rank and file forced them (on threat of mutiny and disorder) to continue to Jerusalem, the ultimate goal of the Crusade. *Jerusalem was the only objective that kept them together*. After five months of marching, the Crusaders finally reached Jerusalem in July 1099 and in a week, captured the city by a bloody assault that turned into a massacre of the population. After the capture of the final objective, the leaders continued feuding over rule of Jerusalem, and two factions left with their men for Jericho. The only event that brought them back together was the approach of the Fatimid army threatening to recapture Jerusalem. In August 1099, the reunited Crusader army, in an audacious surprise dawn attack routed the Fatimid army of twice their size at the Battle of Ascalon, looted their camp, and returned to Jerusalem. Satisfied that they had met their obligations, shortly afterward most of the First Crusade army returned to Europe, leaving a token force behind.

⁶ Commentary: Placed in this context, it is not surprising at all that the sociopolitical ideals represented by the Articles of Confederation, ratified in March 1781, just over seven months before the British surrender at the Siege of Yorktown (thus, ratified in the height of the Revolution), quickly faded and were replaced by the dualistic U.S. Constitution in June 1788. In a certain pro-states or libertarian view of history, this was the innocuous beginning of the leeching of power from the states to the central government which has been continuous and accelerated significantly after the American Civil War and after the Great Depression-WWII era.

⁷ Commentary: That is, every living thing is mortal, we have not yet discovered any life that is immortal. *See?*

⁸ Commentary: I read from or about writers such as G.K. Chesterton, Alexandria Petri, Eric Hoffer, Nadja Kornith, Bertrand Russel, Kate Becker, J.B. Bury, Amanda Hess, or Joseph Tainter, and I think, wow, I’d like to sit and talk with these people. But the desire for conversation would be purely one sided, within a minute or less any one of them would figure out that I am a lightweight (a term I saw applied in an article to Sebastian Gorka) non-conversational schmuck. I would end up just mumbling my admiration for their work.

- ✓ I have thought from time to time since my youth of what I call the fantasy dinner; a gathering of intellects in a particular field around a dinner table for eight. I might imagine, for example, a dinner with Tom Clancy, Sir John Hackett, Frank Chadwick, Col. Harry Summers, Lynn Montross, Prof. Tom Nichols, and Col. Trevor N. Dupuy (yes, I know that most of them are deceased as of 2020 ... this is a fantasy dinner, that is the way those things usually work). And there I sit or stand in the eighth seat, which might appear empty since I am but a garden gnome peering from behind the edge of the table, over the table cloth, just quietly listening to these men talk shop, hoping not to be noticed because I have nothing useful to add. But for the fact that this is my fantasy dinner, the eighth seat could be better used, perhaps one of the West Point editors, or Rear Adm. Alfred Thayer Mahan, or Generals McMasters or Schwarzkopf would attend as guest speaker and I could just sit in the window behind the curtain. I am in any event expendable, and every military man knows what that means (life expectancy in combat, 3 minutes or less), mission first, don’t screw it up. Thus GGDM may actually stand for *Garden Gnome, Discarnate Manifestations*.☺

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See Appendix DE&A – Disruption Events, Inactive Constructural Elements & Apostasy
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“Broadly speaking, I would define the two camps as governing versus anti-governing. Ideologically, each camp shares many of the same principles. However, the difference in strategy is vast, to the point of total divergence. The governing conservatives actually want to, as the term suggests, govern. They want to win elections and affect public policy through available means. I emphasize the word ‘available’ because it’s the crucial distinction from the anti-governing crowd. The latter just wants what they want, with little to no regard for how things actually work.

Both camps are willing to ‘fight in the trenches,’ but to wholly different effects. The governing conservatives want to secure public policy consistent with their principles and values. The anti-governing crowd wants the cathartic affirmation of ‘being right,’ a feeling mostly secured through retweets, likes, and internet memes.... In lieu of statesmen, the intraparty contest has been between two types of impotents, those who get elected and accomplish nothing, and those who accomplish nothing because they can’t get elected. Neither proves particularly useful. We need a new breed.”

– Walter Hudson, pjmedia.com, October 10, 2016

Immoderate Unhappiness: *Is vs. ought.* Frustration, apathy and general ignorance lead people to “just want(s) what they want, with little to no regard for how things actually work” (*ut supra*). Frustration is our biggest enemy, impatience is its agent provocateur. This is just another long way of classifying certain parts of the electorate as juvenile or childish; as impatience, ignorance and inexperience are not considered virtuous in Western Civilization. When enough of the electorate or those who have a say, fall into this category, combined with other political circumstances, the result may be what is now called a populist movement or populist uprising, both of which terms are slightly derogatory in the current media. Frustration, apathy and general ignorance, populist movements and uprisings are common human factors the Concierge could consider in use of Intervention Potentials and storytelling in GGDM. Some group will *always be* ☹.

- ✓ “‘Immoderate people tend to view the world in black and white, as uniformly bad or good, and they are unable to appreciate positions in the middle,’ said Aurelian Craiutu, a political-science professor at Indiana University... ‘No doubt on health care, the final outcome will be something in the middle,’ Craiutu said. Trump’s ‘inability to appreciate that is a sign of immoderation. There are moments in history, where we are fighting against Hitler or Stalin, when that works. But there are certain issues, such as health care, where compromise is part of the democratic process.’” – David Nakamura (quoting Aurelian Craiutu), “Trump’s Penchant for Extremes worked on the campaign trail but hinders his White House,” *Washington Post*, July 19, 2017.

Their .012 Reich (12 actual years divided by the promised 1,000 years) crumbling around them and having met with complete futility for their radical ideology, the lower order officers of the Third Reich engaged in a flurry of vengeance killings in the last two or three months before the surrender. They, in addition to killing as many Jews as they could find, took out their frustration by killing political prisoners and dissidents, whom they blamed for their loss (particularly those of the Red Orchestra and members of the Confessing Church) without even the pretext of proceedings or due process (by drumhead court-martials or simply by orders, after the destruction of the People’s Court during an air-raid in February 1945). Many also committed suicide to avoid accountability or because they could not endure their own bitter futility.¹

- ✓ “I hope that people can stay focused enough to realize that we need to make this an aberration and not our reality.” – John Meacham, Morning Joe, June 18, 2020.²

“Man is a religious animal,’ Mark Twain once said, and while some claim that America is becoming a more secular nation, we never become less religious. We just trade formal religions for informal ones, politics being chief among the faiths in the latter category. When we view our presidents as either messiahs or anti-Christ, and when we believe that election results will yield either utopia or Armageddon, politics has become our religion, our preferred parties have become our creed, and those of differing persuasions have become the heretics whose blasphemy must not be tolerated.

So it shouldn’t come as a surprise when political sectarians sidestep actual discourse and pull the Peanuts football trick to score some cheap points against their rival zealots. It also shouldn’t come as a surprise when those who are invited to partake in the supposed interfaith dialogue refuse to play a game they know is rigged against them.”

– Hans Fiene, “The Peanuts Football Trick Explains Why Conservatives Keep Quiet About White Supremacy,” August 16, 2017^{3,4}

A House Divided: A disrupted Government Title cannot be used to *activate* a Power and will not receive *an Act or Scene*. When a Government Title is disrupted, it may be either restored or abandoned. A disrupted Social or Estate Government Title may automatically be restored by activation of the Order Power for the purpose of Government Formation when:

- 1) The Government Title would not automatically become *disrupted* as of the beginning of the turn it is restored. This amounts to an ‘instant’ extra Conflict Check.
- 2) There is sufficient open space to legally place the Government Title in the Public Space (positions should avoid placing new pieces in the empty space).
- 3) The position currently has less than five undisrupted Government Titles.
- 4) And no new Government Titles have been added since the Title to be restored was disrupted (restoration of other Titles do not count as ‘adding new Titles’).

If the Order Power is activated to restore a disrupted Social or Estate Government Title and it cannot be restored for whatever reason, the Power activation is wasted (thus positions may attempt many times to restore a disrupted Title). When a restored Government Title is placed in the Public Space, the position may, but is not required to (unless by a violation of the Structural Government Title), shift any number of Pathways to the restored Government Title, with possible adverse consequences if items occupying Monads need to be moved or lost.

Automatic restoration by activation of the Order Power for the Purpose of Government Formation *does not apply* to disrupted Structural Titles which has a different criteria, see World Powers Fall, 3 Government Titles, p. 617, *supra*.

- ✓ “When Americans think of public policy in terms of scoring wins or losses, dumpster fires like the last two Obamacare repeal efforts are inevitable. ... GOP legislators know that their base isn’t interested in the mumbo-jumbo of actual health care experts. These voters are not interested in analysis, or extended debate. They don’t care who’s in favor of it or who’s against it, or for what reason. They’ve been told that Obamacare – which they hate – would be repealed, and the Affordable Care Act

- which they like – would be improved. If that sounds strange, remember that a third of all voters and about a quarter of GOP voters don't realize these are the same things, and that's the rub. No amount of expert testimony is going to change anyone's mind about Obamacare. What the most vocal and angry part of the Republican base wants is a repeal of this thing called 'Obamacare' because it is a political symbol and because President Trump promised them it would be repealed, totally and completely, on day one of his administration. What that would mean is as much a mystery to those angry voters as it is to many of the senators who supported that repeal.”
- Tom Nichols, “Health Care Fail: GOP caves to ignorant voters who want revenge, not facts,” USA Today, September 29, 2017.

- This Old House: Restoration with a capital “R” is a term commonly used by historians for this exact process, the reversion of rule to the previous elites or authorities. Historical restoration examples include the Kenmu Restoration and Meiji Restoration in Japan, the European Restoration (post-Napoleonic, there are many sub-Restorations under this umbrella), and the Restoration of 1660 (Charles II of England). The term, with a capital “R,” can also be used doctrinally in organized religion. In fantasy fiction, the historical-fantasy writer, Katherine Kurtz, prominently featured the Haldane Restoration, where normal humans overthrew an entrenched Deryni (humans with genetic magic and psychic powers) invaders’ monarchy and peerage, and placed an heir to the last human king on the throne.

- ✓ Restoration is also used to refer to a resurgent period of a tottering state, e.g., the Komnenian Restoration of the Byzantine Empire beginning with the reign of Alexios I ten years after the disastrous defeat at Manzikart. The Komnenian Restoration did not involve either reversion to a previous form of government, or previous dynasty (e.g., the Bourbon Restoration) or elite ruling group, but rather, the restoration of the Byzantine Empire to vitality and viability. The Pechenegs were the first victims, in typical Byzantine fashion, Alexios convinced the Cumans to turn on the Pechenegs; they destroyed the Pechenegs and then he drove the Cumans back across the Danube. Such a restoration may occur in GGDM, but is not the use of the term here.

- Three Kingdoms: A disrupted Government Title may not be abandoned unless its holder is maintaining at least three undisrupted Government Titles. This can result in a quagmire if positions do not choose and act carefully. New Social or Estate Government Titles may be added while another Title of any kind is disrupted.

A new Structural Title may be added only if the current Structural Title is disrupted. However, a position may never have two *undisrupted* Structural Titles at the same time. Adding any new Government Title, of course, will prevent the restoration of any of the currently disrupted Government Titles and they are then considered abandoned, unless there are not currently three undisrupted Titles (*ut supra*).

Consider what events and conditions would need to occur to restore any of the monarchies that were toppled by popular revolutions, wars, and historical shifts of the 18th, 19th, and 20th Centuries. Curiously, there is a political party in France (Alliance Royale) that is still seeking to restore the monarchy and Prince, Jean d’Orléans, Duke of Vendôme, with aspirations of continuing the royal line to a day the monarchy might return. How serious are they?

However, it's always a matter of conditions: Consider the ‘managed democracy’ trajectory of Russia⁵ – Russia is effectively a nuclear-armed 21st Century Roman *Principate*:

- ✓ “One of Russia’s most influential business magnates on Wednesday said the country has become a ‘quasi-monarchy’ – a sign of how President Vladimir V. Putin’s move this week to clear the way to rule until 2036 has changed the landscape of Russian politics. Not that the magnate, Konstantin Malofeev, was complaining. A nationalist financier with Kremlin connections and his own TV channel, Mr. Malofeev has spent decades agitating for a restoration of royal rule. In an interview with The New York Times, he said that after this week’s flurry of events, he had never been closer to his goal. ‘The quasi-monarchy that we basically now have is a very good thing,’ Mr. Malofeev said at his ornate office on Moscow’s Garden Ring. Referring to Mr. Putin, he went on: ‘If we were now to start calling him emperor, not president, then we wouldn’t have to change much in the Constitution.’...”

The message in the pro-Kremlin news media Wednesday was that Mr. Putin had chosen a democratic path to preserving stability in Russia by keeping himself in power. Mr. Putin emphasized that the amendment allowing him to run again would need to be approved by the Constitutional Court and by a nationwide vote. The April 22 plebiscite had already been scheduled as a vote on other, less consequential constitutional amendments that Mr. Putin introduced earlier this year. ... Success in the plebiscite and in the Constitutional Court appears assured, however, given the Kremlin’s control of the judiciary and the electoral system.” – Anton Troianovski, “A New ‘Emperor’: Russia Girds for 16 More Years of Putin,” New York Times, March 11, 2020.

- The Ends of the Circle: A disrupted Government Title that has been abandoned previously may only be subsequently re-added as a ‘new’ Government Title *at the discretion of the Concierge*. Positions will not generally be allowed to abandon disrupted Government Titles and then add them again later as a new Government Title. It is not impossible that this could happen, but improbable. In considering the issue, the Concierge will look at the current conditions, the story arc of the game, and the amount of time elapsed since the Government Title in question was abandoned. The addition of the previously abandoned Title may be related to other events, such as a Reformation or local revolt.
 - ✓ “If we beat the King ninety and nine times yet he is king still, and so will his posterity be after him; but if the King beat us once, we shall be all hanged, and our posterity be made slaves.” – Earl of Manchester, English Civil War (1642-1651).
 - The Earl of Manchester is historically recorded as having expressed this sentiment, but it is also included as dialogue in the 1970 movie Cromwell, where the Earl is erroneously shown sitting in the House of Commons. Cromwell replied, “Then why are we fighting this war?”

It is likely that the leaders of the American Revolution were familiar with this statement, as have all revolutionary leaders for the last three centuries. One solution to the problem is to execute the king, which they did in 1649. The French followed suit in 1792, the Russians in 1918, a century years ago:

- ✓ “The Tsar’s family was a victim of the principle that form the very axis of monarchy: dynastic inheritance” – Leon Trotsky.⁶
- ✓ Cromwell remains a ‘great Englishman’ because he refused what Napoleon could not: A Crown. At least as a formality. All the window dressing and trappings were there.

“According to elite-focused theories of regime transitions, democracies remain stable when they are in a ‘self-enforcing equilibrium,’ meaning when all major political actors favor the status quo because it serves their own interests as they see them.”

– Hubert Tworzecki and Radosław Markowski, “Why is Poland’s Law and Justice Party trying to rein in the judiciary,” *The Washington Post*, July 26, 2017

Shattered States: The 1990 board game, *Shattered States*, by Karstan Engleman and David Spencer, posits a future civil war between regional warlord factions of the United States following detonation of a nuclear weapon in Washington, D.C. by a terrorist during the State of the Union address. The game ends with no winner if the United States cannot be “reunited” in five to eight years (since this is a wargame that means military victory over rivals): *the memory and vision of the United States, and hope of restoration will begin to fade from the common memory as regional warlords carve out new polities*. I believe this idea was floating around in the 1970s and 1980s, as I have seen it once or twice in other literature from the late Cold War period.

- ✓ *Shattered States* should not be confused with the similar 2005 video game, *Shattered Union*. But this time, it is a nuclear weapon detonated in Washington, D.C. during the Inaugural Ball in 2012. Wonder where they got that idea?

What happened when the last Western Roman Emperor, Romulus Augustulus (of questionable legitimacy) was deposed by the Goth leader and Roman army officer Flavius Odoacer in 476 A.D.? Odoacer and the Senate of Rome placed the imperial insignia and emblems on a ship and sent them to Constantinople. The Eastern Roman Emperor Zeno, who had his own problems, granted Odoacer a meaningless title (*patrician*) and didn’t press the issue and the Senate of Rome proclaimed Odoacer King of Italy.

- ✓ “Odoacer advanced on Ravenna, capturing the city and the young emperor after the short and decisive Battle of Ravenna. Romulus was compelled to abdicate the throne on 4 September 476. This act has been cited as the end of the Western Roman Empire, although Romulus’ deposition did not cause any significant *disruption* at the time. *Rome had already lost its hegemony over the provinces*, Germanic peoples dominated the Roman army, and Germanic generals like Odoacer had long been the real powers behind the throne. Italy would suffer far greater devastation in the next century when Emperor Justinian I reconquered it in the Gothic War.” – from Wikipedia article, “Romulus Augustulus,” December 9, 2018 (emphasis added *for GGDM game terms purposes*).

When the last living, generally accepted, previous Western Roman emperor, Julius Nepos (predecessor to Romulus Augustulus), was assassinated in 480 A.D., nobody cared and no one sought to revive the Western Roman Empire at that point. Roman Emperor was a meaningless title, cursed with the weight of history, outmoded in the new age, no one was willing to fight for it or even to place a claim. Romulus Augustulus may have outlived Odoacer by more than 20 years (no one is sure when he died, how or where, no one cared), but never sought to reclaim the throne. Thus, the Western empire faded to black.

- ✓ However, Emperor Zeno persuaded the Ostrogoths to enter Italy in 489 A.D. and dispose of Odoacer, while they were fighting, the Burgundians started raiding, then the

Visigoths joined with the Ostrogoths against Odoacer. The various tribes and factions slugged it out until peace was negotiated by the Bishop of Ravenna in 493 A.D. Then the Ostrogoth leader killed Odoacer while they had dinner, and massacred his family and the rest of his army. The Ostrogoths then ruled Italy.

- ✓ Later Eastern Roman Emperors warred against the Ostrogoths from 535-554 A.D., the Ostrogoths were effectively destroyed and lost their politico-ethnic identity and suffered social collapse (like the Samnites after the Social War in 90 B.C.⁷), and the Byzantines reconquered (and depopulated) the Italian Peninsula temporarily, but lost most Italian territory to new invaders (e.g., Lombards in 568); the Byzantines held onto footholds here and there for a few centuries.
 - The word “byzantine” (not capitalized) comes down to us with a Machiavellian meaning for good reason. See also Manzikert discussion in 2 Construction, p. 671, *supra*.⁸
- The Last POTUS: A 16-year old was appointed President of the United States by his father, the Mayor of Pittsburgh, the final Capital of the United States of America. The U.S. Constitution long irrelevant, the appointment was confirmed by a single-candidate election held in western Pennsylvania, parts of eastern Ohio, northern West Virginia, southwestern New York, and some neighborhoods in Chicago and Cleveland; the rest of the United States being permanently lost to the Federal Government. Shortly thereafter, the Pittsburgh militia was defeated by mutinous migrant mercenaries in the service of the U.S. Army, stationed at the church across from Castle Village, at the Battle of Carrick.

The mutineers overran the headquarters at the Carrick Super-Mall (the largest remaining mall in North America) and fought their way up the broad hillside over sprawling hillside cemeteries – Carrick is where people have long gone to be buried – and over house-lined terrace streets to the top of Brownsville Road and Arlington Avenue. The Mayor in command and President were captured. The President of the United States resigned and his fate is unknown to history; allegedly he lived for a while in West Virginia under the supervision of the Duke and is said to have wandered away into the mountains. Afterward, there are no further Presidents of the United States; the world moved on. The U.S. Senate, meeting in the library of the former Duquesne University (now “Capitol Hill”), proclaimed the victorious mercenary general as King of Pittsburgh and Ohio and his four sons as Prince of New York, Duke of West Virginia, Captain of Cleveland and Mayor of Chicago.

- ✓ “At 127 years of age, Stewart Adler, the last living citizen of the former United States of America, is invited to his hometown university to speak about his once-great nation’s fall into a state of complete and total societal and economic collapse. But more interestingly he describes its transformation back into a new and very different country.” – J.A. Willoughby, author summary of “Promised Land” (2014) on Goodreads.
- ✓ See also the 2006 television series, *Jericho*, which ran for two seasons, and the third and fourth seasons have been published as official novels. These are examples where the Structural Government Title of the United States of America would be disrupted and/or abandoned.

“The Tree of Liberty must be refreshed from time to time by the blood of patriots and tyrants.” – Thomas Jefferson

“The winds of change blow straight into the face of time.”
 – Scorpions, “Winds of Change” (1990) ⁹

Winds of Change: If Thomas Jefferson were alive today, he would be on the FBI Terrorist Watchlist.

A position may attempt to *voluntarily* change any number of its Social and/or Estate Government Titles by activation of the Order Power for that purpose once for each proposed change. The ‘cabinet’ of Government Titles may be voluntarily changed by either adding a new Government Title and/or removing an undisrupted Government Title (like shuffling ministers and portfolios). At the end of any Regular Turn where there is a change in Social and/or Estate Titles, the position may not have more than four undisrupted Social and/or Estate Titles combined, and must have at least two undisrupted Social and/or Estate Titles in any combination (the min-max).¹⁰

Change or disruption of a Government Title may cause loss of Proficiencies on the Public Space. See, *And the Cradle Will Rock*, 3 Culture, p. 382, *supra*.

- ✓ “So the pendulum swings, now violently, now slowly; and every institution not only carries within it the seeds of its own dissolution, but prepares the way for its most hated rival.” – Dean William Ralph Inge, “Democracy and the Future,” *Atlantic Monthly*, Vol. 129, March 1922, p. 290 (available for free on Google Books).

Though Dean Inge was speaking of Western democracies, he was, of course, well aware of the demise of Roman/Classic Antiquity and polytheism, and it follows, might have also been speaking of Christianity as well. He continues:

- ✓ “The Church began by renouncing the world and ended by subjugating it. In the first century, it cursed the Babylon which sits on seven hills; a few centuries later, we find it firmly seated on the same eminence. The law of cycles, or, more accurately, of the swinging pendulum, is in fact, so generally valid, that no historian can afford to neglect it...”¹¹ *Id.*
- **The New Order:** A new Social or Estate Title may be added by activating the Order Power for that purpose when less than four undisrupted Social and/or Estate Titles are currently held. Prior to adding a new Social or Estate Title, the conditions for Legitimacy of the new Government Title must be met and there must be a sufficient space to legally place the new Title in the Public Space, in accordance with the rules governing the current Structural Title, *even if it is disrupted*. Adding a new Social or Estate Title means that a new social identity/philosophy is emerging and/or a new group is asserting its will to obtain a share of the power; in any event, the existing groups lose some power and prestige in the process.

The existing Titles and the groups they represent, despite their internal bickering, have a vested interest as a group in maintaining the *status quo*. Therefore, the chance of successfully adding a new Government Title on any turn is 100% minus 25% for each current undisrupted Social and Estate Government Title. Note that there can only be four total Estate

and/or Social Titles in each position, therefore, the minimum chance of adding a new Social or Estate Title is 25%, if the position had three undisrupted Social or Estate Titles already. The Structural Title has no effect on the process of adding a new Social or Estate Title.

- ✓ Note that, per the preceding section (*ut supra*, p. 638), adding a new Social or Estate Title will cause any *currently disrupted* Social or Estate titles to be abandoned.
 - ✓ The change of government described in these rules is not of the trivial sort that happens every few years, it's not a matter of a new executive being elected, or forming a new coalition, or a confidence vote. It is more akin to the centuries-long process where monarchies around the world were replaced by 'modern' states.
- A New Place, Old Face: Upon successfully adding a new Social or Estate Title, the Title must be immediately placed in the Public Space consistent with the Structural Title requirements, and must be done in such a way as to not cause the immediate disruption of any other Title. Thus, there must be sufficient Public Space to place the new Title, and this requires some foresight. The placement of the new Title cannot be delayed. When the Title is placed, new Pathways from the colonies may be formed if necessary, moving aside or losing items from the Public Space. New Titles are automatically legitimate on the turn they are placed ('the honeymoon'). The Concierge and players will cooperate in placement of new Titles.
- ✓ Mr. Putin, in an interview, has called the collapse of the Soviet Union, to paraphrase, 'the greatest geopolitical catastrophe of the 20th Century.' This goes far in explaining much of what has happened in the last 10 years in relation to Russia. There are, of course, many who disagree, but those who live in Russia have to keep very quiet.
- The Corridors of Power: Abandonment of an undisrupted Social or Estate Title (not to be confused with abandonment of a disrupted Title, *ut supra*) is not an automatic event, there are always those who have a vested interest in the *status quo* and when the majority of the civilization has this vested interest, and the rest are mostly silent, there is no force for change.

The chance of successfully removing a currently undisrupted Social or Estate Title is 10% plus 20% for each currently failed Conflict Check for that Title. Thus, it is easy to remove a Title that is near disruption, and difficult to remove a Title that is solidly legitimate. It is possible for players to engineer the demise of a Social or Estate Title toward removal or disruption by making moves that intentionally cause the Title to fail Conflict Checks; however, this could also harm the position and has its own cost, so it should not be assumed that positions would or should intentionally disrupt their own Titles.¹²

- ✓ There is a curious dynamic here; Social or Estate titles that have only one Conflict Check on the Magna Carta are easiest to disrupt, but hardest to remove voluntarily: There is a maximum 10% chance of success in voluntary removal, but if it fails the sole Conflict Check, it instantly becomes disrupted! Thus Social or Estate titles with one Conflict Check seem to represent single issue, radical, and momentarily popular movements. Single Conflict Check Social and Estate Titles are good for positions that want to keep stirring the pot during the game.
- ✓ Simon de Montfort's problem was twofold: 1) Holding the king and his relatives hostage did not grant legitimacy and 2) His parliamentary reforms – inviting lower ranking lords into parliament – were seen by his allies as diluting their power privilege.

- **Stain Removal:** When an attempt to remove a Social or Estate Title is successful, the Government Title is removed from the Public Space and abandoned (i.e. it is not disrupted and cannot be restored) at the end of the turn. As previously, this may cause loss of Pathways and the necessity of immediately forming new Pathways from colonies to the government, including movement or loss of items on the Public Space as necessary to form the Pathway.
 - ✓ “It turned out to be an unforgiving landscape – threatened by Russia, plundered by oligarchs, plagued by indecisive leaders and overrun by outsiders hoping to make a quick buck off the chaos.” – Glenn Thrush and Kenneth P. Vogel, “What Joe Biden Actually Did in Ukraine,” New York Times, November 10, 2019.
- **Perestroika Will Destroy Ya!:**¹³ In addition to the cost of Order Power activations and forming new Pathways, adding a new or voluntarily abandoning an *undisrupted* Social or Estate Title will also assess one Intervention Potential Plus (IP+) against the position (there’s always someone who has a problem with the change).¹⁴
 - ✓ “[Kathryn Dunn] Tenpas says changes in key posts cause a domino effect, with deputies she didn’t even track in this research moving on. Tenpas argues all those staffing changes have consequences, especially ones at the top. ‘Turnover creates disruptions, it creates inefficiencies, it affects the morale. If you see people around you getting fired at a very high level, there’s a lot of angst about that,’ she says.” – Tamara Keith, “Turnover in Trump’s White House is ‘Record Setting,’ and it isn’t even close,” NPR, January 19, 2018 [citing Dr. Kathryn Dunn Tenpas, senior fellow at Brookings Institution].

“There are plenty of Marxist-Leninist textbooks about taking power; but there are none about giving it up.”

– Victor Sebestyen, [Revolution 1989: The Fall of the Soviet Empire](#) (2009)

The Day I Became History: The publication of GMT’s 2012 card-driven boardgame, 1989: Dawn of Freedom, made me feel like history.

I suddenly realized how long it had been since those events of which I still have living memory. I am part of the last cohort of the Cold War. That day, I became history; the world now belongs to the millennials and post-millennials. I have never played the game; I haven’t seen it in several years, I recall it being played maybe twice at the monthly game club.

- ✓ One of my personal memories is of watching the evening news broadcast of the U.N. relief agencies driving through Romania in early 1990 after the revolution that overthrew the government of Nicolae Ceaușescu. The convoys drove through towns, handing out soap, water, and other essentials. Mainly soap. Every house, every building – I could see the houses used to be covered in white siding – were black from industrial soot. The mud in the streets was black from industrial soot, as was the rain water. Everything was black and filthy and the captive population was living in it, the sky was dark, overcast. As I asked in Nothing to Offer, 1 Colleges, p. 454, *supra*, at what point does sovereignty equate to holding an entire population hostage?

And then there were the crowded orphanage nurseries ... due to the official policy promoting explosive population growth. I remember this for two reasons, the rapid

fall of the Warsaw Block and the Soviet Union was something I thought I'd see when I was 50 or 70 years old (that is, about now 2020), so the revolutions of 1989 were a very important event to me, and secondly, I was simply appalled by the images I saw and the irresponsibility in the name of ideology, ambition, and a personality cult.

1989: What was most amazing about the revolutions of 1989 was that they were mostly non-violent, in most cases, the police refused or delayed firing on the protesters and/or the army defected to the protesters side, no one – even those whose position, wealth, and lifestyle gave them a vested interest in maintaining *status quo* – was willing to kill to preserve an old and discredited ideology or the personality cult of a national leader. Absent police and military physical force or legitimized violence, the stand-off between the politically active part of the populace and the established government was a symmetrical conflict.

In most places, after Solidarity won in Poland – the Polish Round Table discussions served as a good model for others – the Soviet puppet regimes melted away; the process usually started with resignation of the current Communist old baldheaded, pudgy head of state, appointment of a younger, more liberal, charismatic Communist head of state, followed by the rapid collapse of the one-party system and deletion of the provision from the Constitution.

The exceptions to this were Romania where Nicolae Ceaușescu was executed along with his wife on December 25, 1989, after violent overthrow when the army went over to the protestor's side, and, of course, Yugoslavia. In Yugoslavia, which was a federation (likely, a Justice Jackson-esque 'quasi-state') and never a member of the Warsaw Pact, leaders who sought to succeed from the federation stoked ethno-nationalist sentiments (see John R. Schindler bottom feature quote, 4 Order, p. 577, *supra*) that exploded into the 1990s conflicts whose fires have been hard to put out – for example, incidents of Ultras racism at soccer games in southern Europe.

➤ Venezuela 2019: The situation in Venezuela since the death of Hugo Chavez is instructive on this point, especially the spiraling national, economic, and cultural crisis of 2017 to the present. It seems to me that as a group, the highest officials of the Maduro government (like the people in the 1953 Robert Sheckley short story "Fool's Mate") are caught in a bind: The situation is unsustainable and getting worse, it cannot go on interminably (and may end the same way as the short story: irrationally). But through their conflicting concerns, fears, loyalties, suspicions, they cannot find a non-violent way out as a group.

In April 2019, in a potential senior ministry coup to overthrow President Nicolás Maduro that failed to materialize, guarantees of amnesty were not sufficient (Anthony Faiola, "How a plot filled with intrigue and betrayal failed to oust Venezuela's president," Washington Post, May 3, 2019)¹⁵ to persuade the potential plotters to denounce Maduro and the spy chief fled the country afterward. The police have refused to detain or arrest the opposition leader (the 'acting president' Juan Guaidó), but have fired on demonstrators, killing some.

Venezuela is not the first nor will it be the last, this is likely the situation (more or less, with different details) in many such cases, and thus, *'abandoned' titles are not fully sent into the night until a new title is added.* Likely, whatever happens in the Venezuela situation, "socialism" is dead as a title in that society.

- ✓ The crisis in Venezuela appears superficially similar to the situation in Poland in 1989, and that situation was resolved with the famous Poland Round Table Talks (February 6 to April 5, 1989) that encouraged ripple effect revolutions across Eastern

Europe. The parties there were cooperatively trying to defuse the situation and find a way out; no such cooperation appears in Venezuela where two men claim to be president.

- ✓ It is also likely that some of the loyalist who were in the plot were Maduro spies and that the opposition is using the media reporting of the failed coup to sow doubts among Maduro's government. Both of these possibilities can be addressed in GGDM by News Events, 2 Dreamtime, *supra*, Special Operations, *infra*, possibly even Thesis Statements, see Disputations, 2 Reformation, p. 1391, *infra*, might do the trick.

“President Trump on Monday accused Democrats who did not clap during his State of the Union address of being un-American and even treasonous. His remarks came in a rambling, discursive speech at a factory in Ohio, during which he celebrated his revival of the American economy as the stock market plummeted by more than 1,000 points.”

– Mark Landler, “Trump Accuses Democrats of ‘Treason’ Amid Market Rout,” *New York Times*, February 5, 2018

Treason Everywhere: What did he think after the 2020 SOTU...? The way in which a person uses the word ‘treason’ is indicative of their state of mind: Nicolae Ceaușescu, the leader of Romania, accused Vasile Milea, the Defense Minister, of treason because he did not order the police to fire on the protestors. Thus, in the mind of Nicolae Ceaușescu, *the protestors were the enemy of the state* (by definition of “treason”), *as if they were a foreign invading army*. When Vasile Milea committed suicide, the army believed he had been executed by the government and went over to the protestors’ side; it was over at that point for Nicolae Ceaușescu and his wife, Elena, who was also the First Deputy Prime Minister of Romania. Elena Ceaușescu would be an interesting subject for a feature biopic film; there are already some biographies published.

“Plutarch says very finely, that a man should not allow himself to hate even his enemies, because, says he, if you indulge this passion in some occasions, it will rise of itself in others; if you hate your enemies, you will contract such a venomous habit of mind, as by degrees will break out upon those who are your friends, or those who are indifferent to you.

I might here observe how admirably this precept of morality (which derives the malignity of hatred from the passion itself, and not from its object) answers to that great rule which was dictated to the world about an hundred years before this philosopher wrote; but instead of that, I shall only take notice, with a real grief of heart, that the minds of many good men among us appear soured with party-principles, and alienated from one another in such a manner, as seems to me altogether inconsistent with the dictates either of reason or religion. Zeal for a public cause is apt to breed passions in the hearts of virtuous persons, to which the regard of their own private interest would never have betrayed them.”

– Joseph Addison, “Mischief of Party Spirit” (1711) ¹⁶

Endnotes.

¹ Citation: “I was born in Austria in 1947, shortly after the Second World War. Growing up, I was surrounded by broken men, men who came home from the war filled with shrapnel and guilt, men who were misled into a losing ideology. And I can tell you that this ghost that you idolize spent the rest of their lives living in shame. And right now, they’re resting in hell.” – Arnold Schwarzenegger, video message to Donald Trump (available on YouTube), attn: news, posted on Global News (Canada), by Chris Jancelewicz with related article and quotes, August 18, 2017.

² Citation: See also GGDM cover page regarding controlling reality.

³ Citation: “I’ve been thinking more deeply about what the relationship is between Christian faith and political life. I had drawn much more of a separation between politics and faith in my past, and I need to rethink that. I certainly don’t want to do what mainstream Christianity has done and make politics indistinguishable from faith – especially on the left, and now on the right. But is there a way to talk about our nation’s issues that is not merely partisan, but raises questions of ethics and morality and ideals?” – Mark Galli, interview by Nicholas Bogel-Burroughs, “Christianity Today Editor Laments ‘Ethical Naïveté’ of Trump Backers,” *The New York Times*, January 2, 2020.

⁴ Commentary & Citation: David Rosenhan performed a “Peanuts football trick” in a similar fashion that infuriated the mental health profession, but proved his point rather well:

- ✓ “The staff was informed that at some time during the following three months, one or more pseudopatients would attempt to be admitted into the psychiatric hospital. Each staff member was asked to rate each patient who presented himself at admissions or on the ward according to the likelihood that the patient was a pseudopatient. A 10-point scale was used, with a 1 and 2 reflecting high confidence that the patient was a pseudopatient. Judgments were obtained on 193 patients who were admitted for psychiatric treatment. All staff who had had sustained contact with or primary responsibility for the patient – attendants, nurses, psychiatrists, physicians, and psychologists – were asked to make judgments. Forty-one patients were alleged, with high confidence, to be pseudopatients by at least one member of the staff. Twenty-three were considered suspect by at least one psychiatrist. Nineteen were suspected by one psychiatrist and one other staff member. Actually, no genuine pseudopatient (at least from my group) presented himself during this period. The experiment is instructive. It indicates that the tendency to designate sane people as insane can be reversed when the stakes (in this case, prestige and diagnostic acumen) are high. But what can be said of the 19 people who were suspected of being ‘sane’ by one psychiatrist and another staff member? Were these people truly ‘sane’ or was it rather the case that in the course of avoiding the Type 2 error the staff tended to make more errors of the first sort – calling the crazy ‘sane’? There is no way of knowing. But one thing is certain: any diagnostic process that lends itself too readily to massive errors of this sort cannot be a very reliable one.” – David L. Rosenhan, “On Being Sane in Insane Places,” *Science*, Vol. 179 (Jan. 1973), pp. 250-258.

⁵ Commentary: The people of Russia had a rare opportunity for self-determination, but allowed themselves to be bamboozled that ‘democracy’ was dangerous and chaos (the similar argument that the Soviets used) and that managed democracy (muzzled Caucasian Shepard Dog style) led by a bitter ex-KGB officer – another word for autocracy as it turned out – was better. The choices they have made will be inherited by their children. And humanity.

⁶ Commentary: I believe that my entire 4th grade class watched the 1971 British movie *Nicholas and Alexandra* on a big screen at a small art association theatre across the street from my elementary school. It may have been split into two afternoons. I was interested in the movie (I didn’t get to watch many movies at that time), probably more interested than my classmates, but I also recall having difficulty staying awake.

⁷ Citation: The Wikipedia article, “Social War (91–88 BC)” notes: “By the 2nd century BC the Italian allies contributed between one half and two-thirds of the soldiers in Roman armies. Rome also had virtual control over the allies’ foreign policy, including their interaction with one another. Aside from the Second Punic War, where Hannibal had limited success in turning some Italian communities against Rome, for the most part the Italian communities were content to remain as client states of Rome in return for local autonomy. The Romans’ policy of land distribution had led to great inequality of land-ownership and wealth. This led to the ‘Italic people declining little by little into pauperism and paucity of numbers without any hope of remedy.’ A number of political proposals had attempted to address the growing discrepancy whereby Italians made a significant contribution to Rome’s military force, while receiving disproportionately small shares of land and citizenship rights.”

- ✓ Captured October 17, 2018, quoting Greek-Roman historian Appian of Alexandria (95-165 A.D.) from his book, *Civil Wars*. As his copyright has expired, © his works are available online in various places.

⁸ Citation: “Zambelli, if you start outmaneuvering yourself to no purpose, we’ll be here all night.” – Pope Alexander III, Becket (1964).

⁹ **Commentary:** This anthem will always have a special meaning to those who remember the Cold War and the summer of 1989. It seems most fitting that it was written by a West German band after they performed at the Moscow Peace Festival, August 12 and 13, 1989 and during the summer of the German Unification (October 1990).

¹⁰ **Citation & Commentary:** “Rouhani, 69, suggested there was a generational element to the unrest, which appears to have been spearheaded by under-25s. ‘We cannot pick a lifestyle and tell two generations after us to live like that. It is impossible... The views of the young generation about life and the world is different than ours,’ he said.” – Bozorgmehr Sharafedin, “In a jab at rivals, Rouhani says Iran protest about more than the economy,” Reuters News Agency, January 8, 2018.

- ✓ In the subtext of this statement, Rouhani was also perhaps criticizing Wahhabism and the colossal tragic absurdity that the Islamic State forcibly inflicted upon Islam.
- ✓ “But the nuclear deal didn’t provide the ... regime with the means or motivation to expand its regional aggression. The government is overextended, which has taken a toll on average [Citizens], and is now animating the demonstrations. There’s a lot going on in the country that has nothing to do with the nuclear deal, including the desire of many [Citizens] for a modern state and a government that isn’t corrupt, oppressive or preoccupied with meddling in the affairs of its neighbors.” – Y.J. Fischer, formerly of the US State Dept., Washington Post, January 4, 2018.

¹¹ **Commentary:** And there the quote must end, because what follows is both irrelevant and disagreeable. This is the tricky part of quoting others; Dean Inge was a good mind, and an eloquent writer – of his time – and while I respect his opinions *in his time*, I very much disagree with some of his subsequent assertions; he and I are of different eras, different opinions. If you want to see what he said beyond the end of the quote, it’s free to read on Google Books.

- ✓ Probably someone else may do the same to me someday. Perhaps this is what we call a topical truth function? We all cherry-pick; after thoughts have been chewed over and over by succeeding generations of writers and thinkers, what remains is the rough pit of thoughts that might be regarded as human truths.
- ✓ See the Inge Process, 5 Diplomacy, p. 1161, *infra*.

¹² **Citation:** “First, having played Zarek for the past four years I would like to say that never did I play this character as a villain nor did I think he was one and I still feel that way. After paying the price of 25 years in prison for standing up for human rights and seeing both his family, friends and cohorts killed by a suppressive government on his home planet he had every right to distrust the powers that be on Galactica that seemed to think that only they had the right to make decisions for the people. And since Zarek was blocked illegally by Roslin and Adama at every turn including from winning a fair election he had to resort to any leverage he could gain to assert some kind of voice in what had become an almost dictatorial government run by Adama and Roslin, who looked with disdain upon the council of the 12 and did pretty much what they wanted without consensus of the people....

Did everyone forgot what democracy is about or do we just shut our eyes when the government no longer listens to the democratically elected representatives of the people just because we love the characters. And by the way I love both these actors and the character they play too the fact is they broke as many laws as they claim Zarek did. The truth is from everything I’ve read and from all the scripts I played it was clear to me that Zarek’s actions were always about making a positive difference which is what his whole life was about. My god he paid with 25 years in prison for it and with his life....

The government of Adama and Roslin as much as we love these character broke every constitutional rule or law to stay in power and to assert their will, regardless of their positive motivations they had destroyed a true democracy on the Galactica and yet Zarek is looked upon as the power hungry bad guy because he was one of the few to stand up and challenge them.... In truth Zarek, Adama and Roslin all wanted power for the same reason, to make a positive difference but Zarek still idealistically believed that the government should always be accountable to the people represented in this show by the council of the 12.” – Richard Hatch comments (authenticated by the blogger) reprinted in “Richard Hatch speaks out about Battlestar Galactica’s Tom Zarek,” February 9, 2009, found at: http://featuresblogs.chicagotribune.com/entertainment_tv/2009/02/battlestar-galactica-tom-zarek-richard-hatch.html.

¹³ **Citation:** Historical irony in translation: “Paranoia, they destroy ya!” – The Kinks, “Destroyer” (1981) often misheard as, “Paranoia will destroy ya!” (which works just as well) because of the way it is sung.

¹⁴ **Citation:** Dr. Paul T. Mason, Jr., Duquesne University Dept. of History: ‘When there is going to be violence, when violence is certain, the side that controls when and where it occurs has the advantage,’ part of a lecture about partisan riots in Paris during the French Revolution and the Reign of Terror.

¹⁵ **Citation:** See also Megan Specia, “What Is Happening in Venezuela and Why It Matters,” New York Times, May 1, 2019.

¹⁶ **Citation:** “Is our partisanship more or less reflexive, as opposed to reflective, which is what partisanship should be?” – John Meacham, Morning Joe, CNN, June 16, 2020.

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See Appendix GT – Emergent Government Titles
See Appendix IP – Interventions Reference Sheet

“The problem with that approach, of course, is that being against what the last guy did isn’t a proactive set of policy solutions. Unlike in a campaign – in which saying, essentially, ‘I’ll do the opposite of what the last guy did’ – where running against something often works better than running for something, governing is a very different animal.”

– Chris Cillizza, CNN Editor at Large, October 13, 2017

“Mr. Renzi, speaking in the Senate, argued that while populism works well on the campaign trail, ‘it works less good when we are dealing with governing.’ ... Mr. Renzi spent the past few years vowing never to join forces with Five Star, accusing it of spreading hate, misinformation and a dangerous anti-expertise ethos.”

– Jason Horowitz, “Italy’s Government Collapses, Turning Chaos Into Crisis,” New York Times, August 20, 2019

Populism a priori: Thus, what Mr. Callizza pointed out in 2017 (*ut supra*) is not *novel*, but rather a long-standing generalization, possibly also a synthetic *a priori* proposition of political science, probably since the first polis, of which we have needed reminder in the last decade on both sides of the Atlantic. That is, a deductive principle from reflection, to which there are probably no historical incidents to refute its universal validity. Oddly, Five Star Movement is described in the article as Italy’s “anti-establishment” party but was part of the governing coalition with “the hard-right, anti-migrant League.”

✓ See also Tom Nichols, The Campaign Against Expertise excerpt, Colleges, *supra*.

“While candidates make great efforts to project positive images to the public, it appears to be campaign gaffes that attract voters’ attention. This is consistent with psychological research which suggests that negative information is weighted more heavily than positive information when impressions of others are formed: negative items appear to have a stronger ‘pull’ on overall impressions. Such a tendency is known as the negativity effect....

Negativity also characterizes political judgments. In an analysis of the 1968, 1972, and 1980 National Election Studies (NES), Lau (1982, 1985) found that reasons offered by respondents for disliking a candidate were more predictive of overall evaluations than were reasons for liking a candidate. The 1984, 1988 and 1992 NES surveys each included a trait inventory of positively-worded attributes, and respondents were asked how well each attribute described the candidate. Thus, respondents could indicate a perceived character strength by saying that the trait was descriptive of the candidate, or they could indicate a perceived weakness by saying that the trait was not descriptive of the candidate.... Perceived candidate weaknesses were found to be more predictive of overall evaluations and voting than were perceived strengths.”

– Jill Gabrielle Klein, abstract of “Negativity in Intradimensional Judgments of Presidential Candidates,” *Advances in Consumer Research* Volume 25, 1998, pp. 574-577 ¹

Condemnation Notice: Structural Government Titles do not have Conflict Checks, but they may still be disrupted by other means, though it should happen very rarely. As stated previously, a Structural Title can only be disrupted: if the position does not currently have a Capital Colony (**after** a position’s Capital Colony has been established, see Capital Colony, 2 Order, p. 532, *supra*), if the position has no remaining undisrupted Social or Estate Titles, or if the position is unable to comply with the requirements of the Structural Title for any reason, including but not limited to, having no undisrupted Social or Estate Titles to connect the colonies by Pathways, see World Powers Fall, 3 Government Titles, p. 617, *supra*.

- ✓ “Since the fall of the Republic, the authority of the Roman Senate had largely eroded under the quasi-monarchical system of government established by Augustus, known as the Principate. The Principate allowed the existence of a *de facto* dictatorial regime, while maintaining the formal framework of the Roman Republic. Most Emperors upheld the public facade of democracy, and in return the Senate implicitly acknowledged the Emperor’s status as a *de facto* monarch. Some rulers handled this arrangement with less subtlety than others.” – from Wikipedia article, “Domitian,” captured December 31, 2019.
 - “All states, all powers, that have held and hold rule over men have been and are either republics or principalities.” – opening lines to The Prince by Machiavelli (1513), translated by W.K. Marriott.
 - Julius Caesar was assassinated because the plotters feared he was making himself *Rex* (‘king’); his nephew and adopted heir, Gaius Octavius as Emperor Augustus, finished the process. The third party to the story was the Praetorian Guard (*ut infra*, p. 653).
 - “After the demise of the Second Triumvirate, Augustus restored the outward façade of the free Republic, with governmental power vested in the Roman Senate, the executive magistrates, and the legislative assemblies. In reality, however, he retained his autocratic power over the Republic. By law, Augustus held a collection of powers granted to him for life by the Senate, including supreme military command, and those of tribune and censor. It took several years for Augustus to develop the framework within which a formally republican state could be led under his sole rule. He rejected monarchical titles, and instead called himself *Princeps Civitatis* (‘First Citizen’). The resulting constitutional framework became known as the Principate, the first phase of the Roman Empire.” – from Wikipedia article, “Augustus,” captured January 3, 2020.
- ✓ Independence Day 2021 is the 245th ‘birthday’ of the United States of America and both sides of the political aisle admit that we have already drifted far from the original republic in only about half the time it took for the Roman Republic to evolve (progress, transition, or deteriorate if that is your view) into the Roman Empire. Where will the United States be in two centuries? Are we on the well-traveled path?
- **Extreme Makeover:** Changing a Structural Title is an extreme measure. Because a position may only have one Structural Title at a time, and cannot be without a Structural Title (whether or not disrupted), a position cannot remove or add a Structural Title as it would other Titles (see, A New Order and Corridors of Power, 5 Government Titles, both p. 642,

supra); rather it can only change Structural Titles by doing both at the same time with one activation of the Order Power for the purpose of Government Formation. A moderate change, which would be any change from a Unitary or Confederation Title to a Dualistic Title and *vice versa*, has a 20% chance of success. A radical move from a Unitary to a Confederation Title, and vice versa, has a 10% chance of success. The chance of success is increased by 20% if the Structural Title is currently disrupted.

- ✓ “Though her vision energized many liberals – the unlikely chant of ‘big, structural change’ rang out at her rallies – it did not find a wide enough audience among the party’s working-class and diverse base.” – Shane Goldmacher and Astead W. Henson, “Elizabeth Warren, Once a Front-Runner, Drops Out of Presidential Race,” New York Times, March 5, 2020.
- Thirty Tyrants: A disrupted Structural Title is the most awful tyrant; it continues to exert structural control, but is powerless and wobbly.² Changing Structural Titles is probably more painful and costly than taking steps to restore the current Structural Title. It will be interesting to see under what circumstances and for what reasons a position would make this change during the course of the game. But we know it has happened historically and such moves are usually monumental; commonly cited examples would include the collapse of European monarchies to be replaced by dualistic republics, and the transition from the Articles of Confederation to the Constitutional Republic in the fledgling United States (from which there has been considerable drift). What events would be required for the United States to return to a Confederation, or more likely, become a dictatorship?
 - ✓ History provides plenty of examples. The pattern for movement from ‘confederation’ or scattered vaguely allied sovereigns to central authority is usually conquest. But there are historical cycles in motion and the history of central and western Europe from the 4th Century to the 11th Century shows the process of fragmentation of authority due to raids, invasions, division, and the preeminence of defense over offense.
- Home-Wreckers: A change in Structural Title requires a rearrangement of the existing undisrupted Titles. Upon a successful change in Structural Title, the Concierge will rearrange the position’s Titles so that they are legally placed according to the new Structural Title, old Pathways may be dissolved and/or new ones formed.

This may/will require considerable rearrangement with possible losses of Cultural Traits, Fuzzy Groups, and other game items on the Public Space. Colonies will not be lost, but they can be moved out of the way to another place in the Public Space, but anything not representing population (such as Culture and Research) may simply be removed if necessary.

“Hindenburg told me he would serve another term as president, but the office must be laid in his hands as an accomplished fact, because he is not inclined or in a position to undertake a new election campaign.”

– Heinrich Brüning, German chancellor in early 1932

“A presidential cabinet led by Hitler would develop into a party dictatorship, with all its consequences for an extreme aggravation of the conflicts within the German people.”

– President Paul von Hindenburg, November 1932

“Gentlemen, I hope you will not hold me capable of appointing this Austrian corporal to be Reich Chancellor.”

– President Paul von Hindenburg, January 1933 ³

In the Hall of Mirrors: In 1871, *delegates from the parliament of Northern Germany* petitioned Wilhelm I, King of Prussia, to declare himself Emperor of Germany, which was accomplished in the Hall of Mirrors in Versailles after the French surrender to end the Franco-Prussian War. Prior to becoming the German Empire, Germany was a complex federation of states bound by agreements, nationalism and economic ties, from the end of the Napoleonic Era and the dissolution of the Holy Roman Empire.

Five centuries of nearly endless strife, invasion and plague had constantly displaced and mixed the German populations (Saxons, Bavarians, Prussians, Rhinelanders, East Prussians, Hessians, Silesians) thoroughly such that they emerged into the 19th century with a homogeneous cultural and national identity.

- ✓ “In the late 20th century, many social scientists argued that there were two types of nations, the civic nation of which France was the principal example and the ethnic nation exemplified by the German peoples.” – from Wikipedia article, “Nation,” captured November 1, 2018.

In 1933, *the Reichstag effectively voted itself out of existence by passing the Enabling Act* that allowed the government to pass laws without the Reichstag.

- ✓ “The Enabling Act of 1933 was renewed by a purely Nazi Reichstag in 1937 and 1939. In 1941 and 1943 it was renewed by decree, in 1943 without temporal limit. Although it states that it is valid only for the duration of the current Hitler government of 1933, it remained in force even after major changes of ministers. In any case, Hitler called the cabinet together only very rarely after the first months of 1933. The last cabinet meeting happened in 1937. He preferred to govern via decrees and personal orders.” – from Wikipedia article, “Enabling Act,” September 28, 2018.

On August 1, 1934, the day before President Hindenburg died, Chancellor Adolf Hitler with his cabinet, passed a decree that upon the death of President Hindenburg, the office of the President would be merged with the Chancellor into a single office, *Führer und Reichskanzler*. This, along with the Reichstag Fire Decree, issued by President Hindenburg in February 1933 at the recommendation of Chancellor Adolf Hitler, made Adolf Hitler the *legal dictator* of Germany as *Führer und Reichskanzler* with an impotent Reichstag and the government controlled by his party.⁴ The German people approved of the merger in a referendum on August 19, 1934, in which 90% of the votes were ‘yes’ votes (95% of voters voted).

- ✓ President Hindenburg does not come out of this situation smelling of roses, Hitler appears to have played him for a chump. Hindenburg is blamed at least for his part in

the rise of Adolf Hitler (though there certainly were circumstances beyond his control), and it is clear that he miscalculated, his military ‘genius’ did not translate to politics (not an unusual occurrence in history). The discussion for the last 80 years has been about figuring out how all of this happened, and where mistakes were made, for example, I remember my mother saying to me when I was young, “They put Hitler in power because they thought they could control him.”

“It has been the experience of history that large forces of ‘household troops’ are maintained at any nation’s peril, and Rome’s Praetorian Guard was no exception. Established on a moderate scale by Augustus, these cohorts had grown into an army of 50,000 which made and broke emperors at pleasure, even to the extent of auctioning off the purple to the highest bidder. The pay and privileges of the Praetorians set an example of insolence which spread until it corrupted the fighting men on the frontier.”

– Lynn Montross, *War Through the Ages* (3rd Ed., 1960), pp. 87-88

Household Troops: The *praetorians* were originally personal bodyguards of various Roman generals; the *praetorians* of various generals grew in size, forming an elite, last reserve unit to be committed to battle at the decisive moment. When Octavian defeated Anthony in 30 B.C., his large *praetorian* became the famous Praetorian Guard permanently housed in Rome.

In 23 A.D., *Casta Praetoria*, a permanent high walled, fortified barracks, was constructed for the Guard in the north east corner of Rome (opposite and across the river from Vatican). Possession of a major fortification just outside the central areas of Rome was a turning point in the power ascent of the Guard, making them nearly unassailable in Rome. *The Emperor ruled the Empire from Rome, the Guard ruled Rome.* To be proclaimed Emperor, one had to come to and live in Rome. It was thus that from 30 B.C. to 68 A.D., Roman emperors of the Claudio-Julian Dynasty maintained a separate personal guard unit, the *cohors Germanorum*, recruited from the German border tribes along the Rhine, and considered politically neutral. When the *cohors Germanorum* was dissolved in 68 A.D., the Praetorian Guard was the sole force in Rome.

➤ **Impertinence of Pertinax:** One hundred twenty-five years later, on **March 28, 193 A.D.**, the Emperor Pertinax was killed by the Praetorian Guard after he revoked their privileges and reduced the pay of the troops. The Praetorian Guard then determined to – literally – auction off the crown to the highest bidder. Titus Flavius Claudius Sulpicianus, the father-in-law of Emperor Pertinax, inside the walls of *Castra Praetoria* with the guard, began the bidding. A wealthy man, Didius Julianus, arrived outside the gates of *Castra Praetoria* and began bidding against his rival, both bidders shouting out bids to the soldiers on the wall. Didius Julianus won the bidding, was declared Caesar by the Praetorian Guard, for promising to pay each soldier 25,000 sesterces, and the Senate, under threat of the Guard, confirmed Didius Julianus as the new Emperor. Subsequently, Septimius Severus, in command of three legions in Pannonia (and closest to Rome), marched to Rome, defeated the Praetorian Guard forces sent to stop him, and reached Rome. The decadent Guard surrendered, the Senate proclaimed Severus as Emperor, sentenced Julianus to death: He was killed on **June 1, 193 A.D.**⁵

✓ Despite the Praetorian Guard example, the practice continued well into the Byzantine Empire. The Varangian Guard, deliberately composed only of distant foreigners, was an elite unit and the personal bodyguard of the Emperor who led the second attack on the Pecheneg wagon lager at the Battle of Beroia in 1122 A.D., using Dane axes to

hack through the defenses. In the last two centuries of the decline, the Guard was dominated by locals, lost status and faded away between 1350 and 1400 A.D.

➤ **On Being Roman:** A ripple effect of the payment of bribes by pretenders and newly-appointed Emperors to secure the loyalty of not only the Praetorian Guard in Rome, but also frontier legions, and various officials, wealthy families, and senators, was the devaluation of Roman currency over centuries. Bribes were not often paid from the personal fortunes of the new Emperors, nay, they were paid out of the Roman treasury in the form of coins. Over time, as sources of silver petered out at an accelerated rate due to increased production demands and territorial losses, the silver purity of Roman coins decreased substantially so that more coins could be minted with less silver, allowing large amounts of coins to be minted in short time periods to pay the bribes, lest the troops become unruly. This then decreased the wealth prestige of Rome, making external trade more difficult.

- ✓ “When introduced, the denarius contained nearly pure silver at a theoretical weight of approximately 4.5 grams, but from the time of Nero onwards the tendency was nearly always for its purity to be decreased. ... The denarius continued to decline slowly in purity, with a notable reduction instituted by *Septimius Severus*. ... This was followed by the introduction of a double denarius piece... The coin is commonly called the antoninianus by numismatists.... Although nominally valued at two denarii, the antoninianus never contained more than 1.6 times the amount of silver of the denarius. The profit of minting a coin valued at two denarii, but weighing only about one and a half times as much is obvious; the reaction to these coins by the public is unknown.”
– from Wikipedia article, “Roman currency,” April 21, 2020 (emphasis added).

The 1984 board game, *Conquest of the Empire*, was innovative for its crude attempt to introduce the effects of Roman inflation due to civil wars. Similarly, the Seven Years War forced Prussia to revalue the Thaler through the Mint Act of 1763 to bring it into line with the depreciated coins circulating in the economy and to lower inflation; this began a ripple effect of currency reform through Europe as other nations also revalued, devalued, or debased their own currencies. Although GGDM does not operate on a monetary economy, participants may imagine that such exists within position’s civilizations and apply these effects.

“That’s one of our speculations, by the way. That the prior version of history that this one overwrote was horrible. Complete geopolitical mayhem; half of New York City is underwater. The United States is headed toward civil war, or ruled by an artificial-intelligence construct, or some such other thing. Real end-of-days stuff. That the instances of ourselves who existed in that history figured out what we have: that the invention of the causality violation device was the cause. That in that prior version of history, Rebecca did not die in a car accident. That she went back to the past on a mission, as a volunteer, well aware of her sacrifice.”

– Dexter Palmer, *Version Control* (2016)

Alternating History: It seems silly to say, but in order for there to be an alternate history, the observer must remember another version of history and consider that version ‘real.’ Perhaps an ‘eigenstate’ of memory. Without that belief and memory, history is not alternate. As to whether history is ‘real,’ see *Five Types of Facts*, 1 Dreamtime, pp. 135-137, *supra*.

- ✓ When I saw the ending of the movie *Gladiator* (2000), I immediately said, ‘that’s not what happened!’ History records as ‘facts’ that Commodus reigned for 15 years of increasing megalomaniac insanity, he renamed Rome as *Colonia Lucia Annia Commodiana* after the fire of 191, renamed the months of the year after himself, renamed the Senate, renamed the fleet, and renamed the Roman Legions too. He was poisoned by his mistress, then strangled by his wrestling partner when the first didn’t work. He died on New Years Eve 192 A.D. As soon as he died, most of his acts were shortly undone, Rome was restored to its original name, and he was declared a public enemy by the Senate. The Year of the Five Emperors followed (193 A.D.), *ut supra*. I later watched an interview with the director of *Gladiator* who quipped, “Well, I never let a little history get in the way of a good story!” Yeah, really?

The Year of the Five Presidents: The year 193 A.D. is known as The Year of the Five Emperors in the history of the Roman Empire, 1,782 years later, the year 1975 A.D. is the Year of the Five Presidents of the United States of America. Since you may not remember 1975, allow me to recount it for you here.

On January 9, 1975, the embattled President, Richard Nixon (R-CA), resigned as President of the United States, and was succeeded by Vice President Gerald Ford (R-MI) who had earlier succeeded Vice President Spiro Agnew who resigned under charges of bribery and money laundering. President Ford nominated Nelson Rockefeller (R-NY) to the Vice Presidency, which was confirmed after lengthy and embarrassing Congressional hearings.

September 5, 1975, President Ford was assassinated by Lynnette “Squeaky” Fromme, a follower of Charles Manson, in front of the State House in Sacramento, California. Immediately afterward, Nelson Rockefeller was sworn in as President of the United States and nominated Speaker of the House, Carl Albert (D-OK), to the Vice Presidency, which – following initial political shock of a party ceding the Vice Presidency, a return to the original Constitutional roots – was quickly confirmed by a bipartisan Congressional majority, in part to show political solidarity and in part to avoid further instability and embarrassment to the United States.

Sarah Jane Moore assassinated President Rockefeller in front of the St. Francis Hotel in San Francisco, California on September 22, 1975. President Rockefeller served for just 16 days. Upon taking office, newly sworn President Carl Albert took a week to consider the situation and the sense of panic gripping the country, and – despite calls for a Republican Vice President, emerged with a nomination of the nationally unknown Democratic former Governor of Georgia, Jimmy Carter (D-GA) of the “New South,” as his Vice President. Initially shocked by the nomination, the media and Congress came to see the wisdom of the choice and hastily confirmed the nomination of Jimmy Carter for Vice President.

Francisco Franco, the dictator of Spain died on November 19, 1975. President Albert attended the funeral of Franco, but mysteriously disappeared without trace during the event; his body was never found. How could that happen? While an intense investigation followed the frantic manhunt and international crisis, after 10 days missing, Congress declared that President Albert was presumed dead or unable to discharge his duties, and as such, on November 30, 1975, Vice President Jimmy Carter was sworn in as President of the United States, exactly 193 years after the initial agreement leading to the Treaty of Paris was signed, on November 30, 1782.

Three weeks later, the *Washington Post* and the *New York Times* jointly exposed the Secret Service “Praetorian Guard Plot.”

- ✓ Although critics later commented on the misappropriation of the term Praetorian Guard as the name of the plot – chafing at the false comparison between the Secret Service and the ancient guard, the essence of the plot struck a newsroom editor as being Praetorian in nature and the term became the headline.
- The POTUS Not: The Vice Presidency of the United States is the most curious position and the weakness of our system. The problem is that the current vision of the Vice Presidency amounts to little or nothing but a ‘president in waiting.’ No one during an election ever asks or considers how the Vice President will handle his duties as the President of the Senate or to what extent the VP will be involved in the day to day activities of the Senate. Perhaps forgetting their civic lessons, the electorate and media mainly considers the ‘running mate’ in terms of political coalition building during the election cycle, and as the first in succession to the Presidency in case of death or disability. Recent experience shows that the main job of the Vice President is to be quiet, to sometimes act as the mouthpiece and faithful defender of the President, to go on some foreign trips, and other times, to disappear smiling, like a certain famous cat, rather than disagree publically with the President.
 - ✓ An example is the ‘shoot down order by’ Vice President Dick Cheney during the 9/11 attacks. The Commission report, as summarized by the Washington Post,⁶ indicates that there is no documentary record of a phone call from President Bush in Florida to Vice President Cheney authorizing U.S. fighter jets to shoot down civilian aircraft after the initial attacks, however, the record is incomplete.⁷ The Vice President of the United States is not the ‘vice commander in chief’ of the armed forces,⁸ he is not in the chain of command, unless the President is disabled or unable to communicate.⁹

This was not the case on 9/11, as President Bush did have several phone calls with the Vice President in the bunker and other high ranking military and civilian officials. Further, Chaney made erroneous comments to Secretary of Defense Donald Rumsfeld located at the Pentagon, when relaying the alleged authority and order to shoot (Rumsfeld had a more accurate understanding of the situation than Cheney); in fact, the fighters from Langley AFB had not been ordered to shoot down aircraft over Washington, D.C. and no aircraft had been shot down anywhere over the U.S. Cheney’s order to shoot was finally relayed to the commander at Andrews AFB while those fighters scrambled, by a Secret Service Agent (a person not in the chain of command) who said it came from VP Cheney – who was not in the chain of command.

- See also discussion of President Eisenhower’s pre-delegation of nuclear authority, 4 Combat, EN 23, p. 1004, *infra*.

“It is the nature of ambition to make men liars and cheats, to hide the truth in their breasts, and show, like jugglers, another thing in their mouths, to cut all friendships and enmities to the measure of their own interest, and to make a good countenance without the help of good will.”

– Gaius Sallustius Crispus aka Sallust (86-35 B.C.)

Bitterness & Murder: Like Aristotle's definition of time, and select other ancient writers on various human subjects, Sallust in his bitterness, stated the point so perfectly that it has become axiomatic. Sallust, a Senator, opponent of Cicero and supporter of Julius Caesar, and not exactly a moral man himself (by our standards, but probably was by Roman standards), spoke from personal experience. Such *dictum magna* can be spun, expanded and expounded upon, but not bettered. Everyone in every time and place of human history would grasp the applicability of these sorts of statements to their own times and pass them on to the next era.

Sallust's opponent, the better known Cicero, though not involved in the plot to assassinate Julius Caesar, nevertheless, subsequently expressed joy at the political lynch mob murder on the Senate floor, and failed to be appalled or repulsed by *political murder* (the surest sign that the Republic was dying). And rather than repudiate the process that made them masters of Rome, Mark Anthony and Augustus used Caesar's murder as pretext to embrace political murder for vengeance and to eliminate their opponents by reinstating public proscription. Cicero subsequently was killed by two Roman soldiers on orders from the Second Triumvirate and specifically, Mark Anthony, while being carried on a litter from his house and his head and hands cut off and displayed in Rome. See additional discussion, Equilibrium Epiphany, 1 Kairotic Moments, p. 1421, *infra*.

- ✓ Rome is the epitome of why political murder cannot be allowed to take over a civilization (however, the world has an endless litany of examples). Those who may have the ability to solve problems in new ways gain some popularity and then are killed in the ambitious tussle for power. Many Roman and later Byzantine politicians were killed in the streets by 'mob attacks' or during rioting, one of which took the life of St. Augustine's friend inspiring him to convert to Christianity (that's the story I heard in rhetorical theory class or perhaps read) and later, early Christianity adopted the mob agitation and riot mentality, e.g., Hypatia of Alexandria was seized and killed by a Christian 'mob' in the streets when Christians sought to take over Alexandria. Thus the late Roman Empire mob political murder and violence ironically became the tool of local Christian ascension. Nations such as Germany and Russia have feasted on themselves in a frenzy of political murder; once it is fully unleashed, the process also turns on those who are not a threat to the leadership or to the state, but who simply disagree (e.g., the White Rose group and most of the victims of Stalin).
- ✓ Political murder, as we know from history, subsequently became the normal day in the Roman Empire. But it is an odd thing. The conspirators of the July 20 Plot in 1944 are celebrated (with some reluctance, e.g., von Stauffenberg, a *loyal army officer*, had served in the Poland, France, the Eastern Front, and North African campaigns and had been promoted, awarded and compensated) as heroes who tried to stop a madman, and this is the way that Caesar's assassins may have been regarded for a short while in 44 B.C. So sometimes it appears that political murder is condoned when it is generally appreciated *that no other option remained*, as in the Nazi dictatorship of Germany leading down the road to the ultimate national disaster. It also appears generally a rule of history *that would-be assassins and conspirators are more celebrated for trying when they fail than when they succeed* (e.g., John Wilkes Booth and the assassins of Julius Caesar), probably because they didn't actually kill their target – noting however, that four people – but not Hitler – were killed by the assassination bomb on July 20, 1944 and 20 more were injured. The July 20 plotters in fact, implicitly, intended to kill everyone in the room, but the meeting was moved.

While Sallust's works are mainly plays and a history of interest to scholars, Cicero is much better known because he was sanctioned by the early Church as a 'righteous pagan' (despite his failure to condemn political murder in the Senate) and his works were copied and preserved through the Middle Ages.

- ✓ In GGDM play, while individual characters are not encouraged, late Rome provides many *bad* examples that can be creatively used for Interventions by the Concierge if it fits the story and the target position. So while individual characters may not be assassinated or murdered for political purposes, it is possible for positions (unless they are angelic) to go through periods of time, perhaps represented by a chaotic Regular Turn, of political murder with all of its consequences expressed in an Intervention or two.

“In the founding days of the Imperium, great men dreamed great dreams...and achieved them. In the last days of the Imperium, petty men dreamed petty dreams...and achieved them too.”

– MegaTraveller RPG, Rebellion Sourcebook (1988)

Endnotes.

¹ Commentary & Citation: The executive summary version from Wikipedia: “The presumption that negative information has greater diagnostic accuracy is also evident in voting patterns. Voting behaviors have been shown to be more affected or motivated by negative information than positive: people tend to be more motivated to vote against a candidate because of negative information than they are to vote for a candidate because of positive information. As noted by researcher Jill Klein, ‘character weaknesses were more important than strengths in determining...the ultimate vote’” – from Wikipedia article, “Negativity Bias,” captured April 16, 2018 citing to Jill Gabrielle Klein (1998), “Negativity in Intradimensional Judgments of Presidential Candidates,” in NA – Advances in Consumer Research Volume 25.

² Commentary & Citation: A similar example, “Although Elphinstone was a man of high birth and perfect manners, his colleague and contemporary General William Nott regarded him as ‘the most incompetent soldier who ever became general’ ... By the fourth day, a few hundred native soldiers deserted and tried to return to Kabul but they were all either killed or enslaved. By now Elphinstone, who had ceased giving orders, sat silently on his horse ... The leadership of Elphinstone is seen as a notorious example of how the ineptitude and indecisiveness of a senior officer could compromise the morale and effectiveness of a whole army (though already much depleted). Elphinstone completely failed to lead his soldiers, *but fatally exerted enough authority to prevent any of his officers from exercising proper command in his place.*” – from Wikipedia article, “1842 retreat from Kabul” (aka the Massacre of Elphinstone’s Army), captured October 16, 2018 (emphasis added).

- ✓ Gen. Elphinstone was 60 years old in 1842 and had been in the British army for 38 years. Though I am closer to 60 than I want to admit, people age at different rates, and if not senile, Elphinstone might best be described as an ill dotard in a waistcoat and epaulettes. See previous discussion of 19th Century European post-Napoleonic leadership in Interdisciplinary Approach, 4 Colleges, p. 507, *supra*.

³ Citation: Unsourced quotes found on Alpha History website.

⁴ Commentary & Citation: The daily reality of dictatorship: “The Gestapo had the authority to arrest citizens on the suspicion that they *might* commit a crime, *and the definition of a crime was at their discretion.* The Gestapo Law, passed in 1936, gave police the right to act extra-legally. This led to the sweeping use of Schutzhaft – ‘protective custody,’ a euphemism for the power to imprison people without judicial proceedings.” – Wikipedia article, “Reinhard Heydrich,” citing to Chris McNab, The SS: 1923–1945 (2009), captured September 27, 2018 (emphasis added).

- ✓ Rinse & Repeat: “In September 1970, the [Somali] government introduced the National Security Law No. 54, which granted the NSS [National Security Service] the power to arrest and detain indefinitely those

who expressed critical views of the government, without ever being brought to trial. It further gave the NSS the power to arrest without a warrant anyone suspected of a crime involving ‘national security.’ Article 1 of the law prohibited ‘acts against the independence, unity or security of the State,’ and capital punishment was mandatory for anyone convicted of such acts. From the late 1970s, and onwards Barre faced a shrinking popularity and increased domestic resistance. In response, Barre’s elite unit, the Red Berets (*Duub Cas*), and the paramilitary unit called the Victory Pioneers carried out systematic terror against the Majeerteen, Hawiye, and Isaaq clans. The Red Berets systematically smashed water reservoirs to deny water to the Majeerteen and Isaaq clans and their herds. More than 2,000 members of the Majeerteen clan died of thirst, and an estimated 5,000 Isaaq were killed by the government. Members of the Victory Pioneers also raped large numbers of Majeerteen and Isaaq women, and more than 300,000 Isaaq members fled to Ethiopia. By the mid-1980s, more resistance movements supported by Ethiopia’s communist Derg administration had sprung up across the country. Barre responded by ordering punitive measures against those he perceived as locally supporting the guerillas, especially in the northern regions. The clampdown included bombing of cities, with the northwestern administrative center of Hargeisa, a Somali National Movement (SNM) stronghold, among the targeted areas in 1988. The bombardment was led by General Mohammed Said Hersi Morgan, Barre’s son-in-law, and resulted in the deaths of 50,000 people in the north.” – from Wikipedia article, “Siad Barre,” captured October 12, 2018.

⁵ Commentary: Sometimes people in the past did things that are so contrary to our current worldview as to be shocking and unbelievable. But history records they happened, and this is a function of history as an ‘empirical’ study. Will participants in GGDM dare to venture outside our current worldview? To act unapologetically in different ways consistent with the beliefs of an interstellar setting or just to experiment?

- ✓ Over a thousand years after the Praetorian Guard, the same strategy was employed during the War of the Sicilian Vespers (see Legitimacy, 3 Government Titles, pp. 607-608, *supra*): The ability to sell legitimacy – whether by force of arms or by divine sanction – for personal enrichment. And a version of the same scam is employed today: the non-refundable down payment, and the buyer receives nothing.

⁶ Citation: Dana Milbank, “Cheney Authorized Shooting Down Planes,” Washington Post, p. A-01, June 18, 2004 reporting on the 9/11 Commission’s Report issued the previous day (the article is available online for free at http://www.washingtonpost.com/wp-dyn/articles/A50745-2004Jun17_2.html).

⁷ Commentary: According to the article, both men testified afterward that the phone call occurred and that the authorization was given by President Bush to Vice President Cheney; National Security Advisor Condoleezza Rice testified that she overheard Cheney discussing rules of engagement on the phone with President Bush.

⁸ Commentary: Although in the case of Spiro Agnew, the Vice President might have been the “Commander and Chief of Vice,” a post that passed to President Nixon as “Fibber in Chief” after Agnew’s resignation.

⁹ Commentary & Citation: Oddly, this situation was raised in the Babylon 5 television series episode “Point of No Return,” five years *before* 9/11, to wit, Captain Sheridan addressed the trapped Nightwatch mutineers:

- ✓ “As of now 03:15 Earth Standard Time, I’m placing you under arrest for conspiracy to mutiny and failure to obey the chain of command. The order for Nightwatch to take over Babylon 5 Security came from the Political Office. The Political Office, despite its connection to the President, is a civilian agency outside the direct chain of command. Orders affecting Military Personnel, must come from within the Military hierarchy. Starting from the President, through the Joint Chiefs of Staff to your immediate superior officer. A Senator CANNOT give you a direct order. A GOVERNOR cannot give you a direct order! And neither can the Political Office. Make no mistake this is an illegal order. Now we’ve contacted Earthdome and requested confirmation of this order through proper channels, but since we seem to be having trouble with communications, this may take several days. Until then, you have two choices, you can stay where you are, or YOU CAN LEAVE... one at a time. On your way out, you’ll turn in your link, identicard, and weapons. You’ll be restricted to quarters until the revised orders come in. WHEN that happens anyone who wants to file a complaint against me, can do so. Otherwise have a pleasant stay.” *Id.*, CAPS IN ORIGINAL.

Excerpts from “The city and spatial justice”

Edward Soja, Paper prepared for presentation at the conference *Spatial Justice*, Nanterre, Paris, March 12-14, 2008.

The specific term “spatial justice” has not been commonly used until very recently, and even today there are tendencies among geographers and planners to avoid the explicit use of the adjective “spatial” in describing the search for justice and democracy in contemporary societies. Either the spatiality of justice is ignored or it is absorbed (and often drained of its specificity) into such related concepts as territorial justice, environmental justice, the urbanization of injustice, the reduction of regional inequalities, or even more broadly in the generic search for a just city and a just society.

Why spatial ? Why now ?

1. Whatever your interests may be, they can be significantly advanced by adopting a critical spatial perspective. This is the premise that lies behind practically everything I have written over the past forty years and is the first sentence in *Seeking Spatial Justice*, the title of a book I am currently writing.
2. Thinking spatially about justice not only enriches our theoretical understanding, it can uncover significant new insights that extend our practical knowledge into more effective actions to achieve greater justice and democracy. Obversely, by not making the spatial explicit and assertive, these opportunities will not be so evident.
3. After a century and a half of being subsumed under a prevailing social historicism, thinking spatially has in the past decade been experiencing an extraordinary diffusion across nearly all disciplines. Never before has a critical spatial perspective been so widespread in its recognition and application—from archeology and poetry to religious studies, literary criticism, legal studies, and accounting.
4. This so-called spatial turn is the primary reason for the attention that is now being given to the concept of spatial justice and to the broader spatialization of our basic ideas of democracy and human rights, as in the revival of Lefebvre’s notion of the right to the city, of particular relevance here in Nanterre. Whereas the concept would not have been easily comprehensible even five years ago, today it draws attention from a much broader audience than the traditionally spatial disciplines of geography, architecture, and urban and regional planning.
5. Thinking about space has changed significantly in recent years, from emphasizing flat cartographic notions of space as container or stage of human activity or merely the physical dimensions of fixed form, to an active force shaping human life. A new emphasis on specifically urban spatial causality has emerged to explore the generative effects of urban agglomerations not just on everyday behavior but on such processes as technological innovation, artistic creativity, economic development, social change as well as environmental degradation, social polarization, widening income gaps, international politics, and, more specifically, the production of justice and injustice.
6. Critical spatial thinking today hinges around three principles:
 - a) The ontological spatiality of being (we are all spatial as well as social and temporal beings).
 - b) The social production of spatiality (space is socially produced and can therefore be socially changed).

c) The socio-spatial dialectic (the spatial shapes the social as much as the social shapes the spatial).

7. Taking the socio-spatial dialectic seriously means that we recognize that the geographies in which we live can have negative as well as positive consequences on practically everything we do. Foucault captured this by showing how the intersection of space, knowledge, and power can be both oppressive and enabling. Building on Foucault, Edward Said states the following: “Just as none of us are beyond geography, none of us is completely free from the struggle over geography. That struggle is complex and interesting because it is not only about soldiers and cannons but also about ideas, about forms, about images and imaginings.”

8. These ideas expose the spatial causality of justice and injustice as well as the justice and injustice that are embedded in spatiality, in the multi-scalar geographies in which we live, from the space of the body and the household, through cities and regions and nation-states, to the global scale.

9. Until these ideas are widely understood and accepted, it is essential to make the spatiality of justice as explicit and actively causal as possible. To redefine it as something else is to miss the point and the new opportunities it opens up.

Los Angeles has been a primary center not just in the theorization of spatial justice but more significantly in the movement of the concept from largely academic debate into the world of politics and practice. I believe it can be claimed, although it is almost impossible to prove conclusively, that a critical spatial perspective and an understanding of the production of unjust geographies and spatial structures of privilege have entered more successfully into the strategies and activism of labor and community groups in LA than in any other US metropolitan region. Spatial strategies have played a key role in making Los Angeles the leading edge of the American labor movement and one of the most vibrant centers for innovative community based organizations....

Perhaps the most dramatic example of the impact of specifically spatial approaches in the search for justice is the Bus Riders Union, an organization of the transit-dependent immigrant working poor that successfully challenged the locational biases of the Metropolitan Transit Authority and their plans for creating a multi-billion dollar fixed rail system that would primarily serve relatively wealthy suburban population at the expense of the more urgent needs of the inner city working poor, who depend on a more flexible bus network given their multiple and multi-locational job households. A court order was issued in 1996 that demanded that the MTA give first budget priority to the purchase of new buses, reduction of bus stop crime, and improvements in bus routing and waiting times. ... In LA, the notion of spatial and locational discrimination, the creation of unjust geographies of mass transit, was added to the racial discrimination arguments and helped to win the case. There are many complications to the story, but the end result was a shift of billions of dollars of public investment from a rail plan that would benefit the rich more than the poor, as is usually the case in the capitalist city, to an almost unprecedented plan that would benefit the poor more than the rich.

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See Appendix CON – Writ & Construction Example

See Appendix PAT1 – Power Activations Tables 1 – Power Activation Costs

See Appendix PAT2 – Power Activations Tables 2 – Normal Sequence of Power Activations

See Appendix PAT3 – Power Activations Tables 3 – Scenes, Planets & Stars

“If you would see how interwoven it is in the warp and woof of civilization ... go at night-fall to the top of one of the down-town steel giants and you may see how in the image of material man, at once his glory and his menace, is this thing we call a city.” – Frank Lloyd Wright

View from a Height: The two basic ‘units’ of the game (or any science-fiction interstellar ‘4X’ game) are ships and colonies. Colonies contain the position’s population base (in most cases, just expressed as industry or output numbers), and ships protect, expand, explore, enforce, and keep it all connected. It is possible that players may add, through game play, additional basic units. In some instances, Technological Devices might also be considered ‘units.’

‘Units’ are the top hierarchy game items, the main items in the game setting on which everything else is based. Units exist and operate independently within the game and the game rules; they are the driving force of the game. Physical Item Technology Patents (PITs) allow players to build units. Since you cannot build a colony (and there are no units other than colonies and ships to start the game), Physical Item Technologies essentially mean the technology to build starships.

Continuous Operational Technology Patents (COTs) allow for small improvements in the performance of existing units and installations, while Enhancement Technology Patents (ETs) are the only means to add new abilities to existing physical items, colonies, and installations.

Installations are ‘enhancements’ to colonies (as they cannot exist independent of the colony) and anything built on (‘added to’) a colony must either be an Installation or an Enhancement. Populations cannot be ‘built,’ colonies and installations (and in most cases, even ships) cannot exist independent of population, so population is not considered an ‘installation.’

Technological Devices (TDs) are most likely to stand alone (as units, physical items), and could in many cases, be considered a ‘basic unit’ of the game, but in other cases, TDs may act as Installations or Enhancements to colonies or ships or other Installations.

- ✓ ‘4X’ is a common game hobby abbreviation for “eXplore, eXpand, eXploit, eXterminate” type space games. There are some ‘3X’ games, though they are rarely called by that name; my favorite is the boardgame *Ad Astra* (2009), which has no combat.
- **The Fine Print:** System Boats – ships without stardrives – are equivalent to ships, and thus are ‘game units’ and their Tender ships are obviously game units because they are ships. See *System Boats*, 3 Construction, p. 677, *infra*.
 - ✓ Ground Units, introduced in *GROPOS*, 4 Combat, p. 985, *infra*, are a special case. They are colony enhancements when at a sovereign colony, but they are game units when not on a sovereign colony or being transported on sovereign ships, and are game units in any location *for the purposes of Special Operations Lodging* rules (see *French Vanilla*, 2 Special Operations, p. 1292, *infra*).
 - ✓ Special Operations Missions are not units nor are they enhancements in game terms. Conversely, a Fighter Complement (see *How Big is Your Flight Stick*, 1 Carriers & Fighters, p. 1050, *infra*) is never a game unit as it cannot exist independently of either a Carrier or Colony, even though in other effects and senses, it is similar to a Ground Unit.

It’s weird but you can handle it, no unhandled exceptions allowed in GGDM!¹

- ✓ You can build colony ships and colony infrastructure, but the essential part of a colony – people, living biological beings of some intelligence – cannot be ‘built.’ But in science-fiction-dom this can get a bit fuzzy...clones, cyborgs. *For game purposes*, colonies cannot be built by activation of the Construction Power but Colony Ships which are Landed to create new colonies wherever a colony of that Native Population type does not exist currently (see The Landing, 4 Expansion, p. 920, *infra*), can.

“A city is made of bricks, Pharaoh. The strong make many, the starving make few, the dead make none.”

– Moses (Charlton Heston), *The Ten Commandments* (1956)

Construction Zone: The Construction Power must be activated for any kind of unit building or enhancement tasks in the game. Positions may only build at colonies that they own, and specifically, construction may only occur at colonies. Construction is a location-specific act; each activation of the Construction Power for any purpose requires one Act and one Scene, and the Scene must be on the *colonized Planet* where the Construction occurs, Scene snitching can occur. Construction at two colonized planets in the same starsystem on the same Regular Turn, requires two separate activations of the Construction Power for that purpose and a Scene on each planet.

The Construction Power may be activated for the following six purposes:

1. Colony Enhancement,
2. Colony Defense Era Upgrade,
3. Laying Keel,
4. Shipbuilding,
5. Ship Supply,
6. Scrapping.

Each activation of the Construction Power allows construction tasks to occur only for the specific purpose for which the Construction Power was activated. **With the exception of Scrapping**, the Construction Power may only be activated for *one purpose* per Regular Turn at each colony.

- ✓ However, activation of the Construction Power for the purpose of *Scrapping* may be combined with any other activation of the Construction Power for any purpose and/or *activation of the Commerce Power for the purposes of Loading or Unloading Cargo Ships* in the same turn at the same colony, *using a single Scene to satisfy all of those Power activations at that colony.*

The Construction Power should not be confused with Constructural Elements introduced previously. There is no direct relationship between the vital Construction Power and Constructural Elements in GGDM, except perhaps, that inactive Constructural Elements may cause failure of activation of the Construction Power!

- **An Industrial Action:** *All activations* of the Construction Power, for any purpose, must specify a target colony (and ship in the case of Ship Supply) and thus can fail due to inactive Constructural Elements at the target colony. Activations of the Construction Power are vitally important and thus, are an area where inactive Constructural Elements can have the greatest adverse effect.

- ✓ An ‘industrial action’ is a British term for a ‘job action’ i.e. a workers’ strike in the U.S. See Merriam-Webster online dictionary. Your workers are on strike. Even the most totalitarian state will not kill more than a few workers (i.e. ringleaders) for being on strike, preferring terror and kangaroo courts, because if they kill many workers, who is going to do the work? Workers’ strikes are, historically, an event that militant, police state, autocratic governments have difficulty addressing effectively, if the workers are willing to die for the future. Nazi Germany had a plan for this contingency, called Operation Valkyrie, which the July 20 plotters attempted to subvert.

Lister: *We’re on a mining ship, 3 million years into deep space. Can someone explain to me where the smeg I got this traffic cone?*

Cat: *Hey, it’s not a good night unless you get a traffic cone! It’s the police-woman’s helmet and the suspenders that I don’t understand!*

– Red Dwarf

Gross Domestic Product (GDP): The cost of construction, *except for RPs unloaded from Cargo Ships*, is deducted from the current Treasury. However, a colony may not spend more in all *location-specific activities* in a Regular Turn than that colony would have produced if taxed at the beginning of that turn, plus the RP value of whatever was Unloaded from Cargo Ships to the colony on that turn (see Downloading, 2 Commerce, p. 1202, *infra*). This GDP limits the ability of a colony to both build things and Load resources to Cargo Ships in the same Regular Turn.

- ✓ For example, a colony that would produce 20 RPs if taxed at the beginning of the Regular Turn may not both spend 20 RPs by activation of the Construction Power and also Load 20 RPs to Cargo Ships by activation of the Commerce Power in the same Regular Turn.
- ✓ Besides building at the colony and Loading RPs, variable costs of Loading and Unloading Population at the colony in the same Regular Turn also counts against the GDP, planning is key. See Sardine Tins and ...Vienna Sausages, 3 Expansion, pp. 911, 915, respectively, *infra*.

There are only so many RPs available at any particular location, no matter how much is in the Treasury. The primary purpose of Cargo Ships is to deliver RPs from other locations, importing manufactured goods, machinery, skilled labor, alloys and refined metals, and raw materials that are not available at the destination; therefore, the RPs Unloaded from Cargo Ships in the same turn are added to the destination colony’s resource limit (GDP) for Construction *on the turn they are Unloaded* only. Any RPs Unloaded and not used that Regular Turn *are lost*, not returned to the Treasury (waste, corruption, administrative costs, or used for local political gain).

- ✓ For example, if 10 RPs were Unloaded from Cargo Ships to the colony in the previous example, on the turn of Construction, the colony could build 30 RPs worth of Construction on that turn.

For clarification, RPs *Loaded* to Cargo Ships are taken from the position’s Treasury but also count locally against the Colony’s GDP for the Regular Turn. Thus, RPs Loaded to Cargo Ships are theoretically the RPs received from the last Taxation of the colony. See Uploading, 2 Commerce, p. 1199, *infra*.

When spending RPs for colony activities, such as ship building, *RPs received from Unloading Cargo Ships will be spent first, and then any remaining cost will be taken from the Treasury.* Timing the movement of RPs by Cargo Ships and Construction activities at various colonies is one of the crucial elements of the game and one of the primary benefits received by colonies for participation in a centralized interstellar government and economic system.


- ✓ “The only good thing about the collapse of Carillion then is to lay bare the reality of what is really happening to public services. As a nation we either cannot afford the services we demand, including the shiny new hospitals and prisons and the wondrous new rail lines, or we are not willing to pay more taxes to fund these collective ambitions. No doubt, as with Railtrack before it and other lower profile failures of private sector involvement in public services, there may be special factors of debt and mismanagement at work. In the end, though, we have learned an important lesson – that there is no substitute for properly funded public services and projects no matter who is running them. The collapse of Carillion merely reminds us that there is no such thing as a free lunch, a magic way of creating public services without money, no matter how much taxpayers, politicians, managers, civil servants and shareholders would like to believe in it.” – Sean O’Grady, “The collapse of Carillion lays bare the reality of what is really happening to public services,” *The Independent*, January 15, 2018.
- Manholes: There is a ‘hole’ in this system, in that a colony could activate the Construction Power several times between taxations and thus take more than its share of resources from the Treasury, i.e. more than it produced during the last taxation, or would produce if taxed (partially negating the need for Cargo Ships). I have chosen not to close that loophole in the rules. Rather, I think other factors balance, for example, the GDP per turn limit on building will create a need for more Construction Power activations than normal, and limit building potential per activation; Construction in GGDM is most efficient when only one activation is required or with the minimum possible costs in Acts and Scenes and Power Activations used. Alternatively, the Concierge could, if necessary, apply Intervention Potentials to colonies that have excessive Construction Power Activations between taxations on the theory that such activity dips into the domestic subsistence and comfort level of the population (like rationing in WWII) that will cause extra costs, failures, problems and will need to be replaced later.
- Orange Cones: All construction projects must be completed by the same colony that began them, regardless of how long it ultimately takes to complete. Colonies may not directly share in any construction even if they are in the same system; however, colonies in the same or different systems may indirectly share in construction costs by moving resources to the construction colony/site by use of Cargo Ships (or Cargo System Boats) or Trucking Transactions (see 4 Commerce, p. 1225, *supra*). This is one of the primary economic benefits of participating in a centralized interstellar nation-state or empire, or trading with aliens.
 - ✓ Trucking activations of the Commerce Power may assist co-located allied **alien colonies** in shipbuilding. Conversely, if the owner of **alien colonies** and Cargo Ships are concerned with benefiting other position’s ship and defense building, then perhaps they should not engage in trade? See Trucking, 4 Commerce, p. 1225, *infra*.

Starships exist in system space (are placed on the star on the Public Space) and are not placed at any specific planet in the system (whether or not colonized), but while they are being constructed, they are located at and belong to the colony constructing them. See Shipbuilding, 3

Construction, p. 675, *infra*. Thus two colonies in the same system cannot jointly, in a direct sense, construct a ship as unfinished ships are not located in system space.

- Material Handling: When the Construction Power is activated for any purpose, other than Scrapping, on the same turn that the Commerce Power is activated at the same colony for the purpose of *Unloading* Cargo Ships, one Scene may be used to satisfy *both* Power Activations at that colony. Further, when this occurs, the Unload RPs is processed *before* the Construction Power, an exception to Clockwork Universe, 3 The Streams of Time, p. 90, *supra*.

It might seem intuitive to place a limit on the amount of resources that can be unloaded from Cargo Ships in a turn at a colony – arguments might be offered as to the time it takes to offload the cargo, inflation effects, ‘manpower,’ etc. – however as mentioned in previous sections, there are so many undefined variables, such as what is a population factor and the length of time represented by each Regular Turn, not to mention future technologies beyond our current understanding, that there simply is no limit in the game to the amount of cargo that can be Unloaded at a colony in a Regular Turn.

- ✓ Note that, per the preceding section, if the Construction Power is activated for the purpose of Scrapping, the Commerce Power may share the same Scene if activated on the same turn at that colony for the purpose of *Unloading or Loading* Cargo Ships, in short, a position could scrap and then load those RPs to a Cargo Ship in the same Regular Turn. Activation of the Construction Power for Scrapping would require a separate activation from the activation of the Construction Power on the colony in the same turn for any other purpose. But all activations would share the same Scene on the colony if done in the same Regular Turn.
- Combat Engineers: Conquered Colonies do not produce resources during Taxation (see, Resources from Population, 2 Taxation, p. 306), thus, do not have a GDP for Construction. The Construction Power may be activated at a Conquered Colony, however,  is limited to RPs which are Unloaded from Cargo Ships to the Conquered Colony (the opposite of Looting, 3 Commerce, p. 1210, *infra*) *on the same Regular Turn* as the Construction Power is activated at the Conquered Colony. Although positions normally would not engage in Construction at a Conquered Colony, there may be some strategic or tactical situations where it is necessary, e.g., to rapidly rebuild defenses so warships don’t need to defend it or to build Institutes.

“The physician can bury his mistakes, but the architect can only advise his clients to plant vines.”

– Frank Lloyd Wright, *New York Times Magazine*, October 4, 1953

“The undertaker said to the doctor, thank you for your patients.” – anonymous

Endnotes.

¹ Citation: “An exception is a known type of error. An unhandled exception occurs when the application code does not properly handle exceptions. ... *An unhandled exception occurs when a developer does not anticipate and handle a potential exception.*” – Matt Watson, “What is an Unhandled Exception and How to Find Them,” Stackify (stackify.com), April 14, 2017 (emphasis in original).

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See Appendix CON – Writ & Construction Example
See Appendix EPAT1 – The Existential Patents
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“No house should ever be on a hill or on anything. It should be of the hill. Belonging to it. Hill and house should live together each the happier for the other.” – Frank Lloyd Wright, An Autobiography (1932)

“Man is a phase of nature, and only as he is related to nature does he matter, does he have any account whatever above the dust” – Frank Lloyd Wright ¹

Things to Build: So perhaps Man is Phase III of Nature and the awakened Ants are Phase IV?
☺ We are awaiting instructions.²

With the exception of Institutes (see Institutionalized, 3 Colleges, p. 487, *supra*, which requires a Special Writ instead), everything built at a colony requires that the colony owner first hold a Patent allowing the building of that specific enhancement, installation, or ship. Hosting a College or Corporation at a colony does not require building, nor does Capital Status or any political status of a colony require building at that colony, or a Patent.

- ✓ For example, no colony may construct Industry, Scout Ships, or 1st Era Warships (or anything else except Institutes), unless the technology to do so is available via a Patent held by the colony’s owner.

Construction at colonies is actually constant and ongoing, as infrastructure is created, systems are repaired and upgraded, etc., and is assumed and invisible in the game. The Construction at colonies that requires activation of the Construction Power is only for the process of building the major units and enhancements recognized in the game, that is, those items specific to formation of interstellar governments and civilizations.

- ✓ Participants could think of this as a triumvirate in the Roman sense: Construction-Commerce-Technology are the *triumvirs* of interstellar civilization.
- **Cloverleaf Interchange:** Wheeled carts, while more efficient for moving heavy loads over distances, also require wide, clear hard surfaces, i.e. roads, even if just dirt paths. Thus, infrastructure is a feedback loop, whatever is built needs to be maintained, whatever is built creates more growth and demand, whatever is built will eventually be insufficient, need replaced, and upgraded or modernized, and there is no turning back, building or fixing less causes unemployment, is bad for the economy, is blight and dangerous and not good for political careers – just listen to what the politicians always promise at election time, politics is tied to civilization’s feedback loops (see *Interstellar Politics*, 1 Taxation & Census, p. 295, and *Forward Expectations*, 1 Disruption, p. 255, *supra*). The environmental impact of roadbuilding, as a metaphor for the spread of civilization, is the subject of a *BeastMaster* television series episode (possibly it was the episode, “Tao’s Brother” (2001)).
- **Industry:** Activation of the Construction Power for the purpose of Colony Enhancement allows the colony’s owner to build or add new Installations and Enhancements to the colony (including Orbital Cities) where the Construction Power was activated, up to the limits previously described. The primary and most frequent reason for activating the Construction Power for the purpose of Colony Enhancement is to build new Industry.

- ✓ The Industry Existential Patent allows one Industry to be constructed for every 2.5 population factors on the colony, including in Orbital Cities. Each Industry produces .5 RPs (see Resources from Industry, 2 Taxation & Census, pp. 306-307, *supra*).

Industry is an installation, costing 2 RPs each, which requires that the colony owner hold the Industry Existential Patent, that increases the position's resource production during Taxation (see Resources from Industry, 2 Taxation, p. 306, *supra*) and at the same time, increases the colony's GDP for the next time that the Construction and/or Commerce Power is activated at that location. Thus adding Industry to a colony has a 'double-effect' and positions should, if possible, obtain Industry during the setup process. Industry is an 'investment' that repays most handsomely.

- **Get to Work!:** Generally speaking, it is best and most economical to build things in one turn, that is, begin and complete building of installations and enhancements at colonies with one activation of the Construction Power. However, unless specified in the Patent, a position may take as long to build anything as desired; this may be necessary to build up small colonies due to GDP limitations. Each time a position wishes to add resources to an item that is 'under construction,' the Construction Power must be activated for the proper purpose at that colony, increasing the 'cost' of building the item or ship in terms of Acts and Scenes, Power Activations required. Ships, items, enhancements or anything that is not completed has no positive effect on the game, but do exist at the planet, and may count against capacity limitations of the colony and may be destroyed during adverse News Events, by Special Operations Black-ops, or in combat, or by whatever other entropic events occur.
- **Steep Road:** Any colony with at least five population factors (see Resources from Population, 2 Taxation, p. 306, *supra*), producing 1 RP per activation of the Taxation Power, will eventually be able to build something – hopefully Industry. Colonies with less than five population factors may slowly grow – if not destroyed or added to – to the threshold. Thus, any colony will eventually be able to begin Construction projects (consider, for example, the pregame evolution of the Homeworld, Lost Colony, and Outposter Primal States). Small, inexpensive, expendable (don't say that to the crew!) Cargo Ships may be best for frontier hopping and unloading to small colonies.³

FOREMAN: *Now, I got good news and I got bad news, fellas. Which one you wanna hear first? ... Bad news: Three guys died yesterday working the top of the wall.... The good news is I got three new job openings. Top of the wall.*

– Pacific Rim (2013)

Orbital Platforms: Although it is perhaps plausible that starships could be constructed on the ground and lifted into space, in the more probable course of things, the ability to build significant Orbital Platforms is probably a crucial step to system, and eventually, interstellar colonization. As such, there are three Existential Patents which reflect the pre-interstellar or early 1st Era development of Orbital Platforms: Orbital Shipyard, Orbital City, and Orbital Defense Base. These Patents may be obtained during the setup process or through the Patent Prosecution described in the Patent rules sections.

Doubtless, most of the time, orbital platforms will be envisioned to be in low orbit as has been common in science-fiction video from Star Trek to Babylon 5 (i.e. the defense platforms in the

final battle of the Earth Civil War in the Babylon 5 episode “Endgame” (1997)). There is some logic to this. Orbital Defense Bases must probably be in low orbit in order to effectively protect the approaches to the planet; the farther out they are, the wider the gap between them. It then follows that in order to be protected by the Orbital Defense Bases, Orbital Cities and Shipyards must be behind them, between them and the planet.

In all cases, anything *permanently orbital* at a colony is considered to be an installation and not a ship, therefore, construction of any Orbital Platform requires the activation of the Construction Power for the purposes of Colony Enhancement. Any Orbital Platform not destroyed in Combat (or by Special Operations Black-ops or an adverse News Event), can be captured.

- Orbital Shipyard: Of the three Existential Patents relating to Orbital Platforms, the Orbital Shipyard is the most crucial as an Orbital Shipyard is required to construct all starships – except Scout Ships – and System Boats during the game (Scout Ships cost more to build ‘on the ground’), Orbital Cities, and Orbital and System Defense Bases. Starships are the sinews of interstellar civilization, connecting islands of civilization separated by vast, cold interstellar void. All positions should consider obtaining the Orbital Shipyard Patent first, preferably during the setup process of the game.
 - ✓ A colony must have at least 10 population to construct an Orbital Shipyard, which costs, 15 RPs. Only *one* Orbital Shipyard can be at each colony, however, each colony on a Balkanized colony planet may have their own Orbital Shipyard.
 - ✓ As specified in Shipyard Blues, 7 Beginnings, p. 72, *supra*, a position that does not begin with an Orbital Shipyard may not begin the game with any starships, except Scout Ships. There is no provision for a position to begin the game with System Boats (even though it might make logical sense from a pre-interstellar culture).
 - ✓ The Star Trek movies should be primarily credited with bringing orbital shipyards (sometimes called dry dock, as if there is water in space) to the big screen and to science-fiction consciousness. The original Star Wars movies of the 1970s showed the Death Stars being built without shipyards, but I don’t believe that any other ships were ever shown under construction, nor were shipyards shown in the original Star Trek, meaning the concept is a later development. Star Trek: The Motion Picture (1979) began with the new Enterprise leaving the shipyard. However, new Star Trek does also include ground-based shipyards (e.g., Riverside Shipyard, Kelvin Timeline), not to mention that the Klingon Bird of Prey *Bounty* landed in Golden Gate Park in San Francisco in Star Trek IV (1986)⁴ – which GGDM does not explicitly endorse, other than allowing that Scouts can be built without a Shipyard as a game mechanical concession (*ut supra*), albeit, more expensive than with an Orbital Shipyard.
- Orbital City: Orbital Cities, which must be built over two Regular Turns like a ship while other orbital items can be built in one turn (see Orbital City Existential Patent), by an Orbital Shipyard cost 20 RPs each (10 RPs 1st turn down payment required) and allow a colony to expand beyond the surface Maximum Habitability of the colony planet below by 15 population factors each by putting populations and industry into orbit (see Dayworld, 3 Taxation & Census, p. 315, *supra*). Orbital City technology is a direct predecessor to Colony Ships that will eventually transport populations to new planets orbiting distant stars.

The game system does not look to see how many moons each planet has, or the habitability class and limits of said moons. Rather, colonization of the moon(s) of any planet are jointly assumed as part of the planet's Maximum Habitability and/or the ability to build Orbital Cities to exceed Maximum Habitability. For some positions, Maximum Habitability limitations of the Homeworld or their initial colony planet will quickly become a problem in the early game, but for most others, Orbital Cities are a luxury that can wait until later.

- ✓ For the process of moving population to or from Orbital Cities, see Sardine Tins and Opening the Can Of..., 3 Expansion, pp. 911, 914, *infra*.
 - ✓ It is possible in some instances that the planet, for example, a gas giant, is uninhabitable and the information provided is solely for the habitability of one or more moons. This is exactly the case in the movie Avatar (2009), most viewers don't realize that the Earth-like world Pandora, is a moon orbiting a gas giant in Alpha Centauri A. Thus, the habitability of that planetary orbit would be its moon Panadora.
- Orbital Defense Base: While positions may obtain the ability to build Ground Defense Bases through the Ground Defense Base Existential Patent, the *first line of colony defense* are Orbital and System Defense Bases (each requiring a separate Existential Patent). Ground Bases are best against Raids and protecting the colony in Ground Combat. Hopefully, you will not need them anytime soon, but you will need them someday. Activation of the Construction Power for the purpose of Colony Defense Era Upgrade is detailed in 2 Combat, p. 954, *infra*.
- ✓ Colony Defense Era Upgrade is not the same as building new Defense Bases or Enhancements to existing Defense Bases both of which require activation of the Construction Power for the purpose of Colony Enhancement. An Orbital Shipyard is not required for a Colony Defense Era Upgrade.

Ground Defense Bases cost 15 RPs to construct, are constructed in a single Regular Turn (i.e. paid in full), do not require an Orbital Shipyard, and are limited to 1 Ground Base per 3 population factors on the colony. Ground Bases damaged in Ground Combat must also be repaired by activation of the Construction Power for the purpose of Colony Enhancement (see Verdun, 4 Combat, p. 997, *infra*). Hopefully, Big Bertha stayed home...

An Orbital Shipyard is required to build Orbital and System Defense Bases, however, they must always be constructed (i.e. paid in full) in one Regular Turn, not two. Orbital Defense Bases cost 20 RPs and are limited to 1 Orbital Defense Base per 10 population at the colony. System Defense Bases cost 45 RPs and are limited to 1 System Defense Base per 30 population factors at the colony, limiting them to medium and large colonies. Both Orbital and System Defense Bases can be armed with Ship Missiles and other enhancements, but not Fighter Complements (however, this could be changed by in-game developments, especially for System Defense Bases to act like 'forward deployed defensive Carriers').

- ✓ The classic problem of any fortified place has always been the theoretically infinite number of attackers vs. limited local logistics and local defeat in detail, whether it is a successful breach of the wall and storming, seizure of a gatehouse or bastion, or concentration of forces to capture a fort in a chain of fortifications. Thus, any colony defense can be overwhelmed if the attackers bring enough warships and sacrifice.

“All low-energy delivery deflection technologies have inherent fine control and steering capability, making it possible to add just the right amount of energy to steer an asteroid originally destined for a mere close approach toward a specific Earth target. According to Rusty Schweickart, the gravitational tractor method is controversial because, during the process of changing an asteroid’s trajectory, the point on the Earth where it could most likely hit would be slowly shifted across different countries. Thus, the threat for the entire planet would be minimized at the cost of some specific states’ security. In Schweickart’s opinion, choosing the way the asteroid should be ‘dragged’ would be a tough diplomatic decision.”

– from Wikipedia article, “Asteroid impact avoidance,” captured August 9, 2019

Deflection Dilemma: Suppose a large meteor was certain to hit the Earth, and that the impact could or would be a mass extinction event for life on Earth (*à la* the dinosaurs). Other than assuming the nuclear defense posture – and those who have served in the military know what I mean – what could we do about it?

It is possible that we might reconfigure our ICBMs to hit a target in the upper atmosphere (e.g., Project Icarus by MIT students in 1967, the inspiration for the TV movie, *Meteor* (1979)). Unless there are weapons in orbit – in violation of multiple space treaties, as in the movie *Meteor* (1979) that is about all we could do. We’d have to hope the blast deflects the rock, or at least pushes the large pieces in the opposite direction (per the laws of physics) but likely the result will still be catastrophic.

Any of the proposed meteor-space-object defense systems would require both a violation of existing treaties and/or an unprecedented global effort. And who would anyone trust to run the meteor defense grid without turning it back to Earth? A related issue is called The Deflection Dilemma (in which Carl Sagan had some contentious involvement), which is:

- ✓ That any system designed to deflect asteroids from impacting the Earth might also be used to deflect normally harmless rocks to a path that will cause them to impact on the Earth (similar to the previous discussion of mass-driver Orbital Bombardment, Planet Narn, 3 *Taxation & Census*, pp. 316-318, *supra*), or
- ✓ If an asteroid were on a collision course with Earth, who decides which countries or areas are to be risked in the deflection attempt? It’s not a simple thing, even an ocean large meteor impact could cause a tsunamis on the scale of those that hit India and other countries in 2004 (over 227,000 were killed in minutes).
- ✓ “On Thursday, an asteroid called 2019 OK, traveling at almost 15 miles a second, came unusually close to impacting Earth. The asteroid passed by about 43,500 miles away – closer to Earth than our moon is. It was one of the closest known approaches of an asteroid to Earth since we started closely tracking the movements of objects in space. If you had binoculars and knew exactly where to look, you could have briefly seen 2019 OK in the sky. NASA tracks large asteroids in order to identify any that might be on a threatening trajectory toward Earth. But 2019 OK was first seen a few days ago, and was only definitively identified as an asteroid yesterday – hours before it passed right by us.

How'd they miss it? Well, while 2019 OK could have done a lot of damage if we'd gotten very unlucky – as Swinburne University astronomer Alan Duffy told the Sydney Morning-Herald, the asteroid would have struck Earth with 'over 30 times the energy of the atomic blast at Hiroshima' – it's not actually all that big. The asteroid is estimated to be 'between 187 feet and 427 feet in diameter.' The largest passenger aircraft in service today (the Airbus A380-800) is about 240 feet long, so spotting this asteroid would have been a bit like spotting a single big commercial jet in the vast expanse of space – traveling at 15 miles a second and coming toward us directly from the sun, which makes spotting it more difficult.

Even a small asteroid like 2019 OK could potentially do a lot of damage if it'd hit Earth, rather than missing by 43,500 miles, but for it to be, as lots of outlets called it, a 'city killer' asteroid, we would have needed several more unlikely things to go wrong. A 45,000-mile near-miss is very close compared to how vast space is, but it's still a fair bit – Earth itself is about 8,000 miles across. About 0.5 percent of asteroids that come this close or closer will actually hit us." – Kelsey Piper, "A 'city-killing' asteroid just zipped by Earth. Why didn't we see it coming?" Vox, July 26, 2019.

- Skylab is Falling: I remember Sky Lab. The potential destruction of a large orbital object or starship hitting the Earth (or any planet) is a favorite visualization of video science-fiction, in addition to the destruction of Planet Mül (from *Valerian and the City of a Thousand Planets* (2017)), I also recommend watching the cinematic game trailer for *Firefall* (2012), both are available on YouTube. As to the latter, I never understood why they built a mile long warship in low Earth orbit (Sky Lab was tiny, 82.4 ft. long) and then tried to open a warp hole ('Arcfolding') while in *low Earth orbit* while being controlled from the ground,⁵ but there goes another city in Brazil! The Arachnids (Starship Troopers, (1959)) didn't like Brazil either, they destroyed Buenos Aires with an asteroid (in some versions of the story).
 - ✓ I have encountered discussions on the internet asking whether a civilization could achieve spaceflight without developing advanced weaponry? The discussion of this goes to how technology develops and cultural factors. Knowledge of propellants and explosives, mechanisms, electricity, and probably or possibly nuclear power would be unavoidable and necessary. The issue of weaponry, however, lies solely with the culture; for example, if a culture never had the concept of weapons (their ancestors were not hunters/scavengers) or war, or any need for weapons (they have faced no existential dangers requiring weapons), then the tools will *likely* never be used to create advanced weapons. From this, *we might assume that any species that obtains at least orbital space flight arrives there from a history of technology and warfare*. GGDM makes this assumption. However, as one commentator (user subrunner, 7-29-16) pointed out on worldbuilding.stackexchange.com, a space ship, or rocket, in orbit, *is* a potential weapon (and so is a starship), like a car or aircraft is a weapon (as we know well from 9/11 and drunk drivers), with no actual weapons or special modifications necessary.
 - ✓ Take this concept and inflate it by the technology assumed to exist in the GGDM setting; what happens to those unexploded nuclear missiles, unused fuel, or runaway anti-matter or black-hole power plant when the falling, uncontrolled ship or orbital platform hits the colonized planet surface? 1.2 billion casualties (from "Firefall Intro Cinematic Trailer (HD)" GameZone YouTube Channel, 2012).

“The cities supplied few recruits as compared to such provinces as Thrace, Isauria, Cappadocia and Armenia. Small landowners filled the ranks, receiving pay as well as exemptions from the burden of Byzantine taxation. The officers represented an aristocracy which handed down a professional tradition from father to son.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 112

“But the old Byzantine system, based upon a native soldiery organized into themes, had been destroyed at the roots when the empire lost its great recruiting ground in Asia Minor. For centuries that peninsula had supported a large population with its industry and agriculture. In the past such mighty empires as Lydia and Cappadocia had sprung from those fertile plains.

Now after ten years of war and anarchy all prosperity vanished, never again to be fully revived down to the present day. Usually the patient toil of peasants may be trusted to heal the wounds of the earth. This time, however, sword and torch seem to have done their work too thoroughly for redemption. Only a generation after Manzikert, when the Crusaders marched through Asia Minor, they found a bitter, man-made desert in which brambles were growing out of the ruins of once thriving cities.”

– Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 131

Manzikert: The fall of the vaunted Byzantine navy was not by naval defeat. In 1071 A.D. the Byzantine army was routed in a disastrous defeat at the Battle of Manzikert far inland on the eastern border near Armenia. The Byzantine emperor, betrayed by a political rival (Andronikos Doukas) who was in command of the reserves at the battle and simply marched back to camp, was captured by the Seljuk Turks and released later with humiliating concessions and peace terms.

The returned emperor was then overthrown, blinded by his enemies, and died of infection, and civil war followed. The 11th and 12th century decline of the Byzantine navy (and generally the state and civilization) traces from this defeat as in the following decades, the Seljuks and then the Ottoman Turks advanced across Asia Minor capturing the heartland of the Byzantine Empire and others encroached on islands and along European coasts.

The main bases and shipyards of the navy were in Constantinople which remained a bulwark until Ottoman capture in 1453 A.D., but the resources to build and maintain the navy came from elsewhere. Soon the Venetians and Muslim naval forces began dominating the seas as well. The sack, massacre, and wanton destruction of Constantinople in 1204 A.D. by the Fourth Crusade (occasioned by violence between pro- and anti-Crusader factions in the city) was only possible because of the poor state of the Byzantine navy and superiority of the Venetian navy. By that time, the Ottoman Turks had penetrated to the coast opposite Europe, with the Byzantines holding only Constantinople and a few scraps of coast nearby.

- ✓ This presents a historical case for Ground Combats in GGDM, which are detailed in 4 Combats generally, *infra*. Defeat in Ground Combat can have a long term effect on the power of the position’s starship forces.
- **Need & Complexity:** See further, Joseph Tainter, The Collapse of Complex Societies (1988). There is an inherent relationship between naval power and complex societies; naval power is one of the major layers of complexity added to solve problems of increasingly urbanized

population. The collapse of complex Byzantine society (and loss of territory) preceded the collapse of the Byzantine navy. Had the Byzantines resurged from Constantinople in a couple of generations, they would have reconquered a manmade desert and city ruins.

- ✓ GGDM participants should assume that interstellar colonization (which precedes the need for an interstellar navy) is also a layer of complexity being added to pregame civilizations to solve some problem in the origin homeworld or colonies. What ‘problem’ leads to, lends urge to colonization of system space, interstellar colonization? This is the staple of sci-fi stories. The question that can be partially answered in the game, is what problem are they trying to solve by far flung interstellar colonization? What is going to make us finally go out there?
- Friends & Enemies: Emperor Romanos IV Diogenes was treated worse by his political enemies than by the actual enemies of the empire during his captivity with Sultan Alp Arslan of the Seljuk Turks.⁶ Romanos subsequently abdicated the throne on agreement that he retire to a monastery and that his life would be spared and unharmed, but that wasn’t enough for the political victors (the same traitorous usurper Andronikos Doukas) who reneged and had him blinded with hot irons and sent to an island without medical attention, from which he died shortly. His enemies heaped insult upon his blindness in his last days. Thus the defeat at Manzikart was more than another military loss; the political leadership of Constantinople lost whatever moral ‘soul’ they had remaining and the populous economic heartland was torn from the empire (and that is the true catastrophe), and by 1204 A.D. when the aristocracy, including the Patriarch, fled the Sack of Constantinople by the Fourth Crusade, they were jeered and abused by the peasants who considered the aristocratic refugees below peasantry.
 - ✓ The Crusades were ‘caused’ by the failure of Byzantine power to check the Turks. The First Crusade was in response to a call for assistance by the Byzantine Emperor and just happened to suit the purposes of the Pope and the powers of Europe at that time. The Byzantines also sometimes allied with the Turks against usurpers of the Byzantine Empire, so there was considerable political-military interplay in Anatolia.

Need & Complexity and Friends & Enemies can be thought of as the four dimensions of most design, personal, activism, work relationship, employment, life on Earth, and political problems.

“Whereas most of his fellow prisoners are unmitigated thugs, Speer, by contrast, is a charming, cultivated and intelligent man. It was these qualities, combined with a conscience that subordinated everything to ambition, that made him one of the most dangerous of all the Nazis.”

– John Kenneth Galbraith and George W. Ball, “The Interrogation of Albert Speer,” Life Magazine, December 17, 1945 (available free online)

Endnotes.

¹ Commentary: There was a crisis in the profession late in Frank Lloyd Wright’s life: a famous architect named Albert Speer was accused of and tried at Nuremburg for using forced labor/slave labor to construct his building projects in Berlin. This must have appalled the peculiarly rational practitioners of the profession.

² Citation: Reference is to the cult classic movie, Phase IV (1974).

³ **Commentary:** There are a few steep roads I will not forget. One is at the top of South Williamsport, PA where I used to deliver papers in the dark on Sunday mornings. There is a small street that comes down the hillside from the top starting at 8th Street or Pine Crest (I don't remember); when you turn onto the street and start down the hill, it looks like you are driving off a cliff, then suddenly the car goes over a hump and you are facing straight down a steep hillside.

- ✓ Other memorable places include being stopped in convoy at the top of Miners Pass on the Marine Corps base at Twenty-nine Palms at night. Wherever we were was a dirt road on a narrow ridge, looking out both sides of the truck was down steep hillsides into the darkness.
- ✓ The steep road going up to Kasey Springs on Camp Pendleton in the mid-1980s was only paved about a third or half way up from the bottom; at some point, the pavement stopped, and the guardrails ended. The gravel road is just wide enough for a truck and winds along a steep hillside or cliff like a Road Runner cartoon. There is no stopping between the bottom and the top. We were supposed to be helo-lifted up, but it was cancelled and we had to drive up. On the right side of the truck was the steep cliff or hillside coming down to the road, looking out the left side of the truck, I could see the trees, the tops of the trees, way down below. Did I mention no guardrail? And just wide enough for one truck? I assume range control made sure that no one was coming down when we started up; but then again, no one is usually up there.

⁴ **Commentary & Citation:** *Alternate ending to Star Trek IV: The Bounty* goes critical due to the stress of time-travel and the drain or malfunction of the cloaking device, explodes and obliterates San Francisco, which causes global thermonuclear war when the U.S. blames the Soviet Union. Meanwhile, the probe in the future destroys life on Earth seeking an answer to the Humpback Whale song – wait, there may not be anything alive and no oceans on Earth when the probe arrives. And *Star Trek IV* doesn't end with yet another maiden voyage of the new *Enterprise*.

- ✓ This must be the reason why they couldn't just fly the cloaked *Bounty* to the hospital and beam Chekov out (like they beamed Gillian aboard, Spock reported the ship fully powered a minute later, or like they did the whales at the end), instead, they had to disguise themselves as physicians and go manually rescue him, holding hospital staff at gunpoint in the operating room. *See*, it all makes sense. *Star Trek sense*.

⁵ **Commentary:** I asked, but I never really got an answer to this back when it was in closed beta. I never played the game.

⁶ **Commentary & Citation:** Similarly, in cultures that practice widespread slavery, where slaves are objects and not subjects, domesticated animals and beasts of burden are often treated better than the human slaves (especially if unskilled) and may have more value. By the time of Romanos IV, true slavery was rare and not socially sanctioned in the Byzantine Empire, but famously, intrigue, spying, deceit and political violence were common, at least in Constantinople.

- ✓ “Slavery was common in Classical Greece and in the earlier Roman Empire. It was legal in the Byzantine Empire but became rare after the first half of [the] 7th century. From 11th century, semi-feudal relations largely replaced slavery. Under the influence of Christianity, a shift in the view of slavery is noticed, which by the 10th century transformed gradually a slave-object into a slave-subject. It was also seen as ‘an evil contrary to nature, created by man’s selfishness,’ although slavery was permitted by the law.” – from Wikipedia article, “Slavery in the Byzantine Empire,” quoting W.G. Clarence-Smith, *Islam and the Abolition of Slavery* (2006).

- Clarence-Smith is a professor at SAOS University of London, editor of *Journal of Global History*.

It is thus likely a historical falsehood asserted that the Byzantines used galley slaves to row. All scholarly sources I have read seem to repudiate the idea, instead asserting that oarsmen were freemen, farmer's sons, and small land owners of the same sort that filled the lower ranks of the Byzantine army. Thus, they probably were not chained literally to their benches as in the movies. The widespread use of galley slaves for rowing actually occurred much later, the Ottomans, the French, and the Knights Hospitaller, along with the Barbary Pirates, all widely used slaves, prisoners of war, convicts and debtors for rowing. Approximately 12,000 Christian galley slaves were freed from Ottoman Ships during fighting at the Battle of Lepanto in 1571, the slaves were given arms and joined the hand to hand fighting against their former masters; the Holy League fleet also had thousands of slaves on their galleys, their chains were removed before battle so that they could fight. This move is probably the actual genius stroke of leadership on the Christian side, recognizing the potential of adding tens of thousands of freed slaves to turn the tide.

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See Appendix EPAT1 – The Existential Patents
See Appendix EPAT2 – Existential Patents Quick Summary

*“My decision to enter Hitler’s party was no less frivolous. Why, for example, was I willing to abide by the almost hypnotic impression Hitler’s speech had made upon me? Why did I not undertake a thorough, systematic investigation of, say, the value or worthlessness of the ideologies of all the parties? Why did I not read the various party programs, or at least Hitler’s *Mein Kampf* and Rosenberg’s *Myth of the Twentieth Century*? As an intellectual I might have been expected to collect documentation with the same thoroughness and to examine various points of view with the same lack of bias that I had learned to apply to my preliminary architectural studies.... As a result, I remained uncritical...” – Albert Speer, *Inside the Third Reich* (1970), p. 22*

Minister of Armaments: [Interview] “I interviewed Albert Speer and indeed he knew that he had been penciled in to become minister of war in the new government had Hitler been assassinated and all of that had been carried off successfully.” – Professor James V. Koch (Old Dominion University, Norfolk, VA), *Operation Valkyrie: The Plot to Kill Hitler* (documentary, 2008).

- ✓ Albert Speer survived the purge after the July 20 Plot failed (and escaped the last surreal days of the *Führerbunker* – he appears in the movie *Downfall* (2004)),¹ it could be that he was not an active member of the conspiracy and learned of his proposed role afterward, or that he was considered too valuable to Germany such that his political position insulated him. There is no indication of whether he would have agreed or not, but if Hitler were dead, what else would he likely do? It is also an indication that he was not considered a true or truly dangerous Nazi Party member by the resistance and that he was considered more loyal to Germany than to Hitler or National Socialism ideology. Or they thought him controllable, malleable, as he was to Hitler.

Reports of those who met Hitler in person indicate that he was not particularly impressive one-on-one or face-to-face (generally, many of his top officials, such as Himmler and Eichmann, have been described as banal, pedantic and bookish, both physically and mentally unimpressive on the surface). I suspect this is true of most famous people, and it is the thing they fear the most (like pictures without makeup and hairdressing). I recall hearing a famous comedian who complained that because he was a famous comedian, people expected him to be funny all the time – which obviously is an artificial condition for any human not resident in a mental hospital. Consider the common theory that comedians are actually angry people, who turn to comedy, and then when they become known as a comedian, they are supposed to be funny all the time! Which feeds an anger, bittersweet.

- ✓ However, Hitler’s personal secretary, Gertraud “Traudl” Junge paints a different picture of personal interaction with him in her 2012 memoirs:
 - “I admit, I was fascinated by Adolf Hitler. He was a pleasant boss and a fatherly friend. I deliberately ignored all the warning voices inside me and enjoyed the time by his side almost until the bitter end. It wasn’t what he said, but the way he said things and how he did things.” – from “Hitler’s Final Witness,” BBC News, February 2, 2012, no authorship attributed.²

So, like everything else, impressions are relative, and the problem is famous people can't know beforehand – any more than the rest of us – the position or worldview from which they are being judged in personal interactions.

Laying Keel: Building a starship is an awesome undertaking, especially if it is constructed in the vacuum of orbit. Building new starships is a two-part process and requires at least two activations of the Construction Power.

- ✓ “But the money is not all spent, only a portion of it is destined for new equipment, and the equipment is not all built. It takes years to assemble fighter jets, ships and submarines.” – Glenn Kessler, Salvador Rizzo, “Fact-checking Trump’s address on the Iran missile attacks,” Washington Post, January 8, 2020.
- ✓ To begin starship construction, the Construction Power must be activated at the colony building the ship, and which has an Orbital Shipyard, only one is required, for the purpose of Laying Keel.
- ✓ At the time that the Construction Power is activated for the purpose of Laying Keel, the colony must pay half of the total cost of the ship’s construction (construction cost of ships is found on the Patent).
- ✓ “Total Cost” of a starship *would include* any enhancement technologies or additions that are required to be built with the ship; total cost *does not include* anything that can optionally be added later (e.g., Fighters, Ship Missiles, System Boats).
- ✓ The colony may lay as many keels as the colony can afford in one activation of the Construction Power at the colony for that purpose and there is no limit to the number of keels that can be in orbit at a colony.

Starships are very expensive, so, barring the importation of significant parts of the cost of the ship via Cargo Ships (or Trucking or Carting, see 4 Commerce, pp. 1225, 1229, *supra*), this does place a severe practical limit on the starships that can be constructed at smaller colonies.

- ✓ It may not seem particularly realistic that a world with an Orbital Shipyard can lay as many keels and have as many ships as desired under construction at one time. However, it works within the vague time periods of a Regular Turn and abilities expressed in GGDM. Further, the Regular Turn limitations of the local GDP and resources from Cargo Ships naturally controls shipbuilding activity. And there is always a risk of enemy attack.
- Shipbuilding: Incomplete ships and unfinished Orbital Cities are part of the colony that is building them. They have no effect on the colony or the game, they cannot do anything or be used for anything, they are *just there* until they are completed,³ at which time new ships move into system space and are placed on the system’s star on the Public Space. To complete or add to the building of any keel, the Construction Power must be activated at the colony for the purpose of Shipbuilding. Any number of keels or unfinished Orbital Cities can be advanced per activation. When resources have been paid equaling the total cost of the project (not counting enhancement technologies), it is completed. Any number of Construction Power activations may be required to complete the ship or Orbital City, however, economy of action suggests that the building be completed as quickly and efficiently as possible.

- ✓ Of grave concern is the decline in the number of U.S. shipyards and overall annual shipbuilding capacity:
 - “In the 64 years since Eisenhower became President, the number of U.S. shipyards capable of building deep-draft, self-propelled, oceangoing naval and/or merchant ships of at least 400 feet in length has declined from 30 to 6 and the number of large ships they built each year has declined from 60 to 7. (The number of big yards is now technically 9 but 3 of those 9 are not active in the market.)” – from Ship Building History (<http://www.shipbuildinghistory.com/statistics/decline.htm>, Updated January 21, 2016).

The ability of the U.S. Navy to replace losses in a war and introduce new generations of ships is much less than what it was; this is a very complex issue of economics, private industry and public policy, technology, defense spending ... and politics.

- Strategic Shipyarding: One important measure of naval power is the speed at which new ships can be built, crewed and supplied. Shipyards, located at well-developed colonies, are at the core of naval hegemony in GGDM. As a historical example, analysis of the Seven Years War (“World War Zero”) has shown that the British were building ships faster and building more ships per year than the French; this, coupled with French losses in naval battles – the French lost almost every naval battle – crippled the French navy badly and, along with loss of French overseas possessions, insured British naval hegemony. The French were forced to ally with the Spanish to protect their northern coastlines and shipping (ultimately, they were disastrously defeated at Trafalgar in 1805). There is an argument that British ships were inferior to French ships in the 18th Century (see article, “18th Century Shipbuilding,” globalsecurity.org), but the Brits had more ships and a superior naval tradition to compensate.
 - ✓ No matter how many ships a position has, it still has the same number of Power Activations. Grouping ships into fleets for movement helps (see Ad Astra, 1 Movement, p. 839, *infra*), but there is certainly a point of decreasing utility in producing more ships. There is an emphasis then on being able to do more with the ships a position has during each Power Activation, than building new ships, i.e. bigger, faster, badder.
 - ✓ An important control in many space-opera strategy games is the requirement of shipyards to build ships, and the significant cost of shipyards requiring careful choices on their placement. The cost is frequently justified in terms of needing to lift materials from the surface by brute-force launch, but that is only true of the first shipyard, after which materials can be brought by other ships. Both controls are used in GGDM, but it is important to be cognizant of the reasons. The Concierge may alter Existential Patent building costs before the game without any realistic basis, for example, making Shipyards more or less expensive or changing the build speed of the game.

“In the 57th century, travel between the stars has long been an accepted fact of life. Starships with powerful jump drives form the basis of interstellar commerce and the warships that protect that commerce. But jump drives are bulky and take up volume that could be filled with defensive systems or offensive weaponry. A specialized vessel, optimized for large fleet actions, gained popularity during the Second Imperium and came to completely dominate the fleets of the Third Imperium.”

These vessels had no jump drives, had nothing in fact not directly related to producing the most effective line-of-battle combatant possible. They were carried across the interstellar distances by huge jump tenders, vessels with little or no combat ability of their own, which would release their deadly cargo before the battle began and then withdraw to a safe distance. These warships became the very symbol of large fleet actions. Because they were carried from star to star, they were called battle riders.”

– Traveller: The New Era Battle Rider (1994) game box, back

System Boats: Any vessel larger than a Fighter (and not an Orbital Platform) but without a Stardrive and capable of independent operation in a starsystem, is called a System Boat. Like Starships, System Boats occupy system space and necessarily have the ability to instantly move to any place in the system as Interplanetary Movement. System Boats have no Operational Flight (OFL) or Operational Supply Limitations (OSL); that is, they cannot exist without a supporting colony or Log Ship (see Ship Systems, 3 Movement, p. 854 *et seq.*, *infra*). While there are no Existential Patents for System Boats, there are various specialized niches that could be filled by System Boats which might be more economical (lacking Stardrives) than Starships:

- ✓ For example, system boats could be built for system defense, carry fighters or to move interplanetary cargo (but not significant populations). It is also possible to develop sophisticated systems involving combinations of starships and system boats for Commerce and Combat Power activations, for example, the Traveller RPG Tender Ships and Battle Riders (*ut supra*). Tenders may or may not also carry Fighters (see Fighters, 1 Carriers & Fighters, p. 1046, *infra*), but they are not primarily Carriers.

Positions are free to develop Patents required to construct System Boats. For the purposes of the Construction Power, System Boats should be significantly cheaper than their Starship counterparts, and it may also be possible, depending on the details of the Patent, to build System Boats in one Regular Turn using either the Lay Keel or Shipbuilding purposes of the Construction Power.

- **Maiden Voyage:** Newly constructed ships *and system boats* automatically receive a crew (as part of the process) and are ready to accept orders on the next Regular Turn. Newly constructed ships and system boats begin with the active Constructural Elements of their origin world, which may change over time (see New Ships and Lost Worlds, 3 Constructural Elements, p. 204, *supra*). Origin and Native Population Types of crews are not tracked in-game.

“But it was not until the years following the 1898 Spanish-American War – during which the inability to resupply coal at sea led to one of four battleships missing a major action – that the Navy began to develop systematic at-sea replenishment. The most successful idea used equipment exclusively located on colliers to transfer bags of coal, though it quickly became obsolete with the Navy’s shift to oil-burning engines. These early efforts nevertheless provided important foundations for subsequent systems.”

– Commander John A. Lukacs IV, USN, “A Century of Replenishment at Sea,” CNO Naval History Essay Contest 2017, pub. August 8, 2018 on www.history.navy.mil

Pre-Modern Naval History: The implications of this cannot be understated. Replenishment of ships at sea is a 20th Century innovation; all naval history and strategy before then must be viewed in that light. Science-fiction literature, to the extent that it addresses the issue, has been ambivalent on the issue of ship supply, but GGDM is very particular on this (in a tendentious-pedant way), see 3 Movement generally, *infra*.

Further, most people do not realize that until the mid-18th Century, just before the American Revolution, mariners had no reliable means of determining longitude – pendulum clocks don’t keep time on a rocking boat at sea (I’ve been on three U.S. Navy ships at sea). The mini-series Longitude (2000) adapted from the 1995 book tells the story of John Harrison and his son in their struggles to win the Longitude Prize for his invention of the maritime chronometer (ancestor of the wrist watch). The movie, I recall, shows a couple of disastrous scenes, one ship suffering from scurvy that is lost and needs to find land to obtain fresh water, in another a fleet of ships wrecked up on rocks at the Isles of Scilly in 1707 because of a navigational error. Four Royal Navy ships were sunk, 1,500 to 2,000 died, a fifth was damaged, but refloated.

- ✓ Longitude minseries (2000) is discussed again 2 Eras, EN 2, p. 776, *infra*.
- ✓ The Longitude Act is discussed again in History Patented, 1 Patents, p. 726, *infra*.

Transfer and Resupply: Newly constructed ships (including Temporal Ships, see 2 Temporal Technology, p. 817, *infra*) are automatically supplied with crew, food, fuel, spare parts, medicine, whatever is required to allow the ship to employ its maximum Operational Flight Limitations (OFL) and Operational Supply Limitations (OSL) (see, 3 Movement, pp. 855-856, *supra*). Newly constructed ships also automatically benefit from all applicable Continuous Operational Technologies at the time of completion. But, new ships are not automatically supplied with Enhancement Technologies, such as Ship Missiles, Fighters, whether expendable or not.

- ✓ Newly constructed Logistical Ships (hereafter “Log Ships”) are not automatically loaded with extra *Supplies* (see Logistical Support Ships, 3 Movement, p. 860, *infra*).
 - ✓ Newly constructed Cargo Ships *are not automatically loaded* with RPs. That requires an Activation of the Commerce Power at a sovereign colony on *any Regular Turn after* the Cargo Ship is constructed (see Uploading, 2 Commerce, p. 1199, *infra*) if the ship began the Regular Turn in the system with the colony.
 - ✓ Populations *are not automatically loaded onto or appear on* newly constructed Colony Ships. That requires a separate activation of the Expansion Power on *any Regular Turn after* completion of the Colony Ship to Load Population to Colony Ships when it begins at a sovereign colony (see Sardine Tins, 3 Expansion, p. 911, *infra*).
- **Free Resupply:** Any ship arriving at any Supporting Colony (see Supporting Colony, 1 Movement, p. 840, and Operational Flight Limitation, 3 Movement, p. 855, *infra*) automatically has its Operational Flight Limitation (OFL) and Operational Supply Limitation (OSL) reset by receiving supplies from the colony. No Power Activation is required and there is no RP cost for this basic type of resupply; it just occurs automatically in the course of operations. Additionally, ships arriving at a Supporting Colony automatically receive the benefits of all new, applicable Continuous Operational Technologies (COT) developed in their absence (see Continuous Operational Technologies, 2 Patents, p. 740, *infra*). The cost of these upgrades is assumed in the development cost of the new technologies, which was paid from the Treasury. Because no Power Activation is required, *free resupply and upgrades are*

never effected by inactive Constructural Elements on either the ship or colony; however a colony currently involved in a Colony Combat cannot act as a Supporting Colony.

- ✓ The exception to this rule are Temporal Ships (aka ‘T-Ships’) who must always automatically make a surreptitious entry attempt on arrival and who must reveal themselves to receive any resupply or updates. See Dark Tea, 2 Temporal Technology, p. 821, and Surreptitious Entry, 3 Temporal Technology, p. 828, *infra*.

In reality, RPs should be subtracted from the colony’s next Taxation for the cost of resupplying the ships but the free resupply is a concession to ease of play, playability and to the fact that this is a space-opera setting.

- Costly Resupply: For all other types of resupply from the colony, including providing *Supplies* to Log Ships, or providing or transferring Ship Missiles or Fighters and other expendable Enhancement Technologies to any Warship or Log Ship (or boats), or to ‘upgrade’ ships with new permanent Enhancements resulting from Enhancement Technology Patents, requires an activation of the Construction Power for the purpose of Ship Supply. One activation of the Construction Power at a colony for the purpose of Ship Supply allows an ‘unlimited’ number of provisioning and transfers (*ut supra*) to any number of friendly ships (or boats) which *begin* the Regular Turn in the colony’s system, limited only by the colony’s local Gross Domestic Product (GDP) (see 1 Construction, p. 662, *supra*).

“Log Ship” is short for Logistical Support Ship and capacity is measured in RPs, see 3 Movement, p. 860, *infra*. There is no provision for transfers to or from non-sovereign colonies, however, see No Tribble At All, 2 Commerce, p. 1204, *infra*.

- ✓ *Supplies* are measured in RP cost and a Log Ship’s capacity is measured in RPs of Supplies and Enhancements it can carry (see Take Your Protein Pills, 3 Movement, p. 860, *infra*). A 1st Era Log Ship has a capacity of 20 RPs, which may be improved by subsequent Continuous Operational Technology (COT) and Enhancement (EP) Patents (see 2 Patents, p. 740, *infra*).
- ✓ *Supplies* transferred to Log Ships and any *permanent* Enhancement Technology, are assumed to be ‘constructed’ at the time of the transfer and thus, require the immediate expenditure of RPs by the colony (subtracted from the Treasury), up to and against the GDP limits of the colony during any activation of the Construction Power.
- ✓ As a game artifact, *Supplies* only exist on Logistical Ships. They ‘store’ RPs, do not ‘age-out,’ but are also non-redeemable to RPs, and as a very general matter, are probably not transferrable or usable to aliens...but that is negotiable in space-opera setting.
- ✓ Like other activations of the Construction Power, activation for the purpose of Ship Supply may share a Scene with other Construction and Commerce Power Activations at the same colony in the same Regular Turn, for the purposes of Scrapping or Loading and Unloading Cargo Ships, as applicable.
- ✓ A ship may receive from multiple colonies located in the same system, in the same turn, as long as the Construction Power is properly activated on each of the colonies that are transferring to the ships.

➤ **Transfers:** Preexisting Fighters and Ship Missiles and other *expendable* Enhancements may be transferred between eligible ships *or* between colonies and orbital defenses at a colony automatically, *with no Power Activation required*, at the *beginning of the turn* if the receiving units *begin the Regular Turn* in the same system. Enhancements may be transferred directly from bases to ships and vice-versa.

- ✓ Ships executing a Short Movement arrive at the destination at the end of the same Regular Turn as they departed and thus are in the system at the beginning of the next Regular Turn. See Space Hop, 2 Movement, p. 850, *infra*.
- ✓ Ships completing a Long Movement arrive before the first Power Activation of the Regular Turn and thus do not begin the Regular Turn in the system. This bit of timing can be crucial. See, Long Jump, 2 Movement, p. 851, *infra*.
- ✓ Because the transfer occurs at the beginning of the Regular Turn, items that are transferred cannot be built during the same turn they are transferred, they must preexist the transfer turn. Planning is key...“timey-wimey stuff.” (Dr. Who, “Blink” (2007)).

Transfer of Fighters, Ship Missiles and other *expendable* Enhancements from a colony to any eligible ship requires that the Fighters, Ship Missiles or *expendable* Enhancements be located on the colony *before* the beginning of the current turn (they may be constructed by a previous activation of the Construction Power for the purpose of Colony Enhancement). That is, unlike loading *Supplies* to Log Ships or upgrading current ships with permanent Enhancements, Fighters, Ship Missiles and generally expendable Enhancements are not assumed to have been “constructed” on the turn they are transferred; they must already exist on the colony.

- ✓ All provisions and transfers using an activation of the Construction Power for the purpose of Ship Supply are subject to two checks related to inactive Constructural Elements. First, the target colony must be checked to see if it obeys the Power Activation. If it does, it will attempt to execute the Ship Supply as ordered, and thereafter, each target ship must be checked individually to see whether it obeys the Power Activation and accepts the transfers and provisioning. If the colony fails to obey the Power Activation, nothing will be transferred, ship checks are irrelevant.
 - ✓ Transfers to, from and between ships and colonies at a planet with a non-sovereign **alien colony** (i.e. a Balkanized planet) also require *apostasy* checks, see Alieneq Apostasy, 3 Disruption, p. 283, *supra*.
- **Bye, Bye Birdie:** RPs and most other transferable items may not be transferred between colonies in the same system without some appropriate means of transporting them, however, Fighters are easily capable of making the transfer between any two colonies owned by the same position located in the same system, without the need for assistance from a ship. The transfer may be made instantaneously if neither colony is currently besieged (see Besieged Colonies, 3 The Sidereal Stage, p. 124, *supra*) and the receiving colony is capable of accepting the incoming Fighters.

Generally, the game rules do not anticipate the ability or desire to transfer existing installations, such as Industry and Defense Bases; the rules only address the transfer of RPs (which are used to build installations and enhancements at the destination – which could indirectly be construed to mean that at least significant pre-manufactured, modular parts were transferred) and enhancements to and from colonies and ships. It is not considered impossible to

load or tow an Orbital Defense Base, or anything else, but positions will need to develop both the need and the capabilities to do so within the course of the game.

- ✓ Massive oil drilling platforms have been towed many times over great distances from where they were constructed to oil fields. I saw a megastructure show once about such an endeavor, a massive oil rig being towed by perhaps 9 tug boats. On a related note, the *USS Cole* was lifted out of the water and transported on the deck of the semi-submersible heavy lift ship *MV Blue Marlin*; there are many photos of the *MV Blue Marlin* transporting huge radar systems and other U.S. Navy ships. In 1988, the *MV Mighty Servant 2* (which had to be modified) was used to transport the mine-damaged *USS Samuel B. Roberts* from Dubai to Newport, Rhode Island, a voyage of 101 days costing \$1.3 million.

Logistical Ships (or Boats) can be used to transfer enhancements between colonies in the same system, but not Fighters (*ut supra*), RPs or *Supplies*. For transfer of RPs between colonies in the same system, see Carting, 4 Commerce, p. 1229, *infra*.

“The storm looked worse than just a blow, maybe a city killer even, the way the clouds swirled and scattered lightning across the wrecks offshore [...]
His father claimed that the storms were worse every year, but Nailor had never seen anything like the monster bearing down on them.”
 – Paolo Bacigalupi, *Ship Breaker* (2010) ⁴

Ship Breaking: “Scrapping”⁵ is the process by which something is taken apart at a colony in such a way that whatever is still usable, given the current technology, is recycled. If it is desired that something be instantly destroyed, then it should either be taken into combat or a News Event used to accomplish the instant destruction (no one is likely to complain about using a News Event to instantly destroy your own stuff). Scrapping permanently removes the item, unit, installation or ship from the game; something Scrapped cannot be reconstituted.

Scrapping in GGDM is thus not the same as mothballing. There is no provision in GGDM for mothballing ships and installations (mothballing is not the same as temporal stasis) and has no use. There is no Qualor II Surplus Depot Z15 in GGDM and no need to send Counselor Troi:

- ✓ “He probably figures that we don’t get to see a lot of handsome women out this way, and someone like you might get a little more cooperation out of me. [pause] He’s probably right.” – Klim Dokachin (quartermaster of the junkyard), speaking to Counselor Troi, ST:TNG “Unification” (1991).
 - Troi negotiating with the Quartermaster is the only bit I recall 30 years later.

Three of the *Iowa Class* battleships of WWII were mothballed in 1955 and 1958 as they became tactically obsolete and vulnerable to ship-to-ship missiles, their costs were reduced to maintenance so that resources could be diverted elsewhere. The *USS New Jersey* remained in operation during the Vietnam War and was decommissioned in 1969; in the 1980s, all four of the *Iowa-class* battleships were refitted and reactivated into service as the argument swung to their potential as massive ship gun and missile platforms with improved defense systems. The *USS New*

Jersey was deployed to the coast of Lebanon in 1983 and fired salvos of 16-inch naval shells inland from November 1983 to February 1984 with questionable accuracy. The battleships were featured in Tom Clancy's Red Storm Rising (1983). All were deactivated in the 1990s.

- Junkyard Blues: Anything that can be brought to a Friendly, Converted, or Naturalized Colony, or that is located on any Colony (that is, belongs to the colony) can be scrapped, with the exception that any ship (i.e. Colony Ship) or Orbital City with population still on it cannot be scrapped. There is no limit to the amount of 'stuff' that can be Scrapped at a colony in a turn (based on the same argument offered earlier regarding unloading Cargo Ships).

Note, however, that Scrapping is a separate activation of the Construction Power that may be accomplished concurrently with (and separately from) another activation of the Construction Power for another purpose, and concurrently with activation of the Commerce Power for the purposes of Loading or Unloading Cargo Ships at the same colony in the same Regular Turn.

- ✓ Note that the 'scrapping' process occurs automatically for Colony Ships when they are Landed to establish a new colony. No RPs are received for this particular type of 'scrapping' activity, but a new colony is established. Be happy with that result! See, Pandorum, 4 Expansion, p. 923, *infra*.

There are limits to the amount of installations and units that may be on or at a colony, but GGDM places no limits on the number of ships a position may have in system space or in total (see Strategic Shipyarding, *ut supra*), nor does GGDM address specifically the subject of obsolete ships.⁶ Further, while GGDM does include maintenance cost, there is no specific per unit maintenance cost in GGDM. Or perhaps it is made up in other places, see e.g., The Roads Must Roll, 4 Order, p. 567, *supra*. Thus, the scrapping rules may seem a bit superfluous, of limited use, but are included for completeness and for whenever the situation may arise – for example, if the positions sign a universal peace treaty that requires the immediate destruction of all warships!☺

- Recycling Containers: The amount of resources (RPs) received from Scrapping anything is generally between 25% and 50% of the cost of building the item. The amount received is solely at the discretion of the Concierge, however, in most cases the Concierge may simply resort to a die roll to determine the amount received back from Scrapping. For that purpose, even though all of the Power Activation costs for the Construction Power are the same, Scrapping would have to be resolved first. To be consistent with the other Construction Power rules, all RPs received from Scrapping must be either used for other Construction Activations at the same colony on the same turn, or loaded onto Cargo Ships at the same colony in the same turn. RPs received from Scrapping will not be added directly to the Treasury. Because of this, the Concierge and players may need to predetermine RPs received from Scrapping before the Power Activation to avoid guessing, confusion or waste of RPs.

"The most remote location on Earth has many names: It's called Point Nemo (Latin for 'no one') and the Oceanic Pole of Inaccessibility. Most precisely, its exact coordinates are 48 degrees 52.6 minutes south latitude and 123 degrees 23.6 minutes west longitude. The spot is about 1,450 nautical miles from any spot of land – and the perfect place to dump dead or dying spacecraft, which is why its home to what NASA calls its 'spacecraft cemetery..' To 'bury' something in the cemetery, space agencies have to time a crash over that spot. Smaller satellites don't generally end up at Point Nemo...."

The problem is larger objects, like Tiangong-1: the first Chinese space station, which launched in September 2011 and weighs about 8.5 tons.... Between 1971 and mid-2016, space agencies all over the world dumped at least 260 spacecraft into the region, according to Popular Science. That tally has risen significantly since the year 2015, when the total was just 161, per Gizmodo. Buried under more than two miles of water is the Soviet-era MIR space station, more than 140 Russian resupply vehicles, several of the European Space Agency's cargo ships (like the Jules Verne ATV), and even a SpaceX rocket, according to Smithsonian.com....

These dead spacecraft aren't neatly tucked together, though. [Bill] Ailor said a large object like Tiangong-1 can break apart into an oval-shaped footprint of debris that extends 1,000 miles long and dozens of miles wide. Meanwhile, the land-free zone around Point Nemo stretches more than 6.6 million square miles.... While not all spacecraft wind up in the cemetery, the chances are extremely slim that anyone would get hit by debris regardless of where the spacecraft break up on Earth, Ailor said.... A bigger risk is leaving dead spacecraft in orbit."

– Dave Mosher, “A spacecraft graveyard exists in the middle of the ocean – here’s what’s down there,” Business Insider, October 22, 2017 ⁷

Endnotes.

¹ Commentary: In a chillingly deranged scene in the movie, Hitler has one last meeting with Speer in the *Führerbunker* where he comments while looking at the famous planning model of the city that it will be easier to rebuild Berlin after Germany wins the war because it has been mainly destroyed by bombing and fighting.

² Citation: <http://news.bbc.co.uk/2/hi/europe/1800287.stm>.

³ Commentary: Contrary to popular myth, the Death Star under construction at Endor was not functional! Any portrayal of the hapless Death Star firing at Rebel Star Cruisers is just part of the Rebel propaganda film *The Return of the Jedi*. The cowardly Rebels really destroyed a defenseless ship, murdered thousands of loyal imperial servants.

⁴ Commentary: I once read a case at Admiralty Law before the Federal Court in New Orleans. Defendant company operated a fleet of coastal transport ships; one ship captain ignored initial NWS storm warnings and waited too long to make for shelter on land. The ship arrived in New Orleans just before the storm and tied up at the dock, it didn't have time to go farther up the river. Other ships had heeded the warning and moved up river to (Kingsport?) Mississippi. The storm arrived in New Orleans and the surge tore the ship loose from the dock; the ship was found a half mile inland on the roof of a house.

⁵ Commentary: Scrapping of Western electronic waste has become a major third world industry, with millions of television sets and old CRT monitors and other electronics, being shipped overseas every year to be scrapped for precious metals by poorly-paid, unprotected children and adult workers who are exposed to hazardous wastes. The precipitous drop in flat screen costs and the forced change to digital television will only make this problem worse, or alternatively, fill our landfills with unprocessed electronic junk (most places have since banned electronic junk from landfills, so now it gets tossed into empty lots or left on the curb where garbage collectors will not pick it up; this has become an urban problem). Please properly recycle your electronic waste using reputable disposal services.

⁶ Commentary & Clarification: Long ago and far away (1989 in Camp Pendleton, California), my friends and I used to play an early computer game called *Colonial Conquest* (the subject of a Kickstarter in 2017) on Atari 1040 ST. The game had a spy function where players could pay to look at other player's territories to see how many troops were there before attacking. The program also provided AI opponents. However, the AI would do strange things, e.g., you might see 4 million troops on an AI-owned island that could not hold 100,000 troops! GGDM attempts to prevent this at least on planet surfaces, but system space is effectively infinite in the game.

⁷ Citation & Commentary: In about 10,000 years, some archeologist will find Point Nemo after the oceans have dried up; a large part of our paleo-archeological information comes from burials and waste dumps.

SHARD: IV. The Secret of Fire

The Farmer and the Fox

A FARMER, who bore a grudge against a Fox for robbing his poultry yard, caught him at last, and being determined to take an ample revenge, tied some rope well soaked in oil to his tail, and set it on fire. The Fox by a strange fatality rushed to the fields of the Farmer who had captured him. It was the time of the wheat harvest; but the Farmer reaped nothing that year and returned home grieving sorely.

Translated by George Fyler Townsend. Aesop's Fables (p. 47). Amazon Digital Services, Inc..

Excerpt from Alia E. Dastagir, “How American culture went nuclear – without us realizing it,” USA Today, August 6, 2015

In the beginning, the peace symbol didn’t mean “peace” at all.

It was designed in 1958 as the logo for the Campaign for Nuclear Disarmament, formed after the atomic bomb was dropped on Hiroshima, Japan, 70 years ago Thursday, followed three days later by the bombing of Nagasaki. Over time, the logo was appropriated – as symbols often are – and redefined. The peace sign is actually a combination of semaphore signals (flag code) for the letters N(uclear) and D(isarmament). Trippy.

Those macabre events of 70 years ago have permeated our everyday lives in ways we aren’t always aware. It’s there, often inconspicuously, in symbols, in language and in popular culture. The question is whether there are consequences for our obtuseness.

During the Cold War, nuclear culture, which embodied the daunting reality of nuclear weapons, was widely recognized (“duck and cover” drills). When the war ended, the nuclear threat didn’t disappear. It just became less noticeable.

“The end of the Cold War and the end of the expansion of the nuclear reactor industry caused a sea change,” said Spencer Weart, a physicist, historian and author of the book Nuclear Fear: A History of Images. “Nuclear culture is still there, but it’s now part of the collective unconscious.”

Has that made people less aware of the very real threat of a nuclear war?

At the start of 2015, nine countries – the United States, Russia, the United Kingdom, France, China, India, Pakistan, Israel and North Korea – possessed about 15,850 nuclear weapons, according to the Stockholm International Peace Research Institute. Roughly 1,800 of these weapons are kept on high-alert status.

According to the Pew Research Center, Americans have become less concerned about a nuclear attack. A 2014 Pew report found 23% of respondents believe nuclear weapons are the greatest threat to the world. That’s down from 25% in 2007 and 33% in 2002.

IMAGERY

The use of the nuclear disarmament logo by other social justice movements is an innocuous seizure. The Campaign for Nuclear Disarmament, which never copyrighted the symbol, is happy to see it widely used as a sign of peace, said activist Kate Hudson, general secretary for the organization.

But a discomfiting nuclear image has also been appropriated by popular culture: the mushroom cloud.

After the atomic bombings, the mushroom cloud evoked a powerful, violent picture of enormous destruction. It took out two cities and killed thousands of people. It was serious imagery. Today, the mushroom cloud is sometimes used as a comedic tool. Kid annoys dad, trains crash, face goes red, mushroom cloud.

Robert Thompson, director of Syracuse University’s Bleier Center for Television and Popular Culture, finds the mushroom cloud’s omnipresence in comic montages bewildering.

“It would be like using the entry gate to Auschwitz,” Thompson said. “I wouldn’t think it would be trivialized, but it has been.”

LANGUAGE

People use language every day that’s inspired by nuclear technology. “Going nuclear” has become a common expression for the ultimate or extreme action you take when all else has failed.

The term “ground zero,” now attached to the site of the destroyed World Trade Center towers, originally referred to the bombings of Hiroshima and Nagasaki and the point on the ground below the detonation of the bomb. Thompson said the term became “resacralized” after the Sept. 11, 2001, terror attacks.

When you heat up something in the microwave, you “nuke it.” Even though what’s actually happening in your microwave has nothing to do with nuclear energy. It shows how people have domesticated the power of the explosion. Albeit, incorrectly.

TV/FILM

Back in the 1960s, Weart says, a psychologist gave people a word-association test as part of a study. The tester said “nuclear,” and the subjects answered with words like “bomb,” “laboratory” and “war.” The question was asked again in the 1990s, with subjects repeating many of the same words, except adding a new term: “The Simpsons.”

Since the nuclear age began, there’s been an explosion of films and TV shows about the horrors of nuclear technology – some plausible (*The Day After*), some mythical (*Godzilla*).

But there’s been a shift in how films deal with the nuclear equation.

Weart says the Terminator franchise is typical of this idea of the unconscious nuclear culture. “It shows very graphic images of nuclear war, but it’s the background of the story. It assumes we understand it,” Weart says. “It works its way into the subconscious because you never actually stop and think about it.”

Excerpt from Susan Southard, “What U.S. citizens weren’t told about the atomic bombing of Japan,” Los Angeles Times, August 6, 2015

Today, Americans’ silence on this crucial chapter of the atomic bomb story is, in large part, an extension of U.S. denial and suppression since the end of the war. Immediately after the bombings, high-level U.S. officials publicly – and adamantly – refuted news reports about the bombs’ horrific aftereffects. Gen. Leslie Groves – director of the Manhattan Project where the atomic bombs were developed – dismissed these reports as propaganda, even as he sent teams to measure radiation levels to ensure the safety of U.S. troops about to enter both cities. Later that year, Groves testified before the U.S. Senate that death from high-dose radiation exposure is “without undue suffering” and “a very pleasant way to die.”

In Nagasaki, newborn death rates skyrocketed in the nine months after the bombing: 43% of pregnancies in which the fetus was exposed within a quarter mile from the hypocenter ended in spontaneous abortion, stillbirth or infant death. Young mothers giving birth in the ruins did not know it yet, but even those infants who survived would face severe physical and mental disabilities.

For years, tens of thousands of hibakusha (“atomic bomb-affected people”) suffered agonizing radiation-related illnesses. Many died. Meanwhile, Gen. Douglas MacArthur’s occupation press code censored Japanese news accounts, personal testimonies, photographs and scientific research on the survivors’ conditions. In the United States, virtually all reports about the devastation and radiation-related deaths stopped after a confidential memo to American media outlets requested that all reports about the atomic bombs be pre-approved by the War Department – particularly those containing scientific or technical details.

In 1946 and 1947, opposition to the bombings began appearing in U.S. media – including John Hersey’s “Hiroshima,” first published in the *New Yorker*, and a scathing essay by journalist Norman Cousins in the *Saturday Review*. U.S. government and military officials hurriedly strategized how to prevent what they considered “a distortion of history” that could damage postwar international relations and threaten U.S. nuclear development. Two articles by prominent government officials – the first by Karl T. Compton, a respected physicist who had helped develop the atomic bombs, and the second by former Secretary of War Henry L. Stimson – offered intelligent and persuasive “behind the scenes” perspectives on the U.S. decision to use the bombs. These powerful justifications effectively quelled civic dissent and directed focus away from the ongoing suffering of the people of Nagasaki and Hiroshima.

By the early 1950s, hibakusha cancer rates for adults and children soared, and many more hibakusha developed liver, endocrine, blood and skin diseases, and impairments of the central nervous system. Mortality rates remained high. Most commonly, survivors experienced violent dizzy spells and a profound depletion of energy. Fears about genetic effects of radiation exposure on their children haunted them for decades. Thirty years after the war, high rates of leukemia as well as stomach and colon cancer persisted. From the survivors’ perspective, the atomic bomb had burned their bodies from the inside out.

As Japanese and U.S. scientists continue studying hibakusha, their children and grandchildren to try to comprehend the full impact of radiation exposure, can we come face to face with the terrorizing realities of nuclear weapons? We don’t have to suppress our condemnation of Japan’s attack on Pearl Harbor, mistreatment and killings of Allied POWs, and slaughter of civilians across Asia to do so. Our full understanding of history will deepen our integrity as a nation and impact our current and future nuclear weapons policies across the world.

**Excerpt from Herman Wong, “How the Hiroshima bombing is taught around the world,”
Washington Post, August 6, 2015**

Also, these Reddit comment threads speak to the changing currency of textbooks, pillars of knowledge whose preeminence has dimmed in a world where books, articles and discussions are readily available to the curious mind. The comments are edited for length, but not for grammar or typos.

Japan

In response to comment asking for anyone taught in Japan:

My wife is Japanese, born and raised in Hiroshima. Her grandparents witnessed the bomb from two different locations just outside the city as children.

She has told me about how they were taught about the bomb in her school in Hiroshima. It seems they have special classes all about the bomb. She says they learn technically how it works, all

about the effects of radiation, and about its development. She says they are taught about the decision making process behind the decision to drop it. She says they are taught in great detail about the physical and psychological effects of being directly affected by it. They are also taught about the aftermath of the bomb with regards to rebuilding the city.

It sounded very different from the lesson taught to me in U.S. schools — that the bomb was a “necessary evil” that was going to cost less lives than the supposed only alternative of an invasion of the Japanese main islands.

The Peace Memorial Park in Hiroshima is visited by the young students. They can see the A-bomb Dome from their equivalent of Central Park. In other words, there are constant reminders of this tragedy that put their city on the map.

My wife told me that these special classes on the A-bomb are only taught in Hiroshima and Nagasaki and are not part of the national curriculum in Japan in general.

The rest of the world

- I am an Australian who learnt about the bombings primarily through Japanese language class. As you can probably guess there was a bias toward the Japanese with a focus on the lives lost (mostly stories about children during and born after the bombings).
- Brazilian here. I remember this part of World History being very sad and polemic. Our teachers tried hard to show us the consequences and power of the bomb.
- Canadian here. ... I remember being taught that the second bomb was unnecessary. My social studies teachers tended to vilify the U.S. for Nagasaki.
- Chilean here. It was only pointed as the weapon that ended the war. Really brief.
- French here. Basically we see the bombings as part of the atrocious disasters of World War 2, through the technological advanced massive killings weapons “progress”.
- German here. In school, most of the history of war was about the German atrocities. ... Other atrocities (killing of native Americans, Hiroshima, CIA involvement in toppling democratic states leading to torture etc.) were not covered at all, or only very briefly.
- In Greece, it goes like this: The WWII ended with the atomic bomb of Hiroshima and Nagasaki. That’s it, really, just a reference.
- What I was taught in India was that even though the Japanese never surrendered, when there was a possibility of a nuclear threat, they were ready to surrender. However, the president at the time chose to do it anyway to send a message to the world (or mainly the USSR). Nowadays, when we were taught this important moment in Indonesian history, the bombing of Hiroshima and Nagasaki was seen as a stepping stone that eventually provided the opportunity to proclaim our independence.
- Iranian here. They teach us that the U.S dropped one bomb, Japan surrendered, the U.S dropped the other bomb to test it.
- Italian here. In 4th grade (10 years old) we studied it the first time, dedicating a lot of time to the victims and the horrors of the bomb.... Later on, in middle school and high school the message was always the same: the Americans compellingly “thought” the bomb was the ONLY thing that could end the war.

- Korean here and I attended a school in Seoul. From what I remember being taught about the bomb while in Korea was 2 parts — first, to end a long drawn out invasion of Japan and any territories in order to secure a surrender. There were moral considerations but mostly the discussion involved the mechanics of using war technology developed during a time of war to save American lives. And secondly, to demonstrate to the world that the US had the technology and was willing to use it as the US considered a post war political climate.
- Here in Lithuania it just said the US needed to finish the war with Japan quickly but at the same time they needed to show strength. So that they will be taken seriously in the future.
- Malaysia. There wasn't much detail explained about the bombing, just that it happened after Pearl Harbor and the Japanese surrendered after that and then the war ended.
- I'm from Mexico, and I remember there was some emphasis on how the bomb was unnecessary (since the war was already drawing to a close) and how it was one of the many atrocities of the war.
- Netherlands here. The main narrative in high school history was the cost of invasion and the political desire for a swift end to the war.
- In New Zealand I was taught it was to speed the end of the war. The morality of it was questionable but understandable in the context of the time (i.e. no one at the time knew about black rain and the horrible drawn out deaths from radiation). The reasons for dropping it were to save American lives in a landing on the main islands after the high casualties in Okinawa and other island hopping campaigns.
- Singaporean. The main questions raised were not why the bombs were dropped, but why they were dropped so late, and only after so many died and suffered.
- Here in South Africa, we learned why the bombs were dropped, and whether that was reasonable as an action of war and as a prevention of even more deaths. We read/listened to countless primary sources, and ended the quarter with a week-long debate on whether or not it was justified.
- Swede here. We were mostly just taught about the war going on in Europe from what I can remember. ... It almost felt like we were running out of time at the end of the semester; "The Japanese attacked Pearl Harbor so the Americans dropped two bombs to end that fight".
- I was taught in Switzerland. We were taught about them as more of a start to the Cold War, rather than as an end to the Second World War. This was because it was viewed as an American show of nuclear strength to the Soviets in order to act as a deterrent, rather than just an act of aggression against Japan.
- UK History teacher here (secondary). I like to use it as an example to develop the student's argument formation. It's usually taught as a standalone lesson with the topic 'Was the dropping of the atomic bombs justified?' Give the kids evidence, reports, accounts and let them make up their mind.

Autocatalyst & Abandonment

Selections from Jared Diamond's Pulitzer Prize winning book,
Guns Germs and Steel: The Fates of Human Societies

BECAUSE TECHNOLOGY BEGETS more technology, the importance of an invention's diffusion potentially exceeds the importance of the original invention. Technology's history exemplifies what is termed an autocatalytic process: that is, one that speeds up at a rate that increases with time, because the process catalyzes itself. The explosion of technology since the Industrial Revolution impresses us today, but the medieval explosion was equally impressive compared with that of the Bronze Age, which in turn dwarfed that of the Upper Paleolithic.

One reason why technology tends to catalyze itself is that advances depend upon previous mastery of simpler problems. For example, Stone Age farmers did not proceed directly to extracting and working iron, which requires high-temperature furnaces. Instead, iron ore metallurgy grew out of thousands of years of human experience with natural outcrops of pure metals soft enough to be hammered into shape without heat (copper and gold). It also grew out of thousands of years of development of simple furnaces to make pottery, and then to extract copper ores and work copper alloys (bronzes) that do not require as high temperatures as does iron. In both the Fertile Crescent and China, iron objects became common only after about 2,000 years of experience of bronze metallurgy. New World societies had just begun making bronze artifacts and had not yet started making iron ones at the time when the arrival of Europeans truncated the New World's independent trajectory.

The other main reason for autocatalysis is that new technologies and materials make it possible to generate still other new technologies by recombination.

Diamond, Jared. Guns, Germs, and Steel: The Fates of Human Societies (p. 247). W. W. Norton & Company. Kindle Edition.

A society that temporarily turned against a powerful technology would continue to see it being used by neighboring societies and would have the opportunity to reacquire it by diffusion (or would be conquered by neighbors if it failed to do so). But such fads can persist in isolated societies.

A famous example involves Japan's abandonment of guns. Firearms reached Japan in A.D. 1543, when two Portuguese adventurers armed with harquebuses (primitive guns) arrived on a Chinese cargo ship. The Japanese were so impressed by the new weapon that they commenced indigenous gun production, greatly improved gun technology, and by A.D. 1600 owned more and better guns than any other country in the world.

But there were also factors working against the acceptance of firearms in Japan. The country had a numerous warrior class, the samurai, for whom swords rated as class symbols and works of art (and as means for subjugating the lower classes). Japanese warfare had previously involved single combats between samurai swordsmen, who stood in the open, made ritual speeches, and then took pride in fighting gracefully. Such behavior became lethal in the presence of peasant soldiers ungracefully blasting

away with guns. In addition, guns were a foreign invention and grew to be despised, as did other things foreign in Japan after 1600. The samurai-controlled government began by restricting gun production to a few cities, then introduced a requirement of a government license for producing a gun, then issued licenses only for guns produced for the government, and finally reduced government orders for guns, until Japan was almost without functional guns again.

Contemporary European rulers also included some who despised guns and tried to restrict their availability. But such measures never got far in Europe, where any country that temporarily swore off firearms would be promptly overrun by gun-toting neighboring countries. Only because Japan was a populous, isolated island could it get away with its rejection of the powerful new military technology. Its safety in isolation came to an end in 1853, when the visit of Commodore Perry's U.S. fleet bristling with cannons convinced Japan of its need to resume gun manufacture.

That rejection and China's abandonment of oceangoing ships (as well as of mechanical clocks and water-driven spinning machines) are well-known historical instances of technological reversals in isolated or semi-isolated societies. Other such reversals occurred in prehistoric times. The extreme case is that of Aboriginal Tasmanians, who abandoned even bone tools and fishing to become the society with the simplest technology in the modern world (Chapter 15). Aboriginal Australians may have adopted and then abandoned bows and arrows. Torres Islanders abandoned canoes, while Gaua Islanders abandoned and then readopted them. Pottery was abandoned throughout Polynesia. Most Polynesians and many Melanesians abandoned the use of bows and arrows in war. Polar Eskimos lost the bow and arrow and the kayak, while Dorset Eskimos lost the bow and arrow, bow drill, and dogs.

These examples, at first so bizarre to us, illustrate well the roles of geography and of diffusion in the history of technology. Without diffusion, fewer technologies are acquired, and more existing technologies are lost.

Diamond, Jared. Guns, Germs, and Steel: The Fates of Human Societies (pp. 246-247). W. W. Norton & Company. Kindle Edition.

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“There can be small men in science just as there are small men in government or business. In fact it is one of the disadvantages of big science, just as it is of big government, that the availability of huge sums attracts a swarm of elbowing and contentious men to whom great dreams are less than protected hunting preserves.” – Loren Eiseley, “The Illusion of the Two Cultures” (1964)

Intelligent Animals: Technology is an organized body of knowledge about the physical universe that allows sentient beings to manipulate the physical universe to produce desirable results.¹ Technology is (a body of information about the physical universe) + (need) + (intellect) + (application to a practical problem), and (intellect) includes the mental qualities shared by all intelligent animals, including insight, imagination, and their own special brand of logic.

It is a fundamental assumption that all creatures share the same basic survival needs and that from this arises the desire to manipulate the physical universe for comfort. Technology is about *control*, the desire and will of intelligence to control its universe, the ability of the universe that gave rise to intelligence to be controlled, to a greater or lesser degree. It is also about looking.

Advanced technology² is the foremost, readily recognized aspect of the science-fiction genre (as the name clearly indicates) to the point where some have dismissed science-fiction *as being about* rocket ships, robots, lasers and gadgets.³ These would be the same who a half century ago thought that reading comic books caused juvenile delinquency, people who mistake the symptoms for the causes.⁴ It is true that very early science-fiction – the fiction of the Hugo Gernsback (who died shortly before I was born) era of *Amazing Stories* and *Wonder Stories*, was “a sort of animated catalogue of gadgets” (Frederick Pohl), because Hugo Gernsback was also selling electronics and radio equipment and promoting amateur radio and broadcasting through his other magazines, *Modern Electronics* and *The Electric Experimenter*.⁵ But H.G. Wells’ *War of the Worlds* (1898), predating *Amazing Stories* magazine by 30 years, was a social commentary on the late Victorian era society, and by 1940, science-fiction writers – with the crazy monumental events of the mid-20th century turning the future to dread, dreams of science utopia to ashes – had moved on from gadget fiction. Dystopia crept into science-fiction around World War II.


- ✓ “It was also bigger than any film I’ve done in its physical stature and the way it was designed. All the people were dwarfed by the system and the architecture; it shows how insignificant human beings could be in the future.” – Sylvester Stallone interview regarding *Judge Dredd* (1995) in *Uncut #135* (April 2008), p. 118.

This describes also the feeling of the original *Bladerunner* movie where non-police were referred to as “little people” by Capt. Bryant; will our engineering and technology (and social complexity) make us diminutive? This is the core of technological dystopia.

In science-fiction literature, technology becomes the setting, the means of projection, in which our world, us, we, are projected into the sky to look back down upon ourselves, or the future, or the past, where philosophical discussions, personalities, historical cycles, and social theories are played out on a grand scale. Science-fiction is literature, and all literature in any form is ultimately about us, as we have nothing else really, to talk about.

- ✓ Residents in big cities don’t buy telescopes to look at the sky from their apartment windows. They buy them to look at people. Sky viewing in an urbanized area isn’t good anyway because of the light pollution of the night sky.

- Hox Genes: Though mostly unstated in science-fiction stories, the assumption must be made that each Native Population Type, in addition to being sapient, must also possess ambulatory ability and sufficiently manipulative appendages or organs to produce technology, i.e. the morphology (homeobox genes, Hox genes) for technology. While sapience without physical manipulation is a fascinating discussion (or not⁶), it is here impractical for game purposes.

- ✓ “[Christiaan Huygens] did imagine of extraterrestrial beings ‘that their whole bodies, and every part of them may be quite distinct and different from ours.’ ‘It’s a very ridiculous opinion,’ he says, ‘that it is impossible a rational soul should dwell in any other shape than ours.’ ... But he then went on to argue that they didn’t look all that funny, that extraterrestrial beings must have hands and feet and stand upright and have writing and geometry.” – Carl Sagan, *Cosmos*, Episode 6 describing a  published by Huygens in 1690, 80 years after Galileo Galilei’s *Starry Messenger* (1610).

Among the higher orders of creatures on Earth the uniform arrangement is a trunk with five protrusions, one of which is the head. The rest is details – flippers, feet, wings, hands, paws, claws. Except for insects, arachnids, and such, this seems to be the universally successful form settled upon for life *on Earth*. We have no basis to conjecture that this is universal or that it is not. The easiest way to make a true monster- or truly-alien alien-of-the-week is simply alter the form, add or subtract protrusions from the trunk, put them in different or odd places, or change their functions (e.g., hands with eye stalks). Most of the time, the monster turns out looking insectoid, because...

- ✓ In GGDM, the number of trunk protrusions and their uses have no obvious effect on the game unless it makes the creatures incapable of technology, it would be interesting if participants developed some way that it would actually matter in the game.
- Toolers from Toddlers: Toolmaking and tool use were formerly defined as the exclusive quality of humans, what makes humans able to overcome the physical world. Subsequently, however, many animals, sentient creatures such as birds and close and distant human relatives – that we do not consider to be sapient, have been observed in the wild either fashioning and using ✂s (e.g., primates), or using sticks and stones to obtain food (e.g., primates, birds, sea otters). Long before the issue of toolmaking and use was discussed, it was known that some animals, such as beavers, birds, and apes, create artificial structures for various purposes. Thus building artificial structures has never exclusively been part of the definition of humanity or sapience. Can advance technology develop without sapience?

“It was suggested to me that I talk about the science content of science fiction, and I suspect that there are at least a few people in this room who think that such a title could properly only be followed by an hour of dead silence. And I’m prepared to agree that most of what we call science fiction – even ‘hard’ science fiction – is technology fiction at best. The scientific content, as a scientist would understand the term, is quite invisible. However, we do play around quite a bit with what we think of as scientific facts – or what we hope are scientific facts – and this gives us our cachet for using the label which Mr. Gernsback hung on us in 1929.”

– James Blish, *The Tale that Wags the God* (1987) (Kindle Loc. 485-490)

Neo-Luddites: If it is not yet clear, GGDM is inherently a pro-technology setting, as is most mainstream science-fiction, whether literature or hack. It may be possible, with heavy-handed construction by the Concierge and players, to develop a Neo-Luddite, technologically decayed, or even technophobic setting. The classic example of this is Frank Herbert's Dune (1965), which was possibly inspired in part by the Imperial Chinese technological regression. Other such settings have included 'long night' scenarios such as Alfred Coppel's "Rebel of Valkyr" (1950), Gardner Fox's "Tonight the Stars Revolt" (1952), Julian May's "Duat Galaxy" setting,⁷ and of course, Isaac Asimov's Foundation (1942) which directly address the coming Long Night.

However, the underlying problem (and the elephant in the room) of a Neo-Luddite setting is the question: Given their attitudes toward technology, how did they find themselves in an interstellar setting? In nearly all instances of interstellar science-fiction settings, the Neo-Luddite movement, group, attitude, or civilization is a post-interstellar reaction (or Long Night), stripping the civilization to the barest necessity of starship operation to keep it all going.⁸ This is sort of a Neo-Ludditism with the addition of a precautionary principle.

- ✓ Back when I used to play AD&D in the late 1980s, I always wondered about the fantasy setting Neo-Luddite rule that 'barbarian' characters hated magic and would try to destroy magic items and wizards. Why? It cannot have always been that 'barbarians' feared and hated magic in any fantasy world (quite aside from the fact that 'barbarian' is a historically suspect archetype), otherwise, no one would have 'discovered' (or been granted) and developed magic (artefact)? And the means to make magic items (artifacts). I particularly hated it when players used it to just do dumb, counterproductive actions (probably also reflective of their mental lives and social behavior outside of D&D); some players seemed to take joy in exploiting classes and alignments to do dumb things while claiming they were role-playing their character's class and/or alignment. You know what I mean; no technology is required.
- Green Anarchists from Earth: Consider the problem of Green Anarchism (e.g., anarcho-primitivism, anarcho-naturalism): However much merit their ideas and criticisms may have, at this point, they are nearly impossible to implement. Thus, for example, while Ted Kaczynski's manifesto, published in the New York Times and The Washington Post in 1995, was well received (with care to distance the praise for the work from the criminal actions of the author),⁹ as a creature of the early internet age, I would find it impossible to accept such ideas in actual practice. Everyone who makes the anti-technology, anti-science argument, whether it be the intellectual Ted Kaczynski's, the creationist/intelligent design turn-back-the-clock-three-centuries reactionaries, the Western Esotericism neo-pagans, or the anti-intellectual Sam Kriss-like bloggers of the world, forgets one important thing: It's too late to turn back.

GGDM is a product of technology, and of the internet age, as are any participants to the game, and we have to make the best of it: True macro processes – whether macrosocial or macro-historical (Rhetorical Question: And what is the difference?) have a momentum, take on a 'life of their own' – and that frightens us in the same way as a lynch mob.

- Dark Ages: Carl Sagan suggests in the Cosmos television series that but for 'thousand year detour' of the Dark Ages (and return to mysticism) humanity's technology would be a thousand years more advanced and we might be headed to the stars now. Sagan's assertion is reflected, for example, in the following dialogue from Stargate SG-1, "Enigma" episode

(1998): “JACKSON: Yes. Umm...we’d be colonising space right now if it hadn’t been for the Dark Ages. There was a period of over eight hundred years where science was heresy and anathema. Maybe they didn’t have that set-back.”

- ✓ The Dark Ages (476 to 800 A.D. or 500-1000 A.D.) – a term that is obsolete and maligned by scholars – occurred primarily in post-Roman Empire central and western Europe (the space-opera equivalent is the Long Night).
- ✓ Sagan’s claim is fallacious unless one considers Europe and humanity to be congruent to the exclusion of the rest of the world (see Elder Race, 5 Diplomacy, p. 1153, *infra*).
- ✓ In fact, other people, especially the Chinese, made technological advances up to the end of the 11th or 12th Century then regressed technologically under the political, religious and cultural suppression of reactionary elites. The reactionary elements intensified after European ships reached Japan and China, and especially in shogunate Japan where technology and Christianity were threats to the domination of the Samurai.
- ✓ This Eastern regression had no connection at all to the European ‘Dark Ages’ and thus, there is no way to seriously suggest that the European spirit of tinkering, or the Enlightenment could have occurred, in say, the 6th or 7th Century Europe; rather, it was the emergence – Renaissance, the name that the people of the time gave to themselves, in fact means rebirth – from the Church-dominated, decentralized authority and culturally compartmentalized, desperately poor Europe of the 12th through 14th Centuries that made the Renaissance seem like spring had come. It was a reaction.

Will technology will continue indefinitely to progress exponentially – as it has appeared to do in the last two centuries, or is there a terminal point to technological development? Will the progress of technology slow when we have perfected all applications of classic physics and reach an intuition barrier in quantum mechanics? What will technology look like on Day Million, approximately 721 years from 2018? Will the difference between their technology and ours be comparable to the difference between our technology and that of the year 1293 C.E.?

“Grok means to understand so thoroughly that the observer becomes a part of the observed – to merge, blend, intermarry, lose identity in group experience. It means almost everything that we mean by religion, philosophy, and science – and it means as little to us (because of our Earthling assumptions) as color means to a blind man.” – Robert Heinlein, Stranger in a Strange Land (1961)

Grokking: Merriam-Webster online dictionary at *grok*: to understand profoundly and intuitively. Notably the Wikiquote page shows a silhouetted couple in front of a large full moon. Whatever Heinlein thought, half a century later his term is used in IS, for example, “logstash grok pattern” and “Grok QS” on the StackOverflow forums.

“Grok” – a Martian word invented by Robert Heinlein in Stranger in a Strange Land (1961) means an understanding of the universe or anything in it that is beyond numbers and names; it is the level of understanding where numbers and names become a feeling, an intuition, an almost superlative, mystical edge understanding, without being mystical. It is perhaps what NOVA

writer Kate Becker seeks in “quantum intuition,” (see full feature quote, 4 Colleges, p. 505, *supra*); quantum physics is currently just numbers and names; to ‘grok’ is to have an illustrative-intuitive understanding and *then go beyond that*. The vastness of the universe is not something that humans *grok*, the scale of it compared to the Earth and the brief-flicker lifespans of humans, leaves us out in the cold.

- ✓ Merriam-Webster online dictionary defines *technology* as: **1:a** the practical application of knowledge especially in a particular area, **1:b** a capability given by the practical application of knowledge; **2:** a manner of accomplishing a task especially using technical processes, methods, or knowledge, **3:** the specialized aspects of a particular field of endeavor. ¹⁰[Definitions]

Note that the dictionary definitions of technology (and most definitions of technology) *do not exclude* the use of ‘magic’ in most current fantasy or sci-fantasy world settings; that is, whatever ‘magic’ is or by whatever unknowable rules it operates, it only needs to be a knowledge that can be practically applied, a capability. Thus, magic in fantasy stories and games written by modern people usually substitutes for technology (e.g., non-fire illumination). And like substitute teachers in primary school, a few are very good, most are banal and benign, some are useless.

- ✓ One quality that I have always thought magic should have in a fantasy setting – to distinguish it from science and technology – is some capricious inconsistency; magic should be temperamental, like ancient gods, but display *just enough* consistency to make it worth the effort by those seeking power and to elevate practitioners above the masses. See Majik discussion in 3 Information, p. 1361, *infra*, and discussion of Clarke’s Three Laws below.

Now compare the Merriam-Webster online dictionary definition of *technology* (above) to their definition of *science*: **1:** the state of knowing: knowledge as distinguished from ignorance or misunderstanding, **2:a** a department of systematized knowledge as an object of study, **3:a** knowledge or a system of knowledge covering general truths or the operation of general laws especially as obtained and tested through scientific method. Science then includes specifically the concept of ‘systemized knowledge’ which is absent from the definition of technology.

Thus, because technology only requires knowledge applied to a practical application (e.g., engineering, invention), such knowledge can be without context or system (e.g., bows and catapults did not require systemized knowledge, only observation of properties and practical application, what Kate Becker called classical physics intuition, ‘naïve physics’); whereas science requires systemized knowledge with no practical application requirement (e.g., knowledge for its own sake). Thus, science-fiction literature can have ‘technological barbarians’ or ‘barbarians with the Bomb.’ However, given the historical context in which the term technology was coined (see EN 2, p. 697, *ut supra*), the modern common usage (and science-fiction assumption) does imply that technology is backed by systemized knowledge leading to practical application.

- Intonation of the Three: Perhaps this is a good place to solemnly recite Arthur C. Clarke’s Three Laws. Put your left foot forward, raise your right hand, look up to the sky, and *solemnly repeat after me*...

1. When a distinguished but elderly scientist states that something is possible, he is almost certainly right. When he states that something is impossible, he is very probably wrong;

2. The only way of discovering the limits of the possible is to venture a little way past them into the impossible; and most famously,
3. Any sufficiently advanced technology is indistinguishable from magic.

There is a corollary of Clarke's Third Law, of uncertain origin (sometimes credited to Niven, sometimes to Pratchett, and possibly from neither): Any sufficiently advanced magic is indistinguishable from technology, a variation of which is noted on TV Tropes and stated in a 2008 comic called "Genius Girl": Any sufficiently analyzed magic is indistinguishable from science!

"It seems to me that the most important scientific content in modern science fiction are the impossibilities."

– James Blish, [The Tale that Wags the God](#) (1987) (Kindle Loc. 627-628)

"For a successful technology, reality must take precedence over public relations, for Nature cannot be fooled." – Richard P. Feynman, U.S. Physicist ¹¹

Technopower: The Technology Power must be activated to advance technology. The Technology Power must be activated for the following purposes:

1. Basic Research,
2. Develop Application,
3. Patent Prosecution,
4. Reverse Engineering.

Technology is a cultural effort and is never centered in any place (even if there is a College), therefore, a Scene is rarely required to activate the Technology Power and the Technology Power *cannot fail due to inactive Constructural Elements*. The exception to this is activation of the Technology Power for the purpose of Reverse Engineering, which is location specific and requires a Scene *but not an Act*. Activation of the Technology Power for the purpose of Research requires one Act and for the purposes of Development or Patent Prosecution, requires two Acts.

➤ **Copenhagen Interpretations**: The activation of a Writ based on the Technology Power by actualization of a Fuzzy Group may be used to satisfy the Interpretation requirement of a Technology Power activation on the same Regular Turn, for any purpose. A successful Patent must be used to satisfy the Interpretation requirement for the Technology Power on the turn that the Patent is successfully prosecuted, but may not be used for that purpose *at any subsequent time*. Of course, in the event of the failure of the Patent, or the unavailability of a Writ, the News Event is the default Interpretation and must be provided with the Regular Turn actions. Just in case. A Writ may not depend in any way on a Patent.

- ✓ "Maxel, you know I love you and nothing can change that. But I do need to give you once a thorough head washing. So stand still. The impudence with which you assert time and again that the Copenhagen interpretation is practically universally accepted, assert it without reservation, even before an audience of the laity – who are completely at your mercy – it's at the limit of the estimable [...]. Have you no anxiety

about the verdict of history? Are you so convinced that the human race will succumb before long to your own folly?” – Erwin Schrödinger, Letter to Max Born (October 10, 1960), quoted in Walter John Moore, A Life of Erwin Schrödinger (1994), p. 342.

“In the temple of science are many mansions, and various indeed are they that dwell therein and the motives that have led them hither. Many take to science out of a joyful sense of superior intellectual power; science is their own special sport to which they look for vivid experience and the satisfaction of ambition; many others are to be found in the temple who have offered the products of their brains on this altar for purely utilitarian purposes. Were an angel of the Lord to come and drive all the people belonging to these two categories out of the temple, the assemblage would be seriously depleted, but there would still be some men, of both present and past times, left inside.” – Albert Einstein

Temples of Science: Like a hyperbolic cube, which exists in some direction other than the three dimensions we know, technology in GGDM civilizations exists in some other direction from the Public and Galactic Spaces. Technological development in GGDM takes place on two surfaces, the Public Space and the Era Matrix (generally hereafter, “The Matrix” or “Matrix”); Research Pieces are placed on the Public Space and migrate to Developments placed on the Era Matrix. Both eventually lead to the ‘Technology Interpretation’ of the game, Patents, which allow positions to do very interesting things and shape the physical laws of the in-game universe.

- ✓ “Marie Curie is, of all celebrated beings, the only one whom fame has not corrupted.” – Albert Einstein (does Einstein think that fame has corrupted him?).
- ✓ “Meanwhile, a new industry began developing, based on radium. The Curies did not patent their discovery and benefited little from this increasingly profitable business. ... Having received a small scholarship in 1893, she returned it in 1897 as soon as she began earning her keep. She gave much of her first Nobel Prize money to friends, family, students, and research associates. In an unusual decision, Curie intentionally refrained from patenting the radium-isolation process, so that the scientific community could do research unhindered. She insisted that monetary gifts and awards be given to the scientific institutions she was affiliated with rather than to her. She and her husband often refused awards and medals. Albert Einstein reportedly remarked that she was probably the only person who could not be corrupted by fame.” – from Wikipedia article, “Marie Curie,” captured November 2, 2018.
- ✓ “Much has changed in the conditions under which researchers work since Marie and Pierre Curie worked in a drafty shed and refused to consider taking out a patent as being incompatible with their view of the role of researchers; a patent would nevertheless have facilitated their research and spared their health.” – Nanny Fröman, “Marie and Pierre Curie and the discovery of polonium and radium,” nobelprize.org, captured October 31, 2018.

“At the dawn of religion, all the knowledge of a particular community fitted into a spiritual framework, based largely on religious values and ideas. The spiritual framework itself had to be within the grasp of the simplest member of the community, even if its parables and images conveyed no more than the vaguest hint as to their underlying values and ideas. But if he himself is to live by these values, the average man has to be convinced that the spiritual framework embraces the entire wisdom of his society. For ‘believing’ does not to him mean ‘taking for granted,’ but rather ‘trusting in the guidance’ of accepted values.

That is why society is in such danger whenever fresh knowledge threatens to explode the old spiritual forms. The complete separation of knowledge and faith can at best be an emergency measure, afford some temporary relief. In western culture, for instance, we may well reach the point in the not too distant future where the parables and images of the old religions will have lost their persuasive force even for the average person; when that happens, I am afraid that all the old ethics will collapse like a house of cards and that unimaginable horrors will be perpetrated. In brief, I cannot really endorse Planck’s philosophy, even if it is logically valid and even though I respect the human attitudes to which it gives rise.”

– Wolfgang Pauli (1927), quoted by Werner Heisenberg in *Physics & Beyond* (1971)

Empirical Mythology: The nexus and commonality of all human religions is a set of mythopoeic stories and related philosophies separating us, shielding us from the Existential Void.

- ✓ “The big bang is our modern scientific creation myth.” – Carl Sagan, *Cosmos*, Episode 10, see full feature quote, 4 Fallen to Earth, pp. 1552-1553, *infra*.

The current ‘scientific’ understanding of reality – Dark Matter, Higgs Boson ‘God Particle,’ Quantum Entanglement, Quantum Computing, String Theory, M-Theory, the Big Bang, that dominate the scientific news – is so divorced from the common perception of ‘reality’ that the scientific reality can be seen as an ‘empirical mythology’ of Western Civilization; that is, we know it is based on ‘hard science’ (would we think the same if it were based on sociology?) but for most daily purposes, it might as well be imaginary, yet at the same time, it is part of the Western worldview.¹² In this way then, why is modern science (esp. physics) different than religion? What is the difference between a molecule of Trinitrotoluene (TNT) and an ancient Greek myth to a 13th Century European Monk? What is the difference between the two to a late 20th century 8th grade student?

- ✓ Merriam-Webster online dictionary at *myth*: **1:a** a usually traditional story of ostensibly historical events that serves to unfold part of the worldview of a people or explain a practice, belief, or natural phenomenon, and **3:** a person or thing having only an imaginary or unverifiable existence.

Functionally, they are the same for *social purposes*, except that science offers material technology and not morality and afterlife (see also Why Not the Afterlife discussion, 4 The Streams of Time, p. 103, *supra*). They are also the same because a TNT molecule goes beyond physics that is intuitive to us (see Kate Becker feature quote, 4 Colleges, p. 505, *supra*). Anything beyond the human intuitive grasp gained from being born on the Earth is mystical, mythical. This is our cognitive barrier until, as Kate Becker may have suggested, we gain intuitive understanding (intuition) of things that are not everyday objects or experience on Earth.

- ✓ There was a slight tendency during the *early* Cold War (during the time of utopian dreams) to assume that scientific endeavor (presumably for the benefit of mankind's future) was inherently moral and to impute that morality individually upon the leading theorist, researchers and engineers of new technologies. I certainly got this impression in my youth. As the world has moved on (and I have moved on, grown ever crankier and more curmudgeonly), Cold War realization has separated technology and science as a tool of humanity from individual morality, both inside and outside of science (e.g., Einstein's "Temple of Science" quote, *ut supra*, p. 690), so I think the idea has faded into the background, but still sometimes emerges in modern movies about scientific and technological pioneers of the early and mid-20th Centuries.

To the people of the 18th and 19th Centuries, electricity, gravity, microbiology, evolution, geology and new chemical knowledge must have seemed this way, as well, near mystical concepts not relevant to their lives, scientific language describing esoteric nature not part of the common experience. ***Technology makes science the common experience.*** Today, we have technology based on what was esoteric in the 18th and 19th Centuries, we nod our heads knowingly about electricity, electronics, car engines, cell phones, orbital satellites and rocket launches, going to the moon and Mars, but rarely have much grasp of the science and engineering behind them.

- ✓ "We live in a society exquisitely dependent on science and technology, in which hardly anyone knows anything about science and technology." – Carl Sagan.

Technology that affects people's lives on a daily basis at least cognitively 'normalizes' science within their cultural reality, even if not understood. Though it is difficult to understand what technology might come from understanding dark matter, "God particles," and such, the next frontier of mythology to technology seems to rest in quantum entanglement, when engineers find a use for it in computing and communications.

- ✓ "Do agnostics think that science and religion are impossible to reconcile? The answer turns upon what is meant by 'religion.' If it means merely a system of ethics, it can be reconciled with science. If it means a system of dogma, regarded as unquestionably true, it is incompatible with the scientific spirit, which refuses to accept matters of fact without evidence, and also holds that complete certainty is hardly ever impossible." – Bertrand Russell, "What is an Agnostic" (1953).
- ✓ See also discussion in Patent Defect, 3 Patents, p. 752, *infra*.
- **Easter Bunny:** While most Westerners don't believe in Santa Claus or the Easter Bunny after about 2nd Grade, most adults continue to believe in some mumbo-jumbo version of the afterlife, even while claiming to be educated, intelligent adults. This insistence is like a child insisting that they believe in Santa after finding his gifts hidden in a parent's closet before Christmas. If Santa Claus or the Easter Bunny were mentioned in the Bible, would you still believe in them? So what are we teaching our kids? 'Ha, ha, I know that Santa Claus and the Easter Bunny are lies and I am therefore an adult, but I still cling to the idea of the afterlife because the priests tell us so?'
- ✓ "I think I've gone through quite an ordinary series of steps in life. I began as most children began, with God and Santa Claus and the tooth fairy and the Easter Bunny all being about the same thing. Then I went through the things that I think sensitive people go through, wrestling with the thoughts of Jesus – did he shit? Did he screw?"

I began to dare to believe that God wasn't some white beard. I began to look upon the miseries of the human race and to think God was not as simple as my mother said. As nearly as I can concentrate on the question today, I believe I am God; certainly you are, I think we intelligent beings on this planet are all a piece of God, are becoming God. In some sort of cyclical non-time thing we have to become God, so that we can end up creating ourselves, so that we can be in the first place. ... My own feeling is that relation to God as a person is a petty, superstitious approach to the All, the infinite." – Gene Roddenberry as quoted by Terrance A. Sweeney, *God &* (1975).

I believe Mr. Roddenberry is talking about an epochal process where humans become their own First Cause or Prime Mover. This contains a paradox that would need to be resolved. His 'empirical mysticism' was a belief in a human-centric ontological paradox. See Rose Tyler's "Bad Wolf" speech, Dr. Who "The Parting of the Ways" (2005), "I am the Bad Wolf, I create myself..."

- ✓ "After looking into the heart of the TARDIS, the Time Vortex itself filled Rose Tyler, who then temporarily became the Bad Wolf entity. She scattered the two words throughout time as a sign to herself that she was linked to the Doctor, *creating a looped ontological paradox.*" – from Tardis Wiki article "Bad Wolf (entity)," captured August 22, 2019 (emphasis added).
- Biblical Miracles: A common argument that I heard many times in my youth was the dismissal of Biblical miracles by pointing out that we could do the same now with relative ease. Virgin birth? Can be done. Routinely if we wanted, we do it in animal breeding via artificial insemination. Destroying a city with a column of fire from the sky. Has been done. Twice.¹³ Usually these arguments were offered in support of 'ancient astronaut' theories, but ancient astronauts aside, that doesn't mean they are not correct factual observations (and it is simply a matter of what we think they 'mean' and whether the meaning withstands scrutiny).¹⁴
 - ✓ Though I do not know the title, I remember reading a description of a near future sci-fi movie where a modern corporation conspired to create a second 'Virgin Mary' out of an unwitting teen girl to contrive and control a 'second coming' of Christ on Earth for their own marketing purposes. Talk about cynicism!

In my youth, it was frequently discussed in UFO-conspiracy circles how virgin birth really isn't that amazing or difficult in modern terms; as most events described in the Bible, other than creation of the universe and the Earth, are now within our scientific and technological purview. Inevitably, people connected the atomic bombings of Japanese cities in 1945, for example, with the legendary destruction of Sodom and Gomorrah; 'fire and brimstone' destruction has been reinterpreted in modern terms as some sort of nuclear strike.

Biblical literalist counter this modern 'explaining away' of miracles that they are still miracles because they happened well before humans had the ability to do the same, much less understand. They maintain that our non-technological ancestors could not have thought of these things if they didn't happen, and therefore, the stories are still true. This latter however, ignores the wild stories of other religions that are now considered myths (e.g., Greek and Norse mythology), and implies then that those stories must be equally true.

But implicit in this argument is an admission that humans have by some measure, rapidly advanced to power that would have been (and was) considered god-like by our not-so-distant

ancestors: Any *non-human* destruction of all life on Earth or destruction over a massive area would be (and still is) called an ‘act of God’ (check your insurance policy, the words are probably in the fine print). Are humans and their actions not an act of God then? But see, that contradicts the creation stories. So we are not and have never been quite clear on that.

- Another Duality: It is of the greatest importance that science not become religion – something just a step or two beyond scientism (*Google it*); this argument is not about whether it is or is not, but about the phenomenon of modernity worldview that have effectively replaced one belief system with another, *sans* an intelligent creator (unless the Big Bang is/was).
- ✓ “Science is not a perfectly rational system. It cannot be, it is a human construction of reality and, as such, must be imperfect. No scientific theory is absolute; none will ever arrive at ‘truth.’ All sciences are tentative interpretations of reality; there should be doubt and continual checking of empirical reality to discipline theory to better interpret and explain reality.” – Frank Elwell, Macro Social Theory (2009), Kindle Edition, p. 21.
 - ✓ ‘Intelligent design,’ seemingly more palatable, is a branch of ‘creation science’ as identified by the Court in *Kitzmiller v. Dover Area School District* (400 F. Supp. 2d 707 (M.D. Pa. 2005)), also *Edwards v. Aguillard* (482 U.S. 578 (1987)), *McLean v. Arkansas* (529 F. Supp. 1255 (E.D. Ark. 1982)) re: teaching of ‘creation science.’
 - ✓ Isaac Asimov probably had this same idea: “The barbarized inhabitants of the four kingdoms believe that the Foundation’s technicians are magicians. Being unable to make these people understand the difference between magic and science, the technicians finally give up and allow themselves to be worshipped as holy men.” – from Wikipedia article, “Church of Science” (about an entity in Isaac Asimov’s Foundation (1951)). The unnamed religion of the Church of Science has been called *scientism*.

Science educators do a premier job – when anyone is listening – of distinguishing science from religion (and such farces as ‘creation science’) by pointing out that science, unlike religious beliefs, does not have predetermined conclusions to which the empirical evidence will either be molded or ignored, science must always be able to be questioned and reexamined, for if science becomes definitionally the same as religion, then the ‘creation science’ pundits can cry to have evolution removed from public schools as a violation of the Establishment Clause of the First Amendment to the Constitution (they try to make this argument anyway – a form of intentional failure to understand – but it falls on deaf ears).

- ✓ “But he (Galileo) was not an idiot,... Only an idiot could believe that scientific truth needs martyrdom – that may be necessary in religion, but scientific results prove themselves in time.” – David Hilbert quoted by Constance Reid, Hilbert (2nd Ed, 1996), p. 92.

Yet, the problem of duality which began in ancient times, has seemed to ever widen, especially in the last four centuries. Science cannot answer the questions which have concerned humanity the most from the beginning, and religion cannot compete in arguments with science, but can at least provide comfort if not answers to humanity’s basic question. The two seem to be talking past each other (i.e. Thrasymachus and Socrates in Plato’s Republic):

- ✓ “Science and religion ask different questions about different things. *Where religion addresses ontology, science is concerned with ontic description.* Indeed, it is what

Orthodox theologian David Bentley Hart calls their ‘austere abdication of metaphysical pretensions’ that enables the sciences to do their work.” – Michael Robbins, “Atheists Used to Take the Idea of God Seriously. That’s Why They Mattered.” Slate Magazine, July 8, 2014 (emphasis added).

Which is why the debate is so murky, bewildering and irritating. Will there be a point in the future at which a holism is achieved?

- ✓ “So, there is a sense in which we build meta-systems above ourselves to fill in the space that we previously populated with an entity that was supposed to be the intentional designer, the creator (even though there isn’t one) and because we – I don’t necessarily mean we in this room, but we as a species – design and create one and then allow ourselves to behave as if there was one, all sorts of things begin to happen that otherwise wouldn’t happen. ... [lengthy Feng Shui discussion sadly omitted here]

...

So, my argument is that *as we become more and more scientifically literate, it’s worth remembering that the fictions with which we previously populated our world may have some function that it’s worth trying to understand and preserve the essential components of*, rather than throwing out the baby with the bath water; because even though we may not accept the reasons given for them being here in the first place, it may well be that there are good practical reasons for them, or something like them, to be there.

I suspect that as we move further and further into the field of digital or artificial life we will find more and more unexpected properties begin to emerge out of what we see happening and that this is a precise parallel to the entities we create around ourselves to inform and shape our lives and enable us to work and live together. Therefore, I would argue that though there isn’t an actual god there is an artificial god and we should probably bear that in mind. That is my debating point and you are now free to start hurling the chairs around!” – Douglas Adams, “Is there an Artificial God?” speech at Digital Biota 2, Cambridge U.K., September 1998 (transcript and audio recording of the more than one hour speech are available free at <http://www.biota.org/people/douglasadams>) (emphasis added).

- “[Douglas] Adams described himself as a ‘radical atheist,’ adding ‘radical’ for emphasis so he would not be asked if he meant agnostic.” – from Wikipedia article, “Douglas Adams,” captured March 7, 2019.
- Frankenstein: Mary Shelly’s 1818 novel Frankenstein (combining science, occult and romantic themes) firmly entrenched in human consciousness (e.g., Public Space in GGDM), transformed religious suspicion into the idea that rapidly developing human science and technology was making humanity parodies of the *ancient gods*; WWII and the atomic bombs completed the process, the space race and moon landings¹⁵ cemented it.
 - ✓ “Man is by nature unable to want God to be God. Indeed, he himself wants to be God, and does not want God to be God.” – Martin Luther, “Disputation Against Scholastic Theology” (1517), Thesis 17.

This is, of course, consistent with the contention that God made man in his own image (Genesis 1:27). We might assume then that God doesn’t want to be and cannot be anything other

than or less than God, so why would man (which makes it perplexing that his son was a human)? And why would God want God to be God if he were man? Additionally, it is also no small matter that the Abrahamic God is mostly associated with punishment (i.e. damnation), so humans don't want God to be God. If, as Brian Aldiss argues, we accept Mary Shelly's novel as the first true work of science-fiction (Johannes Kepler's *Somnium* is also a candidate, but lacks an overt, intentional act), then arguably it follows that science-fiction's development is or has been an expression of this very same suspicion or idea about humanity's quest for godhood.

“In Nietzsche we find the full power and terror that atheism is capable of, for Nietzsche scorned mere unbelievers, who, [David Bentley] Hart writes, ‘do not dread the death of God because they do not grasp that humanity’s heroic and insane act of repudiation has sponged away the horizon, torn down the heavens, left us with only the uncertain resources of our will with which to combat the infinity of meaninglessness that the universe now threatens to become.’

*Nietzsche’s atheism is far from exultant – he is not crowing about the death of God, much as he despises Christianity. He understands how much has been lost, how much there is to lose. As he writes in *The Gay Science*: ‘The event itself is far too great, too distant, too remote from the multitude’s capacity for comprehension even for the tidings of it to be thought of as having arrived as yet. Much less may one suppose that many people know as yet what this event really means – and how much must collapse now that this faith has been undermined because it was built upon this faith, propped up by it, grown into it; for example, the whole of our European morality.’*

Nietzsche realized that the Enlightenment project to reconstruct morality from rational principles simply retained the character of Christian ethics without providing the foundational authority of the latter. Dispensing with his fantasy of the Übermensch, we are left with his dark diagnosis. To paraphrase the Scottish philosopher Alasdair MacIntyre, our moral vocabulary has lost the contexts from which its significance derived, and no amount of Dawkins-style hand-waving about altruistic genes will make the problem go away. ...

The point is not that a coherent morality requires theism, but that the moral language taken for granted by liberal modernity is a fragmented ruin: It rejects metaphysics but exists only because of prior metaphysical commitments. A coherent atheism would understand this, because it would be aware of its own history.”

– Michael Robbins, “Atheists Used to Take the Idea of God Seriously. That’s Why They Mattered.” Slate Magazine, July 8, 2014 (emphasis added)

Modernity Machines: cf. Wolfgang Pauli feature quote, *ut supra*, p. 691 and Douglas Adams quote, *ut supra*, p. 695. Consider the following in light of Michael Robbins’ characterization of “Nietzsche’s atheism” (*ut supra*):

- ✓ “This idea of evil was almost entirely new. Before the Enlightenment, most theological and philosophical thinking about the nature of evil rested on the assumption that evil deeds are the product of strong passions – pride, ambition, envy, hatred. During the Enlightenment and into the 19th century, many Western thinkers suggested that evil grew less out of man’s dark passions than from unjust social conditions, and many assumed that it would eventually be eradicated through social and political transformation. By [Hannah] Arendt’s time, that confidence had been shattered by the terrors of Nazi-occupied Europe, Japanese-occupied China, and the Soviet Union. Secular intellectuals were left groping for new explanations, and to many it appeared that Arendt had found one. The killing fields of Cambodia, Rwanda, and Bosnia have

kept the question – and Arendt’s answer – very much alive. ‘We have a sense of evil,’ Susan Sontag has said, but we no longer have ‘the religious or philosophical language to talk intelligently about evil.’” – Stephen Miller, “A Note on the Banality of Evil,” *Wilson Quarterly*, Autumn 1998 (available free online).

- See further discussion, 1 Special Operations, EN 9, pp. 1282-1283, *infra*.

Mr. Miller’s assertions about the Enlightenment are supported and clarified by Prof. Lisa Feldman Barrett, one of the leading researchers of emotions:

- ✓ “The concept of ‘Emotion’ itself is an invention of the seventeenth century. Before that, scholars wrote about passions, sentiments, and other concepts that had somewhat different meanings.” – Lisa Feldman Barrett, *How Emotions Are Made: The Secret Life of the Brain* (2017).
- ✓ “The word ‘smile’ doesn’t even exist in Latin or Ancient Greek. Smiling was an invention of the Middle Ages, and broad, toothy-mouthed smiles (with crinkling at the eyes, named the Duchenne smile by [Paul] Ekman) became popular only in the eighteenth century as dentistry became more accessible and affordable.” *Id.*¹⁶

It thus appears that the modern concept of ‘evil’ *coincides with* the development of the concept of ‘emotions’ which Prof. Barrett maintains were not exactly the same as “passions, sentiments and other concepts” on which previous ideas of ‘evil’ were based. Evil previously was immoral excess of passions expressed in acts (*actus rea*) without reference to emotional states (*mens rea*). This is similar to the parallel development of pinhead vs. godhead in Western literature; the idea of the Enlightenment is that we can shine light in previously dark places, and one of those places included what goes on inside people’s heads. A very Christian concept that became modern mental sciences. Evil, emotions, godhead, enlightenment are all part of the bundle of *modernity*.

- ✓ See Godhead and Pinhead discussion, 1 The Sidereal Stage, p. 110, *supra*.
- ✓ See also discussion of the relationship of Christianity and mental health professions, Dream Police, 1 Dreamtime, p. 132, *supra*.

“Animals have come to mean so much in our lives. We live in a fragmented and disconnected culture. Politics are ugly, religion is struggling, technology is stressful, and the economy is unfortunate. What’s one thing that we have in our lives that we can depend on? A dog or a cat loving us unconditionally, every day, very faithfully.” – Jon Katz

Endnotes.

¹ Commentary: We do not consider birds to be sapient, but they definitely manipulate the environment for their comfort from nest-building to termite-fishing. Thus, the word “sentient” is used here instead of “sapient.” While they may not be toolmaking – and that is probably a definition of technology, tool making – they are tool using.

² Commentary: The term ‘technology’ was first used in 1859 (Merriam-Webster dictionary), which approximately coincides with the beginning of the ‘Age of Invention,’ the modern scientific era and the industrial revolution. Science-fiction literature began shortly afterward. Technology has been retroactively applied to inventions from times long before the term even existed; inventions that ancestors certainly did not think of as ‘technology.’

³ Citation: “P.J. Snyder reviewed Saturn 3 in *Ares Magazine* #2 and commented that ‘Saturn 3 is a sloppy, shoddy production, of the sort that someone out there thinks sf fans just eat up. One hopes the producers and directors

working the genre will realize this audience demands more than a leggy blond being chased by a robot. They may have such limited visions, but the audience doesn't.” – from Wikipedia article, “Saturn 3,” April 25, 2020.

⁴ Citation: “Buck Rogers at that time was not taken seriously by adults, but the kids loved it. During the 1930s, people who heard the term ‘science fiction’ would often refer to sci-fi as ‘that Buck Rogers stuff,’ and immediately would think of ray-guns and rocket ships and robots.” – JonnyBaack (narrator), “Everything you need to know about Buck Rogers in the 25th Century (1979),” JonnyBaack YouTube Channel, November 27, 2018.

⁵ Commentary: The founder of the science-fiction magazine industry – after whom its most famous award is named (and which Spinrad denigrates as a “literal popularity contest”) – was a poor author and a sleeze who stiffed his writers, *yet he is honored for the idea*, for trying to make a living at it, and for his hobby-electronics pioneering.

⁶ Commentary & Citation: The discussion in Dalton Trumbo’s 1938 book (and later movie) Johnny Got His Gun is definitely on the ‘not’ side; parts of the 1971 movie were used in the video for Metallica’s “One” (1988).

- ✓ Science-fiction musing has occasionally ventured into the subject of sapience without ambulation or manipulative ability. I recall a Stargate SG-1 episode that featured sapient creatures that could form human faces out of their crystalline form, but apparently had no ambulatory means or manipulative appendages. In a creepy ending to the 2006 Dr. Who episode, “Love & Monsters” featuring ELO’s 1977 song “Turn to Stone,” one of the hapless mortals has their life force preserved in a pavement stone with a face capable of expression and a voice. Star Trek and other science-fiction stories have liked the concept of a sapient amorphous blob that can take humanoid form through sheer will. But they are limited to creature-of-the-week episodes.

⁷ Citation: “Thousands of years before the action of the novels, the inhabitants of Duat developed interstellar travel, and colonized other planets in their native galaxy. These other planets came to be called ‘Daughter Worlds.’... A series of wars and the passage of time cut off Duat.... Among the daughter worlds only Lene retained any form of space travel, and only very primitive reaction engines. The war left Duat with a wildly varying climate, and because of this, over a thousand generations on Duat, the race diverged into two separate races, the Tanu and the Firvulag. The Tanu lived in the open highlands and grew tall and lithe. They were metapsychically latent and developed and employed torcs to raise them to a limited form of metapsychic operancy. The Firvulag who dwelt in the dark and wet lowlands grew small and hardy and were naturally operant, but most were much more weakly powered.... The divergent races were hostile to each other and together developed a highly ritualized battle-religion to formalize the war between them. When science advanced enough to allow for interstellar travel once again (by the daughter worlds), Duat was rediscovered and while the original race was shocked at the divergence of the races there from their own, it was then discovered that the torcs also worked well on most but not all the inhabitants of the daughter worlds. Certain (female) members of Lene, known as Shipsouses, developed a symbiotic relationship with interstellar organisms known as Ships which were capable of superluminal travel....

When the daughter race demanded that the Tanu and Firvulag discard their ancient battle-religion and rejoin the rest of the race, a small number refused to and chose to fight a final apocalyptic war to the end. The daughter race intervened to prevent this, and so the remaining Tanu and Firvulag fled with a sympathetic Brede in her Ship into another Galaxy to fight their Nightfall war to the end. Earth was chosen as the best planet capable of supporting the lives of the two races that the Ship, now dying from the immense strain of the Intergalactic jump, could reach before its death.” – from Wikipedia article, “Saga of Pliocene Exile,” (early 1980s series by Julian May), October 29, 2018.

- ✓ If any of this sounds vaguely like Earth: Final Conflict television series (1997-2002) ... which literally ripped off the ending of The Dark Crystal (1982) as the Season 4 series finale ...

⁸ Commentary & Citation: I remember reading a science-fiction short story about an Earth ship discovering an interstellar empire that was conquered by medieval people who boarded an alien scout ship that landed in Medieval Europe. It was a quirky and amusing idea so I remembered it, but don’t recall the author or the name of the work.

- ✓ Discovered Later: It appears that I may have read part of or something related to Poul Anderson’s novel High Crusade (1960). I know I never read the novel version, so it must have been an excerpt or summary version that was part of a sci-fi short story anthology, but I don’t know what book it was in now.

⁹ Citation: Information taken from Wikipedia articles, “Anarchism” and “Ted Kaczynski,” December 6, 2018.

¹⁰ Citation: Definitions of technology from other sources:

- ✓ Dictionary.com at *technology*:
 1. the branch of knowledge that deals with the creation and use of technical means and their interrelation with life, society, and the environment, drawing upon such subjects as industrial arts, engineering, applied science, and pure science.
 2. the application of this knowledge for practical ends.

3. the terminology of an art, science, etc.; technical nomenclature.
 4. a scientific or industrial process, invention, method, or the like.
 5. the sum of the ways in which social groups provide themselves with the material objects of their civilization.
- ✓ Collins 2012 (from Dictionary.com) at *technology*:
 1. the application of practical sciences to industry or commerce
 2. the methods, theory, and practices governing such application *a highly developed technology*
 3. the total knowledge and skills available to any human society for industry, art, science, etc.
 - ✓ American Heritage Science Dictionary (from Dictionary.com) at *technology*:
 1. The use of scientific knowledge to solve practical problems, especially in industry and commerce.
 2. The specific methods, materials, and devices used to solve practical problems.
- ¹¹ Commentary: Consider this in the context of such tug-o-wars between public relations, ethics, and science as nuclear energy, human cloning, artificial reproduction, testing on lab animals, stem cells, genetic manipulation.
- ¹² Commentary: No one should construe this as any claim that these things are actually make believe, made up, myths or any other such; if you think this is what was said here, go back and read the section again.
- ¹³ Commentary: This is not to suggest that the victims ‘deserved it,’ or that we doled out ‘divine punishment.’
- ¹⁴ Commentary: This falls into the vein of arguments that are unfalsifiable but irrelevant. The ancient astronauts arguments in which these things were usually appended has nothing to do with the fact that we can do them now.
- ✓ A recent example are the comments by Rep. Steven King (D-Iowa): “‘What if we went back through all the family trees and just pulled those people out that were products of rape and incest? Would there be any population of the world left if we did that?’ he said in Urbandale, Iowa, according to video posted online by the Des Moines Register, which was first to report on the remarks Wednesday.” (Clare Foran, “Steve King questions if there would be any population left if not for rape and incest,” CNN, August 15, 2019). “The remarks came as King was defending not allowing exceptions for abortion in cases of rape or incest.” *Id.* While Rep. King’s remarks may be factually unfalsifiable, it is hard to see how they are relevant to or advance the cause he was allegedly arguing: According to him we should not allow exceptions to anti-abortion laws in cases of rape or incest because no humans would be left on Earth but for rape and incest? This is not an existential issue for humanity, and suggests that no female has ever consented to sex. And that’s just for starters; women’s groups objected loudly that it legitimizes violence and exploitation of women.
- ¹⁵ Commentary: My grandmother lived through and witnessed some of the most momentous events in human history; she was a teen when her older brothers went off to fight in WWII (she described to me how her brother was called out to the front yard from a draft list by a mounted officer with a corporal leading extra horses). She never really talked about WWII (e.g., she may not have actually remembered Pearl Harbor) and I am not sure how much awareness she had of it in those years, but she often talked about The Depression years, her childhood.
- ✓ One day when I was young, I asked her if she remembered the moon landing. I was shocked by her response, she informed me that it never happened, that it was a Hollywood movie. Some door-to-door Jehovah’s Witnesses had got to her and convinced her that we never landed on the moon, it was all a Hollywood hoax. She seemed to think it was a movie like Planet of the Apes (which she hated). I’d heard this moon-landing-Hollywood-government cover-up conspiracy before. My grandmother said that she didn’t remember watching it on television and that she may have been working when it happened; however, she retired from Sylvania and became a housewife around 1968 and the moon landing was in 1969. She may have meant that she was in the kitchen, the television was often on when she was working in the kitchen.
 - ✓ Putting aside any of the arguments about whether or not the moon landing happened, one has to ask why some people want to believe or go about claiming that they believe we never landed on the moon? Is it perhaps that humanity must be contained to the Earth for their beliefs to work? That we must deny humanity’s greatest technical achievements to keep us in our place submissive to religion and clerical power? Is it simply an exercise in power? Do they think they gain something against the secular authority of the U.S. government or the scientific worldview by claiming that these things have been disproven as hoax, never happened? They want to dial the clock back three centuries.
- ¹⁶ Citation: cf. “The Duchesse d’Abrants said of the young Joséphine ‘Her teeth were frightfully bad,’ ... ‘but when her mouth was shut she gave the appearance especially at a few paces distance of a young and pretty woman.’ Because of her black teeth, Joséphine taught herself to laugh with closed lips.” – from Encyclopedia of Trivia, “Joséphine de Beau-harnais,” February 9, 2020.

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See Appendix R&D – Research & Development Example
See Appendix TECH – Technology Progress

“Science is more than a body of knowledge, it is a way of thinking, a way of skeptically interrogating the universe.” – Carl Sagan

Research: All technology (except Existential Patents purchased during set up) begins with placing a Research Piece in the Public Space. Research Pieces are received as a result of successful Research and must be immediately placed on an unoccupied Monad in the Public Space (which becomes occupied). Research represents the theoretical and experimental aspects, it represents the accumulation of experimental data and the formulation of theoretical frameworks, organization of knowledge. Development (*ut infra*) is more representative of experimental science.¹

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- ✓ Research Pieces should not be abbreviated “RPs” as that will cause confusion with Resource Points that are already abbreviated RPs throughout the rules. There were no better options, it had to be called Research because that’s what it is and there is no other sensible substitute term, and it’s a ‘piece’ because it is placed on the Public Space, e.g., Cultural Traits Pieces, and is not a star or planet from Galactic Space.
 - ✓ The Public Space is getting crowded, eh? Government Titles, Proficiencies, Aspects, Fuzzy Groups, Pathways, Research Groups, plus many bits of Galactic Space!
 - ✓ [Interview] “These two men, Schrib and Bradbury, were in many ways very similar men, you know they were both experimental physicists, and people who haven’t been around physicists possibly don’t realize how different theoretical physicists, who are the ones who do the calculations, are from the guys who actually do the hands-on experiments on the lab bench or in the field. Experimentalist are a totally different breed as far as I’ve been able to tell, often politically more conservative strangely enough, they tend to be intensely practical people. They’ve learned to think clearly about how you manipulate objects to make a certain outcome occur, whereas theoreticians are often into literature and art, often politically quite liberal; Robert Oppenheimer was perhaps an extreme example, but he was a rather neurotic man, a chain smoker, troubled in some ways, troubled certainly about who he was, you never had a sense with Bradbury or Schrib that they ever had any doubt about who they were and what was their place was in the world and how they went about doing their work.” – Richard Rhodes (author of The Making of the Atomic Bomb (1986)), The Half-Life of Genius: Physicist Raemer Schreiber (2018).
- **Research Groups:** Two Research Pieces occupying adjacent Monads at least one of which is adjacent to a *Friendly, Naturalized or Converted Colony* with an active Epistemological Constructural Element, form a Research Group. A previously-placed Research Group that is no longer adjacent to an eligible colony with an active Epistemological Constructural Element is *disrupted* (but not removed), and will not be eligible for Development actions. Research Groups are required to develop Applications. Each Research Piece belongs to a specific Research Area (see following section), that is, it represents a specific type of research. Research Groups must consist of two Research Pieces from the same Research Area.
- ✓ A new Research Piece may be placed to form a Research Group that is automatically disrupted. The wisdom of doing so may be questionable (unless paired with Cohering), like voluntarily allowing a Government Title to fail, but the rules do not prohibit positions from doing it.

“The problem of pinning down these various entities to a nice level could imply a nice subtrope. Most Soft Sci-Fi is powered by a Large Convenient Energy Source (LCES), which in theory provides as much energy as the plot requires without refueling (‘Scotty, I need more power’). Meanwhile, since they are using magic, anti-matter, dark matter, white holes, or black holes, the theoretical power that these devices provide to our protagonists does not result in the expected megascale Dyson Spheres, ring orbitals, or space elevators. Unfortunately (or fortunately for the sake of comprehensible story telling) we relate ‘better’ to this soft Sci-Fi even though it does little to represent the actual technology needed to power replicators, transporters, shields, and artificial gravity on grand scales.”

– from TVTropes.com, “Abusing the Kardashev Scale”

Research Areas: Each Research Piece or attempt must be assigned to one of ten Research Areas, which can be conceptually divided into two groups of five each. The first group is the Universal Research Concentration which consists of the Research Areas: Energy, Matter, Information, Life, and Planets. The Universal Research Concentration is knowledge which provide the *theoretical underpinnings* for the Interstellar Research Concentration consisting of the Research Areas: Stardrive, Ships, Weapons, Defenses, and Industry. The second group consists of the *engineering knowledge* that makes interstellar culture, the sinews of the galactic empire. The following general descriptions are offered for the Research Areas.

The general descriptions below are offered for concept and edification purposes, but will become more important later during the Patent process (see Patents generally, *infra*).

Universal Research Concentration (Research Areas)

- **Energy (EGY):** Research into the production, manipulation, storage, and transmission of energy. More than any other research area, Energy output is the defining reality of advanced technological civilization.
- **Matter (MTR):** Research into the material sciences, physics, chemistry, metallurgy, and engineering, the technology for turning theory into product, channeling the Energy.
- **Information (INF):** Research into the ability to collect, process and store, and communicate information, including sensors, computers, and all of the forms of media. Information is the third major component of the universe: Matter, Energy, Information.
- **Life (LIF):** Research into the biological and medical sciences, organic chemistry, and the understanding of the basic building blocks of life and evolution. Matter, energy and information combine to make life.
 - ✓ “The secrets of evolution are time and death. Time for the slow accumulation of favorable mutations and death to make room for new species.” – Carl Sagan, *Cosmos*, Episode 2.
- **Planets (PLN):** Research into the formation and conditions of planets, including geology, satellites, orbital mechanics, tidal forces, solar forces, meteorology, erosion, planet aging, atmospheres, and biospheres, all of the knowledge required to colonize distant planets.
 - ✓ “On whim, to pass a slow half-hour, she can command more energy than the entire nation of Portugal can spend today, and use it to launch a weekend satellite or remold a crater on the Moon.” – Frederik Pohl, “Day Million” (1966).²

Interstellar Research Concentration (Research Areas)

- **Stardrive** (SDR): The knowledge that allows ships to travel interstellar distances, probably at faster-than-light (FTL) speed, and also in-system propulsion systems. Stardrive is the technology that makes interstellar culture possible; a civilization may have high levels in all Research Areas, but if Stardrive has not been invented yet, they aren't going anywhere.
- **Ships** (SHP): Knowledge of starships, construction, naval architecture, orbital shipyards, ship systems, especially life support, design, and the ship as a whole unit, also Fighters, System Boats and Bases.
- **Weapons** (WEP): The design, production, and use of all weapons, including ship weapons, bombardment weapons, and planetary defense weapons to defeat enemy defenses efficiently.
 - ✓ [Interview] “The plane took off alright and the drop on was made on Hiroshima. We were so remote from the actual explosion that it was a little hard to realize the tragic loss of life which actually occurred...” – Dr. Schreiber (audio recording), 1993 Voices of the Manhattan Project by Richard Rhodes.
- **Defenses** (DEF): Development of ways in which ships and planets can be protected from opposing forces' weapons and bombardment and natural hazards.
- **Industry** (IND): Development of new manufacturing processes, new products and demands to keep Industry vital, and engineering and construction techniques.

“He traveled in interstellar spaceships. In order to make a spaceship go really fast about thirty-one male and seven genetically female human beings had to do certain things, and Don was one of the thirty-one. Actually he contemplated options. This involved a lot of exposure to radiation flux – not so much from his own station in the propulsive system as in the spillover from the next stage, where a genetic female preferred selections and the subnuclear particles making the selections she preferred demolished themselves in a shower of quanta.” – Frederik Pohl, “Day Million” (1966) ³

Research Action: Research requires the activation of the Technology Power for that purpose with the use of one Act and no Scenes. Research consists of the following steps:

1. Choose Research Area (i.e. ‘select the target’),
 2. Dedicate Resources (i.e. ‘pay the money’),
 3. Resolve Research (i.e. ‘roll the dice’),
 4. Place Research Piece (if successful, do the Hokey Pokey).
- **Black Hole:** When the Technology Power is activated for the purposes of Research, the Actions sent to the Concierge must include a designation of the Research Area and a commitment of a specific amount of RPs for the Research Attempt. A position may not commit more RPs to research than they have available in the Treasury at that time. Because one Act is required to activate the Technology Power for Research, Research Attempts will be resolved before other Power Activations in the same turn that require more than one Act.
 - **Schrödinger’s Cat:** The basic chance of a successful Research Attempt is 50%. The chance of a successful Research Attempt may be influenced by many factors, chief among them being the sufficiency of the resource commitment. Prior to resolving the Research Attempt, the

Concierge will first determine if the Research Attempt is sufficiently funded via two die rolls using ten sided dice (results 0-9). For the purposes of resolving Research Attempts, “0” die roll results are zero, not 10. Enlightenment may (wisely!) be assigned to Research Attempts.

The first die roll will determine if the Research Attempt is overfunded or underfunded. The resource commitment is divided by three (fractions rounded down), and a ten-sided die is rolled. If the die roll is *less than or equal to* the resource commitment divided by three (fractions rounded down), the research is overfunded, if it is *greater than* the resource commitment divided by three (fractions rounded down), the research is considered underfunded.

The second die roll determines the extent to which the Research Attempt is over- or underfunded. The second roll on a ten sided die, is multiplied by 5% to determine the extent of the over- or underfunding.

- ✓ For example, a position commits 9 RPs to a Research Attempt. The amount is divided by three, for a result of 3. The die is rolled and the result is a “5.” Since the die roll of 5 is greater than 3, the Research Attempt is considered underfunded. A second die is rolled and the result is a “1” which is multiplied by 5%, meaning the research is underfunded by 5%. Only a “0” result on the second roll produces no effect from over/under funding.

It is irrelevant whether the Concierge shares the results of the die rolls with the position players or not; it is up to the Concierge. The die rolls are what they are (aka, the Law of Identity). The Concierge could even use an Intervention with a Special Bulletin.

- ✓ Application of Enlightenment to over- or under-funding of Research Attempts – whether it is a ‘failed die roll’ is governed by the rules in Harsh Mistress, 2 Colleges, p. 478, *supra*. Enlightenment application could make it worse on the reroll, but that’s a chance to take, and over- or under-funding rolls can exhaust Enlightenment.
- Cure for the Common Cold: The base chance of successful Research Attempt is adjusted by the previously-determined percentage by which the research is over- or underfunded. If the research is overfunded, the base chance of a successful Research Attempt is increased by that percentage; if it is underfunded, the base chance of a successful Research Attempt is decreased by that percentage. After adjustments, two ten sided dice are rolled to determine the final results of the research as a percentile. If the result is *less than or equal to* the adjusted base chance, the attempt was successful and a Research Piece is added to the Public Space.
 - ✓ Continued Example: The underfunding result of 5% means that 5% is subtracted from the base 50% chance of success for an adjusted 45% chance of success. Two ten-sided dice (2d10%) are rolled for a percentile, and the final die roll is 43%, which is less than 45%, thus the Research Attempt was successful. A Research Piece is then added to the Public Space as a result of successful Research.

The adjusted base chance of successful research is never greater than 90% or less than 5%.

- ✓ “Most business meetings involve one party elaborately suppressing a wish to shout at the other: ‘just give us the money.’” – Alain de Botton.
- Lab Assistants: Faculties may be committed to any roll related to a Technology Power activation increasing the odds of a favorable result. It may also be possible through Writs fo-

cused on the Technology Power to alter the results of Technology Power activations in various, creative ways. But all of this is added cost to get more bang for the buck (e.g., Faculties, Fuzzy Groups expended).

- ✓ The only tungsten-fast rule is that no modification should make the chance of success of any Technology Power Activation 100%; modern researchers and those who fund research know this is simply not the way nature works (within any time scale less than, say, a million years...). Any approach to 100% chance success in GGDM should be like approaching the speed of light – the universe narrows to a point and an exponentially increasing amount of effort is required to continue acceleration. And you can never quite reach it, falling just a miniscule percentage short.

Zero divided by three is still zero, so a Research Attempt with zero RPs committed, is underfunded on any result of “1” or greater on the first die roll. The second die roll determines how much, to a maximum of 45%. Thus a zero RP commitment Research Attempt might still have a minimum 5% chance to succeed (and a maximum of 50%).

- **Big Money:** Finally, the resources expended during the Research are subtracted from the position’s Treasury, *regardless of whether the research was successful or not*. The only remaining issue is to determine the amount that was expended. If the research was overfunded, the amount of the committed Resources will be reduced accordingly; if the research was underfunded, the amount of committed Resources will be increased accordingly (all fractions rounded up), and the final amount will be removed from the Treasury, even if this means that insufficient resources will be available during subsequent Power Activations in the same turn (i.e. a ‘budget shortfall’).
 - ✓ **Continued Example:** Since the previous rolls determined that the Research Attempt was underfunded by 5%, that 5% is added to the 9 RPs research commitment, for a result of 9.45 RPs. The final cost is rounded up to 10 RPs. Research in GGDM is an expensive process, balancing expediency and cost management.

If there are insufficient funds in the Treasury, half of the amount will be taken, or whatever is currently available from the Treasury, whichever is lesser, *and the remaining amount will be taken from the Treasury the next time the Technology Power is activated for any purpose*, before any further Research, Development, or Patents are processed. If the research was successful, but there are insufficient resources to pay for it, the Research will not be received until the research is fully funded (i.e. ‘paid for,’ stamped Paid in Full!).

Note that this ‘research deficit’ situation can create some interesting game situations; e.g. a position has to pay off the previous research before doing anything else. A position might activate the Technology Power after Taxation just to pour RPs into the black hole (i.e. ‘black hole research’ ☺) and/or to release previously completed Research Pieces.

- **Big Nothing:** Zero RPs commitment to a Research Attempt will never cost any RPs because adding a percentage to zero (see previous section discussion) will always be zero. So, yes, it is possible for a position to proceed through the game not paying anything for Research, but depending on the luck of the die (95% of the time the Research Attempt will be underfunded, by up to 45%) for an occasional success. Each attempt still costs an Act and a Power Activation however. Thus, astute players will never waste a Power Activation due to *lack of RPs*

and zero RP commitment to Research Attempts will never risk disturbing later Power Activations. This may be a necessity in some cases to pass Conflict Checks. There are dynamics.

- ✓ There is an interesting point for debate as to whether by ‘thinking out loud’ I am depriving the players of the ‘joy’ of the learning curve of the game; there is a certain joy of learning the complexities and discovering subtleties, efficiencies, exploitations and understanding of game rules through thinking and play experience.⁴ But GGDM is a simulation game that exists at the limits of human complexity and the ‘joy’ of playing is equally in the holism of the game, position management and the story arc.
 - I might also, while we are on the subject, be accused of being verbose.
- **Space Race:** New fully-paid Research Pieces must be immediately placed on an unoccupied Monad in the Public Space (which is then occupied) and the positions’ Actions must contain information as to the desired placement of the Research Piece should research be successful. If this information is not provided, the Concierge will do whatever looks right and move on.
 - ✓ Research Pieces may be placed either singly or added to another Research Piece to form a Research Group; there is *no requirement* that a Research Group be formed.

More than two Research Pieces of the same type may be placed adjacent on the Public Space, there is no limit to the number of adjacent pieces or types, but exactly two Research Pieces of the same type – no more, no less – form a Research Group. It may be possible to ‘rescue’ a *disrupted* Research Group by placing a new Research Piece adjacent to both an eligible colony with an active Epistemological Constructural Element and a Research Piece from the disrupted group. This is an alternative to attempting reactivation of the inactive Constructural Elements by Cohering (see 5 Culture, p. 421, *supra*).

“We will soon create intelligences greater than our own. When this happens, human history will have reached a kind of singularity, an intellectual transition as impenetrable as the knotted space-time at the center of a black hole, and the world will pass far beyond our understanding. This singularity, I believe, already haunts a number of science-fiction writers. It makes realistic extrapolation to an interstellar future impossible. To write a story set more than a century hence, one needs a nuclear war in between ... so that the world remains intelligible.”

– Vernor Vinge, op-ed for Omni Magazine, 1983

The Vinge Rule: Nuclear war provided a plausible out, before 1945, writers would have needed something with divine implications, such as a meteor. Though I do believe that Vernor Vinge is generally correct, I would note that 20 years before his article, Frank Herbert had created a setting – Dune – that was far more than 100 years into the future and didn’t involve a nuclear war.

However, perhaps the Butlerian Jihad and the vast spatial and temporal distance provided the same overall *do-over effect* (see Foresight discussion, 2 Colleges, p. 472, *supra*), while Star Trek, of course, used some sort of global nuclear war from a conventional world war backstory as did the Mad Max series, and is perhaps to what Mr. Vinge was alluding.

- ✓ “The development of full artificial intelligence could spell the end of the human race.” – Stephen Hawking.

Herbert's Dune remains generally intelligible (if by a stretch) because despite all, the characters, the human populations, and the story contains all of the normal human drives and elements we recognize from Earth in the now – power, greed, drug addiction, men still fight for mates and money, women still generally have babies the same way, they still use psychotic drugs and religion – and all of it ties into a subconscious messianic urge for divine enlightenment.

“As long as we don't program emotions into Robots, there is no reason to fear them taking over the world.” – Neil deGrasse Tyson

Deep Learning the Singularity: This game – a product of the information revolution – makes no assumption on whether or when the Technological Singularity may occur or what the effects might be. Participants may determine that it happened before the game (e.g., Battlestar Galactica), or that it never happened, or that it happens during the game as part of the story. It may occur in conjunction with the invention of Stardrive; the two might be related. However, current predictions suggest that we are a lot closer to the Singularity event than we are to faster-than-light travel. Most science-fiction works of any kind since 1950 can be classified as pre-singularity. Because of the frightening implications of the Singularity, we have barely begun to discuss it yet. The defining point for all intelligences however, is their comprehension of and reaction to the existential void. What will the machine intelligence do when confronted with the void?

- ✓ “Humans should be worried about the threat posed by artificial intelligence.” – Bill Gates.

Deep Learning software is already beyond our understanding and opaque to us, see Will Knight article excerpt in The AI Problem, Corporations, *infra*, but is being used in rapidly increasing range of applications. Quantum computing has not yet been achieved by engineering, though Microsoft released the first Quantum Computing language in 2017. Quantum communication has been achieved and nations are using Q-Comm Satellites for security now. What happens in a decade or two when the reality of quantum computing meets deep learning? This is why many experts feel or fear that the technological singularity is only 50 years away.

Could a Deep Learning AI play GGDM? You saw this coming.

- ✓ “Instead, it relied entirely on an algorithm that had taught itself to drive by watching a human do it.” – Will Knight, “The Dark Secret at the Heart of AI,” MIT Technology Review, April 11, 2017.
 - ✓ “The car's underlying AI technology, known as deep learning, has proved very powerful at solving problems in recent years, and it has been widely deployed for tasks like image captioning, voice recognition, and language translation.” *Id.*
 - ✓ See full quote, AI Problem excerpts, Corporations, *infra*.
- **All About Toasters:** There was an interesting shift in the Cylon creation story between the original Battlestar Galactica (1978) and the reimagined series (2004). In the original series, the Cylons were created by a long extinct reptilian species (*à la* Fred Saberhagen's ‘Berserkers’); this might have been intended to explain the shiny chrome coldness of the Cylons. This was the Erich von Däniken era and the opening narration stressed extraterrestrial origins of life on Earth (or at least of humanity) to attract a certain audience (like me in my youth) and it might not have sat well with the 1970s audience if we had created the monsters that were trying to exterminate us (following the human invention of the Bomb).

In the 2004 series, a generation after the end of the Cold War, the Cylon back story was changed so that humans created the Cylons. The chrome Centurion Cylons were created by the Twelve Colonies, the Final Five were created on the original Earth (not our Earth) by the Thirteenth Tribe (Cylon tribe) that left Kobol. The Final Five also recreated the resurrection technology and biological human versions of the Cylons (the Centurion Cylons had only created hybrids). After thousands of years of sub-light travel, they made contact with the Centurion Cylons of the Twelve Colonies (who had FTL drive).

- ✓ Thus, in the end of the series, in their quest for Earth, they did find “Earth” – not the Earth of the Thirteenth Tribe, but our ‘Earth’ about 150,000 B.C. That they found Earth, but did not find Earth, and both are true, is a fuzzy sapient statement, one that machines (currently) would/might not understand.
- ✓ A short spin-off series, Caprica (2010) was created to explain the human creation of the Cylons before the series; the story is entangled in the struggles of a radical monotheistic cult (including suicide bombers) against the majority polytheism.

“Everything is designed. Few things are designed well.”

– Brian Reed (brianreed.me, not to be confused with Brian Reid who sued Google)

“The world won’t care about your self-esteem. The world will expect you to accomplish something BEFORE you feel good about yourself.” – Bill Gates

Development: Development is the process by which Research Groups in the Public Space become Applications on the current Era Matrix (i.e. finding something useful to do with the research), which in turn, are used for Patent Interpretations that introduce new *major* technologies into the game. Development attempts require the activation of the Technology Power for that purpose with the use of two Acts and no Scenes. Development also requires that the position currently have on its Public Space at least one Research Group, as well as, some small, variable amount of RPs in the Treasury. Each Research Piece can only be involved in one Development attempt per Regular Turn, even if part of two or more overlapping undisrupted Research Groups.

➤ Development Fund: When attempting Development, the position must specify one existing *non-disrupted* Research Group as the target of the Development. Further, the Actions sent to the Concierge must contain the locations of one or more currently open spaces on the current **Era Matrix** for the position. At the time the Actions are submitted, a number of RPs will be deducted from the position’s Treasury equal to the number of Matrix locations specified in the Actions times the current Era number *squared*.

- ✓ Example, a position chooses a non-disrupted Energy Research Group on the Public Space and specifies two open spaces (by coordinates) on the current Era Matrix to which the Energy Research Group could be Developed into an Application. The position is currently in the 1st Era. Thus the cost of the Development attempt will be just 2 RPs ($2 \times 1^2 = 2$) which will be subtracted from the Treasury. If the position is currently in the 2nd Era, the cost of the Development attempt will be 8 RPs ($2 \times 2^2 = 8$) and in the 3rd Era, the cost will be 18 RPs ($2 \times 3^2 = 18$).

Each undisrupted Research Group may be the target of only *one* Development attempt each Regular Turn.

- The Kitty Incident:⁵ An attempt to Develop the target Research Group will be made by the Concierge each time the position's Regular Turn Actions are processed, until either successful, or until all of the specified Matrix locations are exhausted. Each turn that the Development is not successful, the target Research Group type⁶ (e.g., Industry Research Group, Defense Research Group) is permanently blocked from becoming an Application **at the specified Matrix location**. The next turn's Development attempt moves to the next specified Matrix location *as long as it is still open*, until all Matrix locations in the Action are exhausted.

If the Development of the Research Group into an Application fails on the first turn, Development on subsequent turns *will not require any additional activations of the Technology Power* or expenditure of additional RPs, it will be processed automatically. Development attempts will terminate if the Research Group becomes *disrupted* and will **not** restart automatically when restored. Because Enlightenment *can only be assigned to Power Activations*, there is no opportunity to add Enlightenment on the second and subsequent Development attempts. Unused Enlightenment will be returned when either it fails or is successful, see Vampire Suicide, 2 Colleges, p. 478, *supra*.

- ✓ Multiple Development attempts may be ongoing at any time as long as there is a *separate and specific Research Group assigned to each* (i.e. two Development attempts may not be made on the same Research Group in a turn). Multiple Development attempts can target the same Matrix location; if one is successful, the others following will be blocked. Development attempts will be processed in the order submitted.
- ✓ It is possible through incredibly bad luck and/or Development of other Applications at the target locations to permanently foreclose Development of a specific Research Group in the current Era Matrix. The group will again become eligible for Development in the next Era Matrix when it becomes available (see The Progress of Eras, 1 Eras, p. 759, *infra*).
- Short One Wingnut: The base chance of Development of the Research Group each turn is 50%. If there is only one remaining space on the current Era Matrix, the Development of the Research Group is automatically successful. The base chance is increased by 5% if any of the adjacent spaces contain an Application with the same Research Area. The base chance is reduced by 10% if there are no Applications adjacent to the target space on the Matrix, including instances where there are no Applications currently on the Era Matrix.
 - ✓ Thus, the base chance for Development of the first Application on an Era Matrix is 40%. Breaking into a new Era is an entire scientific revolution.
 - ✓ There is a dynamic between the number of currently open spaces on the Era Matrix, the number of spaces specified for Development of a specific Research Group, and cost and certainty of success.
- The Better Mousetrap: When the Research Group is successfully developed into an Application, it is removed from the Public Space (freeing up two Monads) and placed on the specified single space on the Matrix as an Application. All Applications on the Era Matrix occupy one space and are labeled with the Research Area from which they were Developed (e.g., Weapons Application). Applications on the Era Matrix do not have Constructural Elements.

- ✓ There is no rules provision in GGDM for removing single Research Pieces from the Public Space, only for removal of Research Groups by successful Development into Applications. There is no process for removal of Research Groups other than by successful Development. Placement of a Research Piece on the Public Space is a permanent act and a commitment to future successful Development. In some instances, Research Pieces may be moved or lost due to the need to form new Pathways (e.g., see Capital Chaos, 2 Government Titles, p. 598, *supra*) or from other necessary rearrangements of the Public Space during the game.

“Cong Cao, an expert on China’s science and technology, put it more bluntly in an article he wrote: ‘When the paper bubble bursts, which will happen sooner or later, one may find that the real situation of scientific research in China probably is not that rosy.’”

– “‘Publish or perish’ leads to fraud and paper bubbles in research,” Shanghai Daily, October 10, 2011 (authorship unattributed)

Paper Bubble: The Technology Power is not immune to entropic effects or Interventions by the Concierge during the game, but there are some careful guidelines that should be followed.

For example, it is possible to use Interventions to occasionally remove Research Pieces from the position’s Public Space on the basis of research fraud, bad data, duplication, plagiarism, etc.⁷ However, as Applications on the Matrix are expected to represent concrete, provable, repeatable results of research applied through engineering – ultimately leading to the physical laws of the game universe – they probably cannot be removed, especially if they are part of a Patent.

And of course, Patents which are actual demonstrable technologies, probably cannot be affected by Interventions (certainly cannot be lost). In other words, short of the apocalyptic or catastrophic collapse of civilization, it is not likely that humanity will *unlearn* electronic computing, rocketry, vaccinations, aircraft, nuclear technologies, contraception, or cocaine, but the true advance of technology and science is currently perceived to be in some danger of corruption and dilution. However, there are a couple of other ways in which the Concierge can gently Intervene to apply entropic effects to Technology Power Activations short of removing existing pieces:

Inactivation of the Epistemological Constructural Element in the right places (due to social upheaval, incompetence, change in worldview locally, anti-intellectualism or anti-education) can disrupt Research Groups. The Concierge is also free to ‘embezzle’ RPs dedicated for research or adjust percentages for success through the use of Interventions. Developments and construction abilities from Patents might sometimes be unavailable for a period, representing ‘lost’ tech.

- **Dumpster Fire Alarm:** The following article is not offered to criticize China – the alarm bells have been raised in the West as well as in India (see discussion, 1 Information, bottom feature quote and EN 6, pp. 1337-1338, *infra*) – but rather because this article presents the issue most succinctly for GGDM purposes. In fact, this article suggests that a well-funded Technology College or activation of Technology Power Writs in GGDM may serve to aggravate systemic problems almost as much as it helps the position advance in technology. That is, the systems created by or for the technological and scientific advancement of humanity have become a drag on the very endeavor. Within every process lie the seeds of its demise (echoing Dean Inge, 5 Government Titles, p. 641, *supra*). Where do we find the proper balance?

- ✓ “Editor’s note: How can China become an innovative country when many professionals are judged not by their real accomplishments but by their output of papers? The following Xinhua article identifies one of the biggest hurdles to innovation: blind worship of academic publishing – the more the better.

[Article begins] AS China’s economy has soared to the second place in the world, the country’s scientific strength has also surged – if only measured by the numbers. Chinese researchers published more than 1.2 million papers from 2006 to 2010 – second only to the United States but well ahead of Britain, Germany and Japan, according to data recently published by Elsevier, a leading international scientific publisher and data provider. This figure represents a 14 percent increase over the period from 2005 to 2009. The number of published academic papers in science and technology is often seen as a gauge of national scientific prowess. But these impressive numbers mask an uncomfortable fact: most of these papers are of low quality or have little impact. ...

China’s CPA [Citations per Article] dropped ... for the period from 2005 to 2009, and is now below emerging countries such as India and Brazil. Among papers lead-authored by Chinese researchers, most citations were by domestic peers and, in many cases, were self-citations. ‘While quantity is an important indicator because it gives a sense of scientific capacity and the overall level of scientific activity in any particular field, citations are the primary indicator of overall scientific impact,’ said Daniel Calto, Director of SciVal Solutions at Elsevier North America. Calto attributed China’s low CPA to a ‘dilution effect.’ ‘When the rise in the number of publications is so rapid, as it has been in China – increasing quantity does not necessarily imply an overall increase in quality,’ said Calto.

‘Chinese researchers are too obsessed with SCI (Science Citation Index), churning out too many articles of low quality,’ said Mu Rongping, director-general of the Institute of Policy and Management at the Chinese Academy of Sciences, China’s major think tank. SCI is one of the databases used by Chinese researchers to look-up their citation performance. The alternative, Scopus, provides a wider coverage worldwide. ‘Chinese researchers from a wide range of areas and institutions are vying for publication, as it is a key criterion for academic appraisal in China, if not the only one. As a result, the growth of quality pales in comparison to that of quantity,’ said Mu, an expert on China’s national science policy and competitiveness.

On the other hand, China also falls behind the United States in multidisciplinary research, which is a core engine for scientific advance and research excellence. From 2006 to 2010, China published 1,229,706 papers while the United States churned out 2,082,733. According to a new metric introduced by Elsevier’s Spotlight research assessment solution, China generated 885 competencies while the United States had 1,817. In other words, China’s total research output is more than half that of the United States, while the number of competencies showing China’s strength in multidisciplinary research is less than half that of the United States. Cong Cao, an expert on China’s science and technology, put it more bluntly in an article he wrote: ‘When the paper bubble bursts, which will happen sooner or later, one may find that the real situation of scientific research in China probably is not that rosy.’ – ‘‘Publish or perish’ leads to fraud and paper bubbles in research,’’ Shanghai Daily, October 10, 2011 (authorship unattributed) (available free online).

GGDM is my only ‘paper’ so far, and no one would mistake it for ‘research.’

Russian Ambassador: *Cobalt thorium G has a radioactive half-life of ninety three years. If you take, say, fifty H-bombs in the hundred megaton range and jacket them with cobalt thorium G, when they are exploded they will produce a doomsday shroud. A lethal cloud of radioactivity which will encircle the Earth for ninety three years!*

President Muffley: *I'm afraid I don't understand something. Is the Premier threatening to explode this if our planes carry out their attack?*

Russian Ambassador: *No sir. It is not a thing a sane man would do. The doomsday machine is designed to trigger itself automatically.*

– Dr. Strangelove (1964)

Endnotes.

¹ Citation: “What is happening, you ask? Well, nothing. We have not made progress for 40 years. The problems we are trying to solve today are the same problems we were trying to solve half a century ago. This worries me because if we do not make progress understanding nature on the most fundamental level, then scientific progress will eventually be reduced to working out details of applications of what we already know. This means that overall societal progress depends crucially on progress in the foundations of physics more so than any other discipline. I know that a lot of scientists in other disciplines find that tremendously offensive, but if they object, all I have to do is remind them that without progress in the foundations of physics, there would be no transistors, no microchips, no hard disks, no computers, no wi-fi, no internet; there would be no artificial intelligence, no lasers, no magnetic resonance imaging, no electron microscopes, no digital cameras, computer science would not exist, modern medicine would not exist either because the imaging methods and tools for data analysis would never have been invented. In brief, without the work that physicist did 100 years ago, modern civilization as we know it today would not exist.” – Sabine Hossenfelder, “Physics is still in crisis,” Sabine Hossenfelder YouTube Channel, June 5, 2020.

² Citation: A fantastic video made from the author’s reading of “Day Million” is available on YouTube at <https://www.youtube.com/watch?v=ec7SJy26tLA>.

³ Commentary: I wonder if Frederik Pohl’s “Day Million” (1966) is related to Zager & Evans “In the Year 2525” (1968)? The song was written in 1964, so it predates “Day Million” publication by two years.

⁴ Commentary: Long ago, I participated as a player in, and assisted in the late design of a free PBEM game called Empire Forge. I created a FAQ page that was eventually 200 questions long clarifying the rules and operation of the game program, I also created a Ringer Board page, a Pink Floyd inspired short story and a background mythology, “Mythology of the Maj.” I noticed as a result that over time, new players coming into the game were playing it at a higher level in shorter time than when I had begun the game. Unfortunately, it didn’t go well when I suggested re-writing the rules; no set of game rules should have 200 FAQ.

- ✓ Similarly, in one afternoon, two friends and I played three consecutive games of the steampunk time-travel board game Khronos. We each won one game. But each game played became progressively more complex and longer as our calculations of ripple effects, building placement, and resource management deepened. It was an extraordinary phenomena to witness. Deep Learning in humans.

⁵ Citation: Reference to an old television commercial where the cat on the lab table knocked over some beakers of chemicals and the scientist found the mess the next morning on the floor and ‘discovered’ plastic.

⁶ Clarification: Thus, because a Research Group is made of two Research Pieces of the same type, a ‘blocked’ location on the Matrix cannot be unblocked by simply shifting to another Research Group of the same type. This prevents having to track which individual Research Groups have been blocked or having players making shifty moves with overlapping Research Groups to get around the blocked Matrix location. Blockage of Research Group ‘types’ solves the issue in a broad stroke. The blocked Research Group types must be displayed for the players to know.

⁷ Commentary & Citation: “You copy from one book, it’s plagiarism, if you copy from 100 books, it’s research.”

- ✓ There are many variations of this on the internet attributed to several different authors and has a long history, see <https://quoteinvestigator.com/2010/09/20/plagiarism/>.

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See Appendix EPATI – The Existential Patents
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See Appendix TECH – Technology Progress

“Imagine Knut decides to take a sip of coffee from the mug next to his right hand. He does not even have to think about how to do this. This is not because the situation itself is trivial (a robot capable of recognising the mug, deciding whether it is full, then grabbing it and moving it to Knut’s mouth would be a highly complex machine) but because in the context of all possible situations it is so trivial that it no longer is a problem our consciousness needs to be bothered with.”

– Wiki e-book: [Cognitive Psychology and Cognitive Neuroscience, Problem Solving from an Evolutionary Perspective](#) (2011) ¹

Triviality: Within GGDM, ‘looking’ is non-trivial. This is probably not, and cannot be, true of the universe in general. Trivialness probably depends on consciousness.

- ✓ For example, I have grown very tired of always ending up in the wrong universe, the one where for each opportunity, in any situation or task, out of all of the possibilities, I end up in the universe where the petty, annoying and utterly stupid little thing always goes wrong, just for the purpose of annoying me. It’s truly amazing how consistently trivialness happens in our daily lives.

“Reverse engineering has its origins in the analysis of hardware for commercial or military advantage. However, the reverse engineering process, as such, is not concerned with creating a copy or changing the artifact in some way; it is only an analysis in order to deduce design features from products with little or no additional knowledge about the procedures involved in their original production.”

– from Wikipedia article, “Reverse Engineering,” captured October 23, 2019

Reverse Engineering: Thus, in reverse engineering, we are not trying to create an exact duplicate of Damascus Steel or an A7V tank from WWI – except perhaps to demonstrate that our analysis is correct – but rather to discover the features, abilities, and knowledge behind the design and construction. In the case of artifacts, whether alien or historical, it may be impossible or undesirable to produce an exact copy of the artifact.²

- ✓ This is an example of how Wikipedia quotes are used in GGDM; this quote helped frame the reverse engineering rules in the game design. That is, Reverse Engineering in GGDM will not allow a position to duplicate another position’s Patent or make copies without having the Patent. When the Allies captured German A7V tanks in 1918, they examined them, but not for the purpose of making copies.
- ✓ In 1976, Viktor Belenko defected to the West from the Soviet Union by flying his MiG-25 Foxbat and landing in Hokodate, Japan. The combat jet was disassembled, fully examined and tested, then returned to the Soviet Union in crates aboard a freighter and Japan presented a bill to the Soviet Union for damage to the airfield, crating and transport. The MiG-25 was an aircraft whose purpose and abilities were largely unknown to the West; it turned out to be a high-altitude interceptor not a fighter-bomber as originally believed (it had some kick, but not much punch!). The West was not trying to make their own copies of the MiG-25, but rather to make

training simulators of the MiG-25 and it is not likely that the West obtained any technology from the MiG-25 that they did not already have, the MiG-25 was borderline obsolete by the time it entered service.³

- De-conjunction Junction: Activation of the Technology Power for the purpose of Reverse Engineering is an attempt to find out how an alien technology works so that it can be used or adapted to the position's technology. The Technology Power Activation costs only a Scene at the location to be examined, no Acts are used, perhaps representing plausible deniability.⁴
 - ✓ If the junk is floating in system space, the Scene must be on the star, if not, then it must be on the planet location.

Deconstructing an alien technology requires two basic parts: The opportunity to view or have the alien technology for study, and second, the not inconsequential task of figuring out what it does and how it works.

- ✓ The 'opportunity' may also come as a result of successful Special Operations, *infra*, e.g., the insane Operation Wildhorn III, July 25, 1944 to steal V-2 rocket parts. During the Cold War, in 1988 the US stole a crashed Soviet Mi-25 Hind-D helicopter located in Chad, and the Soviets tried to snatch an American F-86 Sabre in 1951.

The latter difficulty includes, but is not limited to, different basis for the technology, alien writing and counting systems, possible differences in Eras (Would a medieval person be able to reverse engineer a telephone? Even if they had one?), the fact that the object may be part of a system and have no standalone function, that the object may be inconsequential, and not the least – the fact that it's alien.⁵

- ✓ For example, a computer keyboard is a wonderful artifact – I have many, most of them don't work (cat barfed on one, tea cup spilled on another...). The keyboard is useless without being attached to a computer, and my laptop is useless now because of a dead keyboard. Without our language and counting systems, and the concept of writing – e.g., consider a Japanese keyboard, we know what a keyboard is and does, but without the proper computers and knowledge of Japanese language, it's useless to have one. Maybe an archaeologist will find my house and a trove of dead keyboards.
 - ✓ For example, that the object may be a toy – some alien brat left its favorite toy behind and its parents had to endure the long flight with bratty pouting and whining in the backseat all the way home to Betelgeuse.
 - ✓ Not to mention schematic and mapping systems. We were told in military school that we would not be able to use Soviet maps, not only because of the different alphabet, but also because their longitude zero runs through Moscow instead of Greenwich. In the last couple of years, the full and stunning extent of the Soviet military mapping obsession has been revealed and discussed in second tier media in the West.
- Roman Numerals Again: The Roman numerals were an additive system and we understand them because they were preserved and continued some use after the introduction of the positional notation Hindu-Arabic numeral system. What if they were alien, or if Roman culture, like the Hittites, had been erased from history, and we had no cross references, no clues that they were numbers?

- ✓ “Much of the world, including Europe, also lacked an efficient numbering system such as that developed in the Hindu and Arabic cultures. (Try long division, for example, using Roman numerals.)” – Jon Davidson, “What is Calculus,” Southern State Community College (Ohio), undated article.

- See also discussion of Roman Numerals in Symbols & Abstractions, 1 Beginnings, p. 29, and EN 8, p. 33, *supra*.

Any numeral system – whether tally or place notation – has a base cycle, for example, in the current world, the cycle is 10, the numbers run from 1 to 10, and then after 10, the next number is $(10 + 1 =) 11$ through to 20, and so on. If a species only had 8 digits, their counting system might cycle in eights (octal), that is, 0-7 and the next number after 7 would still be 11, but there would be no 8, 9 or 10, 18, 19 or 20 and so on. And the development of zero in our *place notation* counting was a 500 year process; zero was originally nothing and had no symbol or at least, no mathematical operation. Zero is necessary for development of computers, but in all cases it is likely a late development added to an already existing numeral system.⁶

- ✓ In Episode 1 of the Japanese language (with English subtitles) tiaga drama Yae’s Sukara (2013), the master of the ‘artillery’ school in Edo in about 1853, rather than being concerned about ‘shooting cannons,’ instead stressed learning to read Dutch so that they could learn ‘Western arithmetic, science, military and medicine’ with the goal that Japan could build anything the Westerners could if they understood how. Thus, the key to figuring out an alien technology is as much likely in figuring out their language (especially if they left the manuals behind) than in understanding the basis of the technology; the Stargate series cheated on this issue because the aliens were using scripts known from ancient Earth (more precisely, that they had introduced to ancient Earth) to which some modern concepts were added, such as the numeral zero.
- Alien Artifact: When the Technology Power is activated for the purpose of Reverse Engineering the Scene must be at the location of the proposed Reverse Engineering attempt. The position’s Regular Turn Actions must describe in sufficient detail the specific alien physical object or colony and the level of contact with the target alien object or colony. Finally, the Action must describe the objective (or ‘sub-purpose’) of the Reverse Engineering as either Xeno-archeology, Alien Patent or Alien Stardrive.
 - ✓ Alien Stardrive objective requires possession of a reasonably intact alien starship (e.g., ‘flying saucer’), and is a slightly different procedure described separately below.
 - ✓ For the purposes of Reverse Engineering in GGDM, Xeno-archeology is not limited to ‘dead worlds’ or ancient civilizations; it broadly encompasses physical examination of all alien technologies, including on current ‘living worlds’ controlled by the position.

Previously colonized worlds can count as colonies for Reverse Engineering purposes; for example, see designated Special Planets which are former **alien colonies**, Resources from Special Planets, 2 Taxation & Census, p. 307, *supra*.

- ✓ There are a limited number of Reverse Engineering opportunities at each site or for each artifact (*ut infra*), and thus, the position players should be cognizant and choose

carefully for their needs, does the position need Research Pieces or a connections between Applications? Or is Era Progression and as shiny new Stardrive Patent more important?

- ✓ The card game Race for the Galaxy features prominently cards relating to discovery of alien ships and worlds with ruins (especially the Alien Rosetta Stone world), and the emergent “six drop” (a player term) development card called the Alien Tech Institute. In the Babylon 5 universe, there is an Earth-government related xeno-archeology corporation, Interplanetary Expeditions, which is in the business of mining alien technology for profit. Their slogan is “Exploring the past to make a better future,” though in another view, they are opportunistic scavengers of dead worlds. Within the framework of GGDM, it is likely possible to create Colleges, Institutes and/or Corporations relating to reverse engineering alien technology.
 - Organizations are *individual effectiveness multipliers*. Had Raemer Schreiber, Enrico Fermi, or Robert Oppenheimer been soldiers on the front lines – a man with a gun among thousands – they would not have invented the atomic bomb and nuclear power. The resources and commitment of the U.S. government at war placed them together at Los Alamos.
- Champollion: The starting point to resolve all Reverse Engineering activations of the Technology Power is a judgment by the Concierge – quantified in a number from 1 to 9 – of the ‘Quality of the Contact’ with the proposed alien object or colony. A value of ‘1’ represents very weak contact – such as a fleeting glimpse of a UFO – while a value of ‘9’ represents the best quality of contact, such as possession of an undamaged major alien artifact at a urbanized colony, or a colony on a planet containing the remains of a previous alien civilization. Other factors may, at the judgment of the Concierge, include whether or not First Contact has been made with the (former) alien owners (in some cases, they are extinct in the playing area), length of contact, whether **alien colonies** have been Conquered, Converted or Naturalized, and whether Diplomatic Spaces or Shared Meanings exist with the alien originators. Establishing a Specialized Colony for that purpose at the location of a dead/abandoned **alien colony** is a major effort by the position, and Colleges may also be considered. Reverse Engineered alien technology may also be important or even critical to the story of the game.

The position will not be informed ahead of time (and players should not ask) what the Concierge might consider the Quality of Contact for any situation or what factors may be considered; there will be no pre-discussion or arrangements or prejudgment opinions issued.

 - ✓ One example of the problems merging human and alien technologies into a working system is the television show, Star Trek: Deep Space Nine. Chief Engineer O’Brien comments on it several times during the show.
 - ✓ The Quality of Contact judgment by the Concierge is extremely important to all Reverse Engineering attempts. It should not be treated randomly, the Concierge should not abdicate their responsibility to a die roll when one is not dictated by the rules.
- Tourist Attraction: The attractions of Reverse Engineering alien technology ranges from the possibility of a cheap tech boost from someone else’s research to necessity when confronted with possibly superior alien military technology (in the real world, it is called Technical Intelligence, or TechInt, a prominent feature of the Cold War). Either way, it costs RPs. The position’s Turn Actions must include, as with regular Research attempts, a number of RPs

committed to the Reverse Engineering attempt, which will be immediately subtracted from the position's Treasury (this amount will not be modified as in regular Research attempts). Note that with a cost of *no Acts and one Scene*, Reverse Engineering attempts will normally be processed before Actions costing just one Act (see Appendix PAT2).

- ✓ The first two Spitfires owned by the predecessor to the Israeli Air Force were assembled from junk – leftover parts from the British Royal Air Force and parts salvaged from downed Royal Egyptian Air Force Spitfires. They were test flown in July and October 1948 and entered service. The intriguing possibility of reassembling and using alien vehicles is not directly addressed in Reverse Engineering (it would be very difficult, considering they are of alien origin, not like Spitfires). But if this were desired in the game, the Concierge could substitute receipt of an alien ship for normal results of Reverse Engineering plus some risk of loss on the first flight.
 - ✓ The best technical intelligence agency in the world is Jane's Information Group (aka, "Jane's") whose books were frequently referenced in my intelligence section during field training exercises, instead of the embark box full of dusty military field manuals that we had to bring along for show: We had an embark box full of technical manuals and a backpack full of Jane's. And a lot of pogeey bait.
- Alien Prometheus: The essence of reverse engineering is the engineering, not the technology, though some relationship of understanding must exist between the two. Technology Power activations in GGDM encompass technology and engineering as a whole process.

Reverse Engineering attempts for the purpose of 'Xeno-archeology' seek to gain Research Pieces, which are placed on the Public Space, and may sometimes result instead in a new Application placed on the Matrix (i.e. a Development). These attempts are resolved like normal Research Attempts (see 2 Technology, p. 702 *et seq.*, *supra*) with the following differences:

- ✓ No Research Area is chosen for Reverse Engineering attempts, if the attempt is successful, the Research Area is determined randomly (or by Concierge judgment).
- ✓ The *base chance* of success is 5% x the Quality of Contact modifier determined by the Concierge, which produces a base chance range of between 5% and 45%.
- ✓ The RPs committed to the Reverse Engineering attempt are divided by four instead of three, and the attempt is overfunded if the second die roll is less than (rather than less than or equal to) the RPs divided by four. Otherwise, it is underfunded; there is a greater chance of underfunding in Reverse Engineering attempts than normal research.
- ✓ The chance of success of a Reverse Engineering attempt is the base chance plus or minus the over- or under-funding percentage, just like a normal Research Attempt.

Finally, for each successful Reverse Engineering attempt for the purpose of Xeno-archeology, there is a chance equal to the Quality of Contact assigned by the Concierge that a Development will be received on the Matrix instead of a Research Piece on the Public Space. This creates an 'exponential' effect for the Quality of Contact assigned by the Concierge, as it both influences the chances of success and the chances of obtaining an alien Application instead and careful judgment should be exercised. The Application will be received when the research is fully paid, in cases of underfunding and insufficient RPs in the Treasury. The Application received will be either one listed on the Patent of the alien item being examined, or

randomly determined (e.g., for an abandoned alien world) and it will be placed in a randomly determined open location on the Matrix but not connected (see Patent Prosecution, 3 Patents, p. 747, *infra*). The Concierge can also substitute judgment based on what is being examined.

- ✓ The question of a Reverse Engineering attempt is not so much whether, given enough time (considering the time represented by a GGDM Regular Turn) they can ‘figure it out’ but rather, whether or not there is anything useful to be gleaned from what is being examined? Returning to Damascus Steel for example (or even Greek Fire), the curiosity is mostly historical; ‘rediscovery’ will likely not add much to our current technology as our current technology is vastly superior overall to ancient technology.
 - ✓ Reverse Engineering attempts, by their nature, provide many opportunities for creative Concierge use of Interventions. As I am sure you can imagine... Terminator 2 (1991) is the result of reverse engineering future technology leftover from the first movie and competing time-travelling interventions, but the whole franchise was rather careless about temporal paradoxes. Who needs intellectual stuff like temporal paradoxes when you have Schwarzenegger?
 - ✓ [Interview] “Someone who assembled the weapon – it might have been Schreiber, I don’t recall – remembered that when the whole thing was supposedly finished, he noticed that some of the wires were reversed and stayed up all night reversing them back the way they were supposed to be or the thing might not have worked at all. And it was General Groves’ horror that the bomb might not work, the material would land on the ground and the Japanese would sweep it all up and use it to make a bomb themselves, not a very likely scenario, but General Groves worried a lot about making sure these things actually worked when and how they were supposed to work.” – Richard Rhodes (author of The Making of the Atomic Bomb (1986)), The Half-Life of Genius: Physicist Raemer Schreiber (2018).
- Itsappe Who Stole Fire: Prometheus stole fire from the Titans to give to man (Ancient Greek tale), Itsappe (coyote in the Shoshone tale) stole fire from the humans for the animals.⁷

Reverse Engineering with the objective of ‘Alien Patent,’ if successful, will result in one random connection being established on the Matrix between two Applications are adjacent on the Matrix and not currently connected. There does not have to be an actual alien Patent.

- ✓ It’s sort of like, ‘Gee, I didn’t know the safety match tip and the friction strip on the match pack were connected!’⁸☺

The mirroring requirements plus the chances of success make ‘Alien Patent’ a long shot, but an established connection can be very beneficial in terms of several potential future Patent Prosecutions (see 3 Patents, p. 747, *infra*) and Era progression (see 1 Eras, p. 759, *infra*). The process does not directly lead to copying of or obtaining the Alien Patent.

- ✓ A Reverse Engineering attempt for the purpose of Alien Patent costs 1 RP.
- ✓ The chance of success of the Reverse Engineering attempt is equal to the Quality of Contact expressed as a percentage, that is, from 1% to 9%.

If successful, a connection will be established between two Applications currently on the Matrix as described above. If there are multiple possible connections, one will be chosen randomly (meaning there is likely little reason for the Concierge to exercise judgment on this).

- ✓ The business card read, “Wile E. Coyote, Super Genius. Have brain. Will travel.”

“Lazar said that his job was to help with the reverse engineering of one of nine flying saucers, which he alleged were extraterrestrial in origin. Lazar claims one of the flying saucers, the one he coined the ‘Sport Model,’ was manufactured out of a metallic substance similar in appearance and touch to stainless steel. In a subsequent interview that November, Lazar appeared unmasked and under his own name.

Lazar claimed that the propulsion of the studied vehicle was fueled by the chemical element with atomic number 115, or ‘E115’ (which in the 1980s was presumed to exist but had not yet been artificially created; it was first synthesized in 2003 and later named moscovium). Lazar explained that the propulsion system relied on a stable isotope of E115, which he explained generates a gravity wave that allowed the vehicle to fly and to evade visual detection by bending light around it. No stable isotopes of moscovium have yet been synthesized; all have proven extremely radioactive, decaying in a few hundred milliseconds.”

– from Wikipedia article, “Bob Lazar,” captured October 23, 2019

Flying Saucers: Stardrive Patents are different from regular Patents in GGDM, as will be explained in the Stardrive sections, *infra*. If the Reverse Engineering purpose is ‘Alien Stardrive’ – one of which must be present e.g., from a crashed or captured alien ship, and the reverse engineering attempt is successful on the same Regular Turn as an attempt is made to prosecute a new Stardrive Patent, the chance of success of the latter is increased by 5-15%. That is, rather than possibly receiving a Research Piece (or Application) or a connection between Applications on the Matrix, Reverse Engineering of the Alien Stardrive may result in improvement of a chance to successfully develop a new Stardrive on the same Regular Turn.

- ✓ Norman Spinrad’s Second Starfaring Age (The Void Captain’s Tale (1983), Child of Fortune (1985)) was kicked off by the reverse engineering of the alien Jump Circuit from abandoned colonies of We Who Have Gone Before.

As described in Event Horizon, 1 Eras, p. 760, *infra*, development of a new Stardrive is critical to advancement out of the 1st Era, so this could be very important to the position. To obtain this possible effect of Reverse Engineering an alien stardrive requires two activations of the Technology Power on the same Regular Turn, and the Reverse Engineering attempt will resolve first.

- ✓ This effect cannot be obtained if 1) the ship being examined had a Generic Stardrive (GSD, see 2 Stardrive, p. 791, *infra*) and 2) the position attempting the Reverse Engineering already has the Generic Stardrive (GSD) Existential Patent. In these cases, the Reverse Engineering attempt will be converted to Xeno-archeology and resolved accordingly (as the position may not know in advance what sort of Stardrive was on the ship being examined, and this is a risk), and will have no effect on Stardrive Patent prosecution.
- ✓ This process does not allow improvements in Ship Speed of the Generic Stardrive (or any other Stardrive) through Continuous Operational Technology (COT) Patents (see 2 Patents, p. 740, *infra*), it only applies to prosecution of a new Stardrive Patent as described in Stardrive Patent Prosecution, 2 Stardrive, p. 796, *infra*.

- E115: The chance of success in Reverse Engineering an Alien Stardrive is the Quality of Contact (QOC) number determined by the Concierge plus the Current Era of the position.

This means that the range of probabilities is from 2% to 11% (QOC 1-9% plus 1-2% for 1st or 2nd Era, min 2%, max 11%); it is unlikely unless the 4th Era is opened in the game (optional), that a 3rd Era position will attempt to Reverse Engineer an Alien Stardrive.

- ✓ The percentages range from a 1st Era position looking at a totally smashed alien ship trying to figure out how it goes (2%) to a 2nd Era position examining an intact alien ship (11%).

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The attempt also costs 3 RPs from the Treasury.

- ✓ This, like many other Power Activations in GGDM is a risk-cost-benefit evaluation. For the cost of a Technology Power Activation, a Scene and 3 RPs, the position has a 2-11% chance of getting a one-time bonus, usable on the same Regular Turn that it also tries to prosecute a new Stardrive Patent. But success could significantly alter the development trajectory of the position and possibly the game!⁹

Upon a successful Reverse Engineering of an Alien Stardrive, the bonus of 5-15% to concurrent Stardrive Patent Prosecution on the same Regular Turn is randomly determined and applied. The position does not need to know the bonus received, only that they successfully Reverse Engineered the Alien Stardrive. Each type (that is, the type of Stardrive on the ship, each ship can have only one type) of Alien Stardrive may only be Reverse Engineered once.

- ✓ As an aside, a Minor Race (pre-1st Era) would have a 1-9% chance of figuring out the flying saucers they captured, if the government can surreptitiously budget (over say, 50 years or a century) the 3 RPs without the taxpayers noticing.
- Alien Tourist Trap: It is suggested that each major alien object or general location (i.e. Special Planet) may be the subject of a limited number of Reverse Engineering attempts by a single position. That is, a position should not be able to ‘milk’ or ‘mine’ one find for the entire game; the find should be investigated and *then civilization moves on*, whether or not anything was gained from the investigation. Any continuing research at the site is subsumed under normal Research and Development rules described in 2 Technology generally, *supra*, without specific reference to xeno-archeology. How many attempts are allowed for each site or object is at the judgment of the Concierge, but an entire dead/abandoned alien planetary civilization should not merit more than three Reverse Engineering attempts (in one to three consecutive Regular Turns), perhaps one of each objective (i.e. Xeno-archeology, Alien Patent, Alien Stardrive) while a single crashed alien ship should get only one attempt of any type.
 - ✓ The Concierge, through use of an Intervention, *may* change the initially set Quality of Contact modifier on the second and third Reverse Engineering attempts at the same location; e.g., the researchers may do damage through carelessness or lack of understanding, thereby reducing the chances of success, or they may improve chances through diligent, careful, considered analysis. This should be done for story purposes and the Concierge should prudently avoid doing it to solely ‘level up’ ‘reward’ or ‘punish’ a position; it could also be handled completely randomly by a computer assistant, though that sort of defeats the purpose of having a human Concierge and disregards the possible effects of Colleges and positional commitment to technology.

- ✓ Reverse Engineering attempts could be made at the location of Conquered **alien colonies** or **alien colonies** of other Native Population Types in the game that have recently been abandoned or obliterated. This very much affects the Concierge judgment of quality of the contact (the scale of 1-9, *ut supra*); a Conquered Colony, intact, will rate high on the scale, whereas, there might not be much left to find if the subject colony has been largely obliterated before surrender or being forcibly Balkanized.¹⁰
 - See also Xenobiology discussion, 1 Information, p. 1333, *infra*.
- ✓ Reverse Engineering should not be confused with scavenging, e.g., the main lead characters at the beginning of the TV series *Defiance* (2013-2015) were scavengers looking to make it rich quick in a mostly lawless wasteland. However, if the participants like, scavengers could be the source of alien junk at a location to be used in Reverse Engineering attempts. Scavengers could have a major effect on the game even.
- ✓ There is a *blurry continuum* from scavenging to intelligence to reverse engineering, e.g., Project Azorian attempting to recover Soviet submarine K-129 in 1974, to which Howard Hughes lent plausible deniability (see 3 Special Operations, p. 1314, *infra*).

“Man the maker looks at his world and says ‘So who made this then?’ Who made this? – you can see why it’s a treacherous question. Early man thinks, ‘Well, because there’s only one sort of being I know about who makes things, whoever made all this must therefore be a much bigger, much more powerful and necessarily invisible, one of me and because I tend to be the strong one who does all the stuff, he’s probably male.’ And so we have the idea of a god. Then, because when we make things we do it with the intention of doing something with them, early man asks himself, ‘If he made it, what did he make it for?’ Now the real trap springs, because early man is thinking, ‘This world fits me very well. Here are all these things that support me and feed me and look after me; yes, this world fits me nicely’ and he reaches the inescapable conclusion that whoever made it, made it for him.”

– Douglas Adams, “Is there an Artificial God?” speech at Digital Biota 2, Cambridge U.K., September 1998 (transcript and audio recording of the more than one hour speech are available free at <http://www.biota.org/people/douglasadams/>)

Children & Puddles: This is probably how children see the world, and how my cats – if they ever wondered why – would think of their heated cat houses and food dishes. What Mr. Adams is speaking about is a simple acceptance of existence. Like a cat or child. But the child grows up, and the cat doesn’t.

- ✓ See also In Our Puddle, 1 Entropy, pp. 231-232, *supra*, for Douglas Adams’ ‘puddle’ story.
- ✓ See further Mythopoeic Thinking discussion, 1 Temporal Technology, p. 809, *infra*.

[Interview] “The discovery of nuclear fission was like the discovery of fire. It was the first major form of energy that does not depend upon, ultimately, the sun.”

– Richard Rhodes (author of *The Making of the Atomic Bomb* (1986)), *The Half-Life of Genius: Physicist Raemer Schreiber* (2018)

The Secret of Fire: There was a debate in the latter half of the 20th Century about when human ancestors (not necessarily beings we would call human) discovered or gained the controlled use of fire. This is not an issue as simple as it sounds, for there is a difference between having controlled use of fire obtained and preserved from natural sources, and the ability to make a fire.

The one fact that was clear throughout was that human ancestors had the ability to keep and control fire for far longer than they had the ability to make fire – our ancestors probably obtained fire first from lightning strikes on trees and other burnable materials, or from carrying burnable materials up to volcanic vents. Fire was so important that the story of how humans obtained fire was embedded in every religion from the time that creation myths began; many Native American myths describe a wolf bringing fire down from the heavens or a volcano as a gift to humans.

The secret of fire is this: That human ancestors had fire – and overcame the animal’s instinctive fear of fire – for a long enough time that it profoundly affected our evolution. Some estimates place the advent of controlled use of fire back as far as 750,000 years ago, based on evidence found in caves at Zhoudoukian (i.e. The Peking Man, *Homo erectus pekinensis*). Most scholarly analysis accepts that human ancestors had control of fire – if not the ability to make fire – at least 400,000 years ago.

- ✓ One can imagine back around 1 million B.C.E. a persecuted weird doomsday cult that wore body covering and insisted on cooking all foods, and who predicted the demise of all who didn’t follow their way...

The benefits of the controlled use of fire are easily extolled in their obviousness; they include warmth, light, protection from predators and winter, the ability to expand to new living areas, pottery, heat-bending wood and hardening wooden spear points.

- ✓ “Evidence for life in caves is abundant, and Mousterians must have occupied them extensively. Windbreaks of poles and skin were probably erected at the cave mouth for protection against the weather. Fire is in general use by this time of course, and no doubt used for cooking, for warmth, and for keeping dangerous animals at bay.” – Jurmain, Nelson & Turnbaugh, Understanding Physical Anthropology and Archeology, 3rd Ed., 1987, p. 437.

Fire light probably was a major contributing factor to the rise of storytelling (e.g., cave paintings), legends, early religion, and mysticism. Fire was the first god that humans could touch.

- ✓ “We mentioned earlier Peking Man’s practice of cutting away the base of a human skull to remove the brain. Deep in the Guattari Cave, sixty miles south of Rome, Neanderthals performed a similar ritual. Explorers found a human skull – the right side crushed and the foramen magnum area cut out – in the center of a circle of stones. Near the circle were several piles of deer, cattle, and pig bones. Apparently, the man had been killed (sacrificed?) outside the cave, by a smashing blow to the right side of his head. His head was taken into the cave and placed within the circle of bones. What is the meaning of this remarkable activity? For the first time in human history, we find people who are concerned with more than the material aspects of life. Deliberately burying a corpse and depositing objects that belonged to him alongside his body reflects attitudes and values different from the ordinary. Death had meaning, perhaps mystical, something unknown, and Neanderthals recognized that they had to come to terms with what they didn’t understand.” – *Id.*, pp. 439-440.

- Raw Meat: But most importantly, fire led to cooked food. Cooking food makes it softer and of course, safer, as it kills many harmful microbes that might have devastated early population groups. Softer food is easier to chew and to digest, and this in turn, meant that the muscles that control the jaw, which are attached to the top of the skull, decreased in size. This decrease in the size of the chewing muscles may have resulted in a larger cranial space. This change was so pervasive over a period of half a million years – how many people do you know who have an appetite for unprocessed raw meat?

- ✓ “By the Middle Pleistocene times in Java, *H. erectus* had changed, but not a great deal. A slight increase occurred in the height of the vault and the diastema and projecting canine had disappeared. The small brain continues in the Trinil (Sangiran) 2, 3, 10, 12, and 17 specimens, which are all remarkably similar. There seems to have been little evolutionary change in the Middle Pleistocene until the upper levels of the Kubah Beds are reached. Here, a recent significant find, Sangiran 17, estimated at about 500,000 years, represents a decided break in the similarity of Javanese Middle Pleistocene erectus forms.

Although this almost complete skull retains the basic morphological pattern of Java erectus, it is longer, broader and higher. The dental arch is remarkably similar to *H. sapiens*, and the forehead is higher than any other Javanese *H. erectus* of the Middle Pleistocene. These modifications of skull size are reflected in the cranial capacity of Sangiran 17, which measures 1,023 cm³. We do not presently know what processes might have occurred in the short time representing 30 feet of strata separating Sangiran 12 (900 cm³) from Sangiran 17 (1,029 cm³) that could have produced this increase in cranial capacity.” *Id.*, p. 383.

No, humans are not able generally to consume raw meats – our digestive system and psychology have changed so much from the evolutionary impact of controlled fire, that conscious effort is required to eat *unprocessed* raw meats (you would not dine with the lions and wolves) – and many humans don’t seem to prefer to consume even raw vegetables or to a lesser degree, raw fruits (though of course, we can and do). Warm food is reassuring and relaxing, it is a vital part of our psychology, the need to eat warm, cooked food, once a day.

- ✓ Not even Paleo-diet promoters hawk eating raw meat (but hawks do!).

- Testosterone Bubble: At a much later point in human evolution, approximately 150,000 to 50,000 years ago, there was a marked decrease in the testosterone levels of male populations over a wide range of ethnicities. This may have – is theorized to have – resulted in less violence, more cooperative behavior, and less distraction. The timing of the decrease coincides with most of the intellectual and cultural advances associated with late prehistoric humans.

- ✓ “Humans went through a major development 50,000 years ago, when the species, which first developed 150,000 years earlier, started to develop tools and art started to flourish. Testosterone levels in humans was beginning to moderate down to modern concentrations around the same time, according to a new study.

Study was undertaken of 1,400 modern and ancient skulls, which led to the understanding of decreasing testosterone levels. Among these were 13 skulls more than 80,000 years old, along with 41 specimens aged between 10,000 and 38,000 years, and 1,367 modern skulls, representing 30 ethnic backgrounds. Researchers believe

that lower levels of the male hormone may have led to a greater degree of understanding between people, reducing violence, allowing arts and toolmaking to become more advanced.

‘The modern human behaviors of technological innovation, making art and rapid cultural exchange probably came at the same time that we developed a more cooperative temperament,’ Robert Cieri, from the University of Utah and lead author of the study, said.

Decreasing testosterone levels were noticeable through the changes to the shape of human skulls from the period. Thick eyebrow ridges receded, as heads became rounder.” – James Maynard, “New Study Links Lower Testosterone Levels to the March of Civilization,” Tech Times, August 12, 2015.

- ✓ “Testosterone levels can also affect social interactions of our primate relatives, according to researchers. Male chimpanzees experience a large increase in testosterone levels during puberty, while concentrations among bonobos is small. When chimps become stressed, their bodies release additional testosterone, while cortisol, a hormone related to stress, floods the bloodstream of bonobos. Social interactions between chimpanzees are much more prone to violence than similar incidents between bonobos. Brow ridges are also much more pronounced in chimps than they are in the mellower species.” *Id.*

We have now reached a point where some men need testosterone-boosting treatments.

“Biology is more like history than it is like physics. You have to know the past to understand the present. There is no predictive theory of biology, nor is there for history. The reason is the same: Both subjects are still too complicated for us.” – Carl Sagan, Cosmos, Episode 2

Backdoor Evolution: Carl Sagan shows that empiricism *does not equate* to predictive ability.

There was no anthropology class in my STEM-oriented high school (we had a planetarium and a two story greenhouse inside the school), and no courses in psychology or any of the social sciences. On the latter, “World Cultures” was about as far as they got when they should have been teaching intro criminology. In the United States, at least, anthropology (of any kind) has been considered a college subject as no local school board would risk the wrath of the righteous right in funding a course in anthropology (or anything approaching evolution, even zoology).

This represents a major gap in our public education that probably has not changed, with consequences for civilization. In fact, evolution was not even discussed; rather, the teaching of evolution was back-doored in – as it was in so many places – through the teaching of biology by progression through the phyla of the animal kingdom. Many authors have pointed that modern biology or life sciences cannot be taught *sans* evolution. Further, to ‘disprove’ the ‘theory’ of evolution would require the destruction of the whole of modern science, as every branch of science has contributed over the last 150 or more years, to the developments in our understanding of life and evolution on Earth.

But what truly becomes interesting is when the controversial textbook Of Pandas and People (1989, 1993) is introduced into the conversation. In *Kitzmiller v. Dover Area School District*, 400 F. Supp. 2d 707 (M.D. Pa. 2005), the Court determined that the book was simply a reedited

creation science book where some terms were substituted for ‘creator’ to avoid claims that the book was creationist. Thus, the court deduced that the intent behind *Of Pandas and People* and the introduction as a required textbook in the Dover Area School District was an attempt to backdoor the teaching of ‘creation science’ in public schools, which had previously been rejected in *McLean v. Arkansas Board of Education*, 529 F. Supp. 1255 (E.D. Ark. 1982) and *Edwards v. Aguillard*, 482 U.S. 578 (1987). The *Kitzmiller* Court concluded thus:

- ✓ “Those who disagree with our holding will likely mark it as the product of an activist judge. If so, they will have erred as this is manifestly not an activist Court. Rather, this case came to us as the result of the activism of an ill-informed faction on a school board, aided by a national public interest law firm eager to find a constitutional test case on ID [intelligent design], who in combination drove the Board to adopt an imprudent and ultimately unconstitutional policy. The breathtaking inanity of the Board’s decision is evident when considered against the factual backdrop which has now been fully revealed through this trial. The students, parents, and teachers of the Dover Area School District deserved better than to be dragged into this legal maelstrom, with its resulting utter waste of monetary and personal resources.”

But there have been no court cases of which I am aware – after *Tennessee vs. Scopes* – regarding the backdoor teaching of evolution via high school biology (or sometimes called life sciences) classes. Defendant *Scopes* lost technically, but the real loser was Fundamentalism, and the real winners were the Modernist. In matters of pure fact, as in cases before the Court where establishing *fact* is paramount, science clearly has the upper hand over religion, which is why it is utter fallacy for religion and creationist to fight in Court battles, especially ones with no jury.

There is an interesting dynamic playing out, corollary to the Empirical Mythology discussion in 1 Technology, p. 691, *supra*: Science has been very careful not to cross over into the reserve regions of religion – except that it hasn’t stopped science-fiction writers from regularly going there – but religion has ham-handedly attempted to invade the factual regions of science on many occasions. It is worth reading again:

- ✓ “Science and religion ask different questions about different things. *Where religion addresses ontology, science is concerned with ontic description.* Indeed, it is what Orthodox theologian David Bentley Hart calls their ‘austere abdication of metaphysical pretensions’ that enables the sciences to do their work.” – Michael Robbins, “Atheists Used to Take the Idea of God Seriously. That’s Why They Mattered.” *Slate Magazine*, July 8, 2014 (emphasis added).

“People never stop to think about these basic facts when they watch wars and cop shows on the television. People take too much for granted. Each time a gun is fired the whole history of engineering comes into play. Of politics, too: war, assassination, revolution, terror. Guns aren’t just history’s props and agents: they’re history itself, spinning alternate futures in their chamber, hurling the present from their barrel, casting aside the empty shells of the past.”

– Tom McCarthy, *Remainder* (2005)

Endnotes.

¹ Citation: Cognitive Psychology and Cognitive Neuroscience – Problem Solving from an Evolutionary Perspective, by AkumAPRIME, Anwinkle, Aschoeke, et al. (14 contributors, 52 anonymous edits), at <https://en.wikibooks.org/w/index.php?oldid=2064115>, published in PDF book form at <http://www.saylor.org/site/wp-content/uploads/2011/05/Problem-solving-from-an-evolutionary-perspective.pdf> (Saylor Academy).

² Citation: “Imitation is the sincerest form of flattery that mediocrity can pay to greatness.” – Oscar Wilde.

³ Commentary: I read Belenko’s co-authored (with John Barron) autobiography, *MiG Pilot* (1980) sometime around 1985. Some Marine who barrowed the book in the late 1980s drew a moustache and goatee with a pen on Belenko’s cover image. Because that’s what they did to books in high school, and most first-enlistment military service members are high school kids with guns.

⁴ Commentary: “Conjunction junction what’s your function?” – Schoolhouse Rock, “Conjunction Junction” (1973).

- ✓ I am a bit raffish. That much should be clear by now. What the heck does Schoolhouse Rock have to do with reverse engineering alien technologies? But if you think about it long enough ...

⁵ Commentary: There are lots of conjecture and conspiracy theories on this point in the UFO community. Does the government have a UFO, bodies, or other alien artifacts stowed somewhere down Extraterrestrial Highway (Nevada SR 375)? Have they made any progress in figuring out the technology? Remember pushing the lever forward is reverse. Hollywood loves UFO conspiracy theories (e.g., Independence Day, Close Encounters).

⁶ Citation: I highly recommend viewing the April 18, 2020, Up and Atom YouTube video “Why We Might Use Different Numbers in the Future,” which clearly explains what always seems like a complicated subject of numbering systems. The video references books by Isaac Asimov on the advantages of different base numbering systems.

⁷ Commentary: Native American tales still have some charm, whereas Ancient Greek tales have always seemed to have been told by a bunch of drunk old men.

- ✓ Though I could not find it, I remember a native tale about a coyote who carried a burning twig in its mouth down from a volcano to give man fire.

⁸ Citation: “The first known use of matches was in 577 during the siege of a town in northern China. Women in the town used sticks coated with a mixture of chemicals to start fires for cooking and heating, thus allowing them to conserve their limited fuel by putting the fires out between uses. The details of this technique were subsequently lost to history. It was not until 1826 that John Walker of England invented the first friction matches. Walker’s matches were ignited by drawing the heads through a folded piece of paper coated with ground glass. He began selling them in 1827, but they were difficult to light and were not a success.” – Chris Cavette, “Match,” How Things are Made (<http://www.madehow.com/Volume-3/Match.html>), undated article.

⁹ Commentary: In the universe of the Andromeda television series, the Vedrans invented slipstream drive and conquered the worlds of their galaxy, forming an empire, using their exclusive control of the means of FTL travel. The Kalderan race was attacked by the Vedran Empire, but they later captured a Vedran starship and reverse engineered the slipstream drive. With slipstream drive, the Kalderans built a fleet of starships that were able to strike back against the Vedrans and only eventually succumbed due to the vast size and resources of the Vedran Empire compared to the much smaller area controlled by the Kalderan Commune (see discussion of Minor Races, 4 Diplomacy *infra*). Eventually the Vedrans, like the Romans, understood that they could not control such a large empire (three galaxies) indefinitely, and the Vedran Empire morphed into the more democratic Systems Commonwealth. Knowledge of the slipstream drive thereafter spread to all technological species, either through membership in the Commonwealth, or because the Kalderans gave the technology to everyone to encourage galactic revolts.

¹⁰ Commentary & Citation: For example, the Russians gained the knowledge and ability to produce tungsten steel when they took over the Krupp Works in Magdeburg during the post-WWII occupation (source, Wikipedia article, “Krupp,” July 20, 2018). Tungsten steel, which Germany had been manufacturing since before WWI, was the material key to the superiority of German armor and weapons. *This implies that the Russians did not have tungsten steel armor during WWII.* This is an example of how a technology could be captured with a colony, at the judgment of the Concierge; no reverse engineering was required.

- ✓ England had only one tungsten mine in 1912, and it was owned by the Germans and England was getting 90% of its tungsten from German companies before WWI (Greig Watson, “World War One: Tungsten ‘the armour plate of conflict’” BBC News, June 6, 2014). During WWII, the allies bombed tungsten mines controlled by Germany along with other mines that provided nickel and molybdenum to harden steel, by 1943, the quality of new German armaments declined due to shortages – tungsten was also used in armor-piercing tank shells which drained the supply (the Soviets also used tungsten rounds, e.g., the T-34 fired them).

**Excerpt from the Journal of the Trademark and Patent Office Society (JTPOS)
December 1990 Issue, Letters to the Editor, pp. 1122-1134**

United States Court of Appeals for the District Circuit

91-1955

IN RE: EMMETT L. BROWN

Decided April 1, 1991

Before RICH and MARKEY, and THYME, District Judge.¹

This appeal is from the decision of the United States Trademark and Patent Office Board of Patent Appeals and Interferences (the Board), affirming the Examiner’s final rejection of all of the claims of Emmett L. Brown’s patent application Serial No. 840,336 filed March 18, 1986, entitled, “Time Machine.” We affirm.

Background

On March 18, 1986, Brown filed a patent application for an invention entitled, “Time Machine.” The application described an admittedly novel apparatus which had formerly been the exclusive province of science fiction novels. According to the invention, under proper operating conditions, a device called a “flux capacitor” could displace the apparatus a specific amount either forward or backwards in time. Temporal displacement would occur upon the application of approximately 1.21 GW of power while the apparatus (in the preferred embodiment, a late model sports car) was travelling at a speed of 88 m.p.h.²

Brown briefly asserts that all of the pre-1985 uses were subject to the “experimental use” doctrine. This doctrine was first established by the classic case of City of Elizabeth v American Nicholson Pavement

¹ Judge Justin Thyme, United States District Court for the Western District of California, sitting by designation.

² While other technical details of the device are truly fascinating, a discussion of them is not necessary for this opinion.

Company, 97 U.S. (7 Otto) 126, 24 L.Ed. 1000 (1878), and has been followed by numerous cases thereafter. See, e.g., Baker Oil Tools, 828 F.2d at 1564, 4 USPQ2d at 1214; Hycor Corporation v Schlueter Co., 740 F.2d 1529, 1535, 222 USPQ 553, 557 (Fed. Cir. 1984); TP Laboratories, 724 F.2d at 971-72, 220 USPQ at 581-82. The Board properly rejected this argument, given (1) the time machine was clearly adequately tested no later than Brown's original return to 1985 from the year 2015, so subsequent use was not "experimental," and (2) the lack of control by Brown over his invention, noted above, defeats any assertion of experimental use. In Re Hamilton, 882 F.2d 1576, 1580, 11 USPQ2d 1890, 1894 (Fed. Cir. 1989).

Brown next makes a number of ingenious arguments resulting from the unique facts of this case. First, he argues that the "one year" filing requirement of §102(b), should be measured from the time of the first reduction to practice (here 1985) rather than uses which occurred in the space-time continuum before then only due to the fact that the invention in question was a time machine. Brown argues that he truly first "used" the machine in October 1985, and filed his patent application within one year thereafter, in March 1986. Brown argues that he could not have filed his application any earlier than 1985, because, although the machine admittedly was "used" numerous times in 1885 and 1955, it had not actually been "invented" until 1985 (at least according to Brown's subjective point of view).

This is the stuff from which science fiction novels are made. The problem is that §102(b), as written, does not recognize glitches in the space-time continuum such as Brown has created. It merely talks about uses more than one year before the patent application. We note that the statute easily could have been written to take Brown's predicament into account, since the concept of time travel was well known by the time of the enactment of the Patent Act in 1952. See H. G. Wells, The Time Machine (1895); R. Heinlein, By His Bootstraps (1941), reprinted in The Menace from Earth (1959) (using a time machine, a man meets himself three times, argues with himself, and even loses some of those arguments).

Brown essentially argues that the Board’s holding is unfair. He argues that any time machine invention would be subject to the problem he has now encountered. That is, as soon as a patent issued, an infringer would use it to build a time machine, travel back in time, and invalidate an otherwise valid patent by “using” the time machine more than one year before the patent application’s filing date. Brown argues that it is inherent that any time machine would be “used” more than one year before it’ patent application was filed, by the very nature of the invention.

Brown thus poses the interesting hypothetical question of whether a post-issuance infringement of his patent by another could provide a defense to a patent infringement claim. This interesting hypothetical has no bearing on this case. Here, Brown himself used, or allowed the use, of his invention more than one year before he filed his patent application. He cannot now complain.

Finally, Brown asks us the following hypothetical question. Suppose he now used his invention to travel back to 1885, and refiled his patent application at that time. Clearly there would be no prior public use problem under §102(b) (or under its predecessor statutes). Such an application would have been filed well before any use of the time machine by anyone.

Although we are not in the business of answering hypothetical questions, in this situation we may respond as follows. Under Brown’s duty of disclosure of material facts to the Patent Office, Brown would be obligated to disclose this opinion to the Patent Office as part of his filing of any such 1885 application. In that case, it appears to us that this opinion would bar any such 1885 application under the doctrine of res judicata – even though under those circumstances, this opinion would not have been written until 100 years in the future.

Conclusion

The Board’s decision rejecting all of the claims is

AFFIRMED

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See Appendix EPAT1 – The Existential Patents
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“Certainly an inventor ought to be allowed a right to the benefit of his invention for some certain time. Nobody wishes more than I do that ingenuity should receive liberal encouragement. In the arts, and especially in the mechanical arts, many ingenious improvements are made in consequence of the patent right giving exclusive use of them for fourteen years.”

– Thomas Jefferson ¹

Technosolution: Technosolution is the dogmatic unspoken belief (and ideology of modernity) of nascent industrialized technological societies that all problems, including social problems, will eventually be solved by *technology* (e.g., Bob Moser quote, bottom or Twilight Zone episode, “Number Twelve Looks Just Like You,” 1964).² Technosolution is a special modern subset of Forward Expectations, see 1 Disruption, p. 255, *supra*. It is the core of scientific utopian dreams.

Technosolution seems to be related to scientism (like a non-identical twin), which term itself is an implied critique of exaggerated expectation of *science* in the realm of human affairs; Case, Diamond, Elwell, and others featured previously argue against scientism in their own ways:

- ✓ Merriam-Webster online dictionary at *scientism*: **2:** an exaggerated trust in the efficacy of the methods of natural science applied to all areas of investigation (as in philosophy, the social sciences, and the humanities). First use was in 1870.
- ✓ “Scientism is the promotion of science as the best or only objective means by which society should determine normative and epistemological values. The term scientism is generally used critically, implying a cosmetic application of science in unwarranted situations considered not amenable to application of the scientific method or similar scientific standards. ... In the philosophy of science, the term scientism frequently implies a critique of the more extreme expressions of logical positivism...” – from Wikipedia article, “Scientism,” captured April 23, 2020.
- ✓ “The roots of scientism extend as far back as early 17th century Europe, an era that came to be known as the Scientific Revolution. Up to that point, most scholars had been highly deferent to intellectual tradition, largely a combination of Judeo-Christian scripture and ancient Greek philosophy. But a torrent of new learning during the late Renaissance began to challenge the authority of the ancients, and long-established intellectual foundations began to crack. The Englishman Francis Bacon, the Frenchman Rene Descartes, and the Italian Galileo Galilei spearheaded an international movement proclaiming a new foundation for learning, one that involved careful scrutiny of nature instead of analysis of ancient texts.” – Thomas Burnette, “What is Scientism,” American Association for the Advancement of Science (AAAS), undated.
- **History Patented:** During the development of modern Europe, every sovereign struggled with the instinctive need and urges to control a phenomenon they barely understood. There were a lot of moving parts to this problem – and states both feared and needed the powder keg potential of the new European obsession with tinkering on which they sat. The Republic of Venice is held to have issued the first statutory patent system in 1450, the basic principles of which still exist today in all patent systems. The English monarch (and probably others) issued patent decrees which amounted to Crown monopolies until 1624 when all monopolies were revoked by the Statute of Monopolies.

The first U.S. Patent Law was passed in 1790, (Colonial Legislatures issued individual patents before the Revolution) and the first French Patent law was established in 1791. Throughout the 18th Century, patent law was refined to require public specification in patents, to allow patents for improvement to existing machines and processes, and in the 19th Century, the addition of patent examination. Finally, in the 18th Century, governments, who had previously been pushed and jostled along by technological developments, affirmatively embraced and encouraged technology advances, often and usually, for the advancement of their struggles with rival nations.

- ✓ George III of England (reigned 1760-1801), much maligned in the Thirteen Colonies, may have been one of the first monarchs to have a keen interest in and understanding of science and technology; he was mocked in the press for his interest in mundane matters, such as agriculture. The expectation of being titled and proudly useless was already established in Europe, see Arrears in Aristos discussion, top of 2 Entropy, p. 234, *supra*. He is also the first of the House of Hanover kings born and raised in England, who spoke native English. George I and II were born in Germany and had to learn English.
- ✓ Some fact information gleaned from Wikipedia article, “Patents,” March 16, 2018.
- ✓ See discussion of the Longitude Act of 1714 and Mr. Harrison’s invention, 2 Eras, EN 2, p. 776, *infra*. The Longitude Act prize seems to be a sea change in sociopolitical acceptance of technology, at least as to the Anglo-sphere.

“In 1972, the federal government even blessed the emerging field of futurism with a new research agency, the congressional Office of Technology Assessment, which reviewed proposed legislation for its long-term effects. Futurists were optimistic about lawmakers’ new interest in the long term.... Newt Gingrich has long been enamored of science fiction – he wants to build a moon base. But when Mr. Gingrich, a Georgia Republican, became speaker of the House in 1995, he quickly shut down the Office of Technology Assessment. The government no longer had any place for futurists, and every decision about the future was viewed through the unforgiving lens of partisan politics....”

‘It is ridiculous that the United States is one of the only nations of our size and scope in the world that no longer has an office that is dedicated to rigorous, nonpartisan research about the future,’ Ms. [Amy] Webb [founder of Future Today Institute, Prof. NYU Stern School of Business] said. ‘The fact that we don’t do that is insane.’”

– Farhad Manjoo, “Why We Need to Pick Up Alvin Toffler’s Torch,” New York Times, July 6, 2016

So Comes the Future: People ‘know’ you shouldn’t drive drunk, but they do anyway. They make it home and it’s all right, so they forget about it. Then one day, they don’t make it home driving drunk and everything is never going to be all right ever again. So comes the future.

- ✓ It’s *insane* to drive drunk, you are a danger to yourself and others, and that’s why they toss you in a cell. Maybe that’s why we are still on Earth, humanity is a danger to itself and others. We confine people to jail and mental hospitals (and euthanize sick animals) for that very reason.

The Patent Process: The Patent is the process by which players may create and introduce new milestone technologies into the game in relation to the position's technology grid (i.e. Matrix). A Patent is an Interpretation, and a successful Patent – which is not published – must be used as the Interpretation accompanying the Technology Power activation used to prosecute the successful Patent on the Regular Turn it is introduced. If the Patent is not successfully prosecuted, a News Event must be used as the Interpretation for the Technology Power on that turn (though what the News Event reports is up to the players). Both must be provided with the position's Regular Turn actions.

It costs a lot of RPs, Acts, and Power Activations to get to the new Patent prosecution. Players should carefully consider the proposed Patent so as to create a useful, game-changing technology. All the basic technologies of interstellar civilizations are already present in the Existential Patents. So go for something crazy; Patents should be non-trivial.

- ✓ For example, the baseline against which to compare the Existential Patents is nothingness; they create 'things' in the game by their existence and that is non-trivial to the game. One might naturally also compare them to our early 21st Century technology.

While it is hard to estimate during the game design, probably each position may successfully prosecute 6-10 *original* (i.e. non-Existential) Patents per game. Taken together then, all of the Patents of all of the positions in the game may advance interstellar technology significantly.

- ✓ There is a video on PBS Space Time channel titled, "Should we build a Dyson sphere?" We cannot. We wouldn't even be able to start. We don't have the resources or technology and possibly won't ever. So I don't understand the question?
- **The Patent Application:** To begin the Patent process, the proposed Patent must be submitted to the Concierge with the position's Actions, and the Technology Power must be activated on the same Regular Turn for the purpose of Patent Prosecution. The proposed Patent must contain all of the elements of the Patent, except the User Manual, at the time of the submission. Other than the Power Activation cost, there is no other cost to prosecute a Patent Application.
- **Patently Different:** Patents in GGDM, unlike real world patents, never expire during the game, and only their secrecy grants the holder exclusive rights – until they are reverse engineered or shared.
 - ✓ For example, Delenn offered to share Minbari anti-gravity technology with other races in the press conference in the Babylon 5 episode, "Rising Star" (1997), to entice them to join the Interstellar Alliance.

Also, Patents in GGDM are non-commercial, so many of the real world issues, such as submarining patents, patent thickets, patent ambushes, are avoided; there is no basis in GGDM for making a claim against another position due to 'patent infringement.' Thus, Patent as used in GGDM has only the loosest relationship with the concept as understood in the real world (see feature quotes, endnotes, and Violating the Laws of Man and Nature, 3 Temporal Technology, top of p. 828, *infra*, for discussion) and the game depends upon the Concierge to keep it all reasonable and consistent.

- ✓ The stark difference between real world patents and GGDM patents is this: a real world patent describes something that works or is projected to work (i.e. not in violation of any established scientific principles) and would do so regardless of whether or not it is patented; whereas, a GGDM Patent describes the operational qualities of

game objects and those game objects cannot exist without a successful GGDM Patent Prosecution. And the scientific principles? ... well, they are optional.

“The books of the Ionian scientists are entirely lost. Their views were suppressed, ridiculed and forgotten by the Platonists and by the Christians who adopted much of the philosophy of Plato.” – Carl Sagan, Cosmos, Episode 7³

Existential Patents: It is assumed that all positions in the game represent some technologically advanced society and that each position enters the game with the necessary technological background required to engage in interstellar colonization and culture. These existential technologies are represented by a special type of Patent, the Existential Patents, that are available for purchase using Inheritance Points during the game set up.

- ✓ See Patents for Sale, 7 Beginnings, p. 72, *supra*, for ‘purchase’ of Existential Patents through Applications during the setup process. The Existential Patents serve as a rules and setting nexus connecting Beginnings, Technology, Patents and Eras.
- ✓ Positions receive, in addition to the Existential Patent, one or two Applications to place on the Matrix from the Patent’s Theory. This represents a sort of ‘crossing the threshold’ to the 1st Era, most of the Existential Patent technology is pre-1st Era, with the addition of a couple of nifty inventions, discoveries, or innovations.

The Existential Patents are the only ‘pregame’ technologies allowed, players may only develop new technologies after the game starts. The game can run on the Existential Patents alone; the Patent process allows players to shape the technology of the game and/or improve Existential Patents. The Existential Patents are provided in Appendix EPAT.

- ✓ One of the most immediately notable differences between the original Star Trek *Enterprise* and Star Trek: The Next Generation *Enterprise* – I recall this as my first impression on seeing ST TNG – was the feel and look of the ship design, especially the bridge. The Next Generation series felt relaxed, comfortable (sometimes too slick and particle-of-the-week comfortable), accepting of technology, whereas the original Star Trek was always gadgety, Spartan, and, like the audience, not quite comfortable with technology. As soon as I began watching The Next Generation, the original Star Trek that I had grown up loyally watching on PBS instantly seemed clunky and old.
- **Patent on Posterity:** It is impossible for any position to ‘purchase’ all of the Existential Patents with their Inheritance Points (IPs, not to be confused with, Resource Points/RPs). Any Existential Patent not obtained during set up **may not** be later ‘purchased’ by any means, but must be submitted, and processed as a regular Patent by any position once that position has the correct alignment of Applications on the 1st Era Matrix required by the Patent.
 - ✓ As will be explained later in 1 Eras, all Existential Patents must be completed to advance to the 2nd Era of technology. A position should start with as many Existential Patents as possible and is initially restricted from prosecuting new Patents.
 - ✓ See Temples of Science, 1 Technologies, p. 690, *supra*, and The Matrix, 1 Eras, p. 756, *infra*, regarding the Era Matrix.
- **Needful Things:** There is somewhat of an order of precedence among the Existential Patents, for example, it would not do a position any good to have the Scout Ship or 1st Era Warship

Existential Patent, before having the Generic Stardrive Existential Patent and Ship Systems Existential Patent. A position could begin *slow* with Generic Stardrive Existential Patent and Scout Ship Existential Patent, without having the Ship Systems Existential Patent.

- ✓ See 2 Stardrive and 3 Movement generally, *infra*, for the Existential Patents mentioned in this section.

*“The toe bone’s connected to the foot bone,
The foot bone’s connected to the ankle bone,
The ankle bone’s connected to the leg bone,
Now shake dem skeleton bones!
The leg bone’s connected to the knee bone,
The knee bone’s connected to the thigh bone,
The thigh bone’s connected to the hip bone,
Now shake dem skeleton bones!”*

– James Weldon Johnson & J. Rosamond Johnson, “Dem Bones” (1928)

The Parts of a Patent: A Patent form consists of five parts (see Appendix EPAT1 for samples of Patent formats), as follows:

- **Theory:** The Patent must specify the Matrix location and research type of at least two Applications currently on the position’s current Era Matrix. The number of Applications specified will depend on various factors, such as the Operational Qualities of the Patent, the Applications available, and other possible factors.
 - ✓ All Applications specified on the Patent must be adjacent on the Matrix and must be in the precise order specified on the proposed Patent. This is more bothersome with Existential Patents, players have more freedom with their own Patents.
 - ✓ Any two Applications on the proposed Patent may be **confirmed or unconfirmed** (see below); confirmed Applications make it more likely the Patent will be successful, but there are other balancing factors that weigh in favor of trying unconfirmed Applications.
 - ✓ *A single Application may be used for any number of Patents, if its Matrix position allows* but cannot be used twice in the same Patent. Clever players will form Patents looking at lines of Applications already existing on the Matrix.
 - See 3 Patents, p. 747, *infra*, for ‘connecting the dots’ to make a Patent.
- **Operational Quality:** There are four possible Operational Qualities for any technology: Physical Item Technologies (PITs), Enhancement Technologies (ETs), Continuous Operational Technologies (COTs), and Technological Devices (TDs). Each Patent must specify only one Operational Quality. The type of technology chosen for the Patent is the major controlling factor for the number of Applications, the Effects, and Cost of the Patent.
 - ✓ Operational Qualities will be discussed in greater detail in the next part, 2 Patents. All that is important at this point in the rules is that it is a required part of the Patent and affects other parts of the Patent.

- Effects: The Patent must specify a number of Effects of the technology equal to the number of Applications *minus one*. Each Effect of the technology is a short, straightforward description, without qualifications or reservations (simple sentences), of the operational capabilities – of what the new technology is ‘supposed to do.’ For each Effect, the Patent must specify one Application type from Applications section, followed by the statement, and the Effect statement must be reasonably related to the Application type. Together, the short, simple statements of Effects, must form a group picture of the technology that is reasonably complete and can be readily understood by the Concierge. See Appendix EPAT1 for examples.
- eXistenZ: Any Patent which gives the ability to construct a new thing in the game (and by extension, introduces a new physical thing to the game), must begin with a statement creating the existence of the thing and the Power Activation required to build it. Additionally, any activity relating to the new thing must contain a statement as to the Power Activation required for that activity to occur. Not all Patents create new things in the game.
 - ✓ A tribute to the 1999 movie eXistenZ, which aired on Sci-Fi Channel, that was written and directed by the same person who wrote and directed the 1983 surreal movie Videodrome that I watched in the theatre when I was 15 years old. It is somewhat shocking now that I was able to buy the movie ticket by myself, I think the movie was definitely rated R; there was no accompanying adult supervision.
- Costs: The costs are the balancing factors of the technology. There are two types of costs. All costs sections must contain a cost per unit or a cost of implementing the technology, expressed in RPs, which is based on the chosen Operational Qualities. In short, if the Patent were for a new type of ship, it would require that the cost of building each ship of that type be part of the Cost section of the Patent.
 - ✓ The second type of ‘Cost’ is one limiting (negative, converse, offsetting) statement, corresponding to each of the Effect statements. The Cost statements must be in the same general form (straightforward, simple statements) as the Effect statements and correspond one for one to the Effects. See Appendix EPAT1 for examples.
- User Manual: The User Manual consists of the operational notes and rulings of the Concierge to flesh out the technology as the game progresses. Players may submit in the User Manual suggestions as to how the technology will operate in the game, but the Concierge is not bound by any such suggestions. Further, the Concierge will not make or offer any advanced rulings on how the technology will operate in any given situation; notes will only be added to the User Manual as necessary, as situations arise that require an interpretive ruling.
- Patent Truths: All of the statements of the Effects, Costs, and User Manual sections are assumed to be absolutely true unless they are designated as absolutely false. Statements on the Patent may each only be either absolutely true or absolutely false. Patents are official Interpretations and like other Interpretations, create the reality of the GGDM in-game universe.

Patents are thus descriptive or factual interpretations *in an odd sort of way*:

- ✓ “An interpretation is a *descriptive interpretation* (also called a *factual interpretation*) if at least one of the undefined symbols of its formal system becomes, in the interpretation, the name of a physical object, or observable property. A descriptive interpretation is a type of interpretation used in science and logic to talk about empirical entities.” – from Wikipedia article, “Interpretation (philosophy),” November 30, 2015.

“We regret nothing we have said or done on this show – not the epic tech fail of our first KFUEO broadcast, our poking fun at the phony charges of ‘sacerdotalism’ or ‘liberalism,’ our episodes on evolution, or our mocking the false pretensions of church institutions and power structures. Religion needs a good, swift kick in the shins, and we were more than happy to deliver it, even if we did occasionally get bruised in the process.”

– Rev. Craig Donofrio and Rev. Bill Cwirla (“The Manly Doctors of Divinity”), from godwhisperers.org⁴

God Whisperers: Though I had not heard of this show before writing this section, it seems that it might have been interesting to listen to once or twice, even if frequently disagreeable to my own thoughts.

GGDM creates things in the game conscience by ‘speaking’ and the participants are that voice. The creation of things in the mind by speaking is not an alien concept to Western Civilization. The Bible, with which most members of Western Civilization are at least familiar in passing, begins thus (e.g., Genesis, Chapter 1, New International Version, available online for free) – the image of creation is created in the mind of the reader or listener by the words, in mortal imitation of the actual creation of the universe. The power of the spoken word to ‘create’ images, knowledge, concepts, and feelings has long been known; it is the core of rhetorical theory, storytelling, and lyrical music, and was argued in Plato’s *Gorgias*, around 400 B.C. Without it, the world would be a very literal place, like the opening scene of Charles Dickens’ *Hard Times* (1854), where Mr. Bounderby asks students to describe a horse (see Gradgrind discussion, 1 Colleges, p. 463 and feature quote bottom p. 462, *supra*). In *Dune* (1965), Frank Herbert continues, “Thoughts have sound, sound has form...”

- ✓ “In the beginning was the voice. Voice is sounding breath, the audible sign of life.” – Otto Jespersen, *Language, Its Nature, Development and Origin* (1922).
 - Is God simply a voice then, or did voice precede God? Heinlein please?
- ✓ “For the one point in which we have our very greatest advantage over the brute creation is that we hold converse one with another, and can reproduce our thought in word. Who therefore would not rightly admire this faculty, and deem it his duty to exert himself to the utmost in this field, that by so doing he may surpass men themselves in that particular respect, wherein chiefly men are superior to animals?” [Cicero reporting the words of Lucius Crassus as repeated to him by Gaius Cotta, meaning it might just as well be fiction, probably is, but the point is still worthy and well-made] – Marcus Tullius Cicero, *Of Oratory* (55 B.C.), Bk. 1 (trans. E. W. Sutton and H. Rackham) from Patricia Bizzell and Bruce Herzberg, *The Rhetorical Tradition* (1990), p. 204.
- **Word of Man:** The causes, sources, and reasons behind societal problems is a huge complex subject. But consider for a moment, in the context of GGDM’s underlying themes, that a contributing factor of many societal problems are interpretations. How can technology ‘fix’ interpretations (both group and individual) that might be behind some societal problems? Any technological solution to societal problems imagined are usually radical and repulsive. If we had the technology, should we put chips in people’s heads to control and monitor their

thoughts (*à la* Ender’s Game (1985))? How about political subliminal messaging in video and television programs (*à la* Videodrome (1983))? How about Johnny Mnemonic?

“(The) CEO of ... a counter-extremist data firm that’s working with Google, expressed wild optimism last fall in a(n) ... op-ed. ‘By marrying big data with personal empathy,’ he wrote, ‘our generation can starve extremist organizations of their ability to recruit, and they will wither on the vine and die.’ That’s Silicon Valley speak for ‘technology can fix everything’ – including societal problems that platforms like YouTube have made demonstrably worse.”

– Bob Moser, “How YouTube Became the World Wide Leader in White Supremacy,” *New Republic*, August 21, 2017

Endnotes.

¹ **Commentary:** Patents are not in any way, a governmental control on technology; they instead encourage technological innovation by granting protections, and serve as a public record of innovation for later. This is not the same as arguing that patents ‘control’ technology by discouraging inventors or researchers from inventing new things that might infringe on an existing patent.

² **Commentary:** I don’t know where I picked up the term and concept of “technosolution.” I know that I read it somewhere in the early 90s; I did not stumble on this concept myself, this is not one of my GGDM neologisms. The base concept is however, unmistakably a criticism of how modern Western society solves social problems, utopian expectations. It is also related generally to the current German term, *wunderwaffe*, popularized during WWII.

³ **Commentary & Citation:** “Boffin” is a British comic slang word for scientist, technician or engineer that I detest and I also tend to acutely dislike boffin characters *in any form of fiction*; e.g., the eye-rolling comic depiction of the two scientists in *Pacific Rim* (2013) – a parody of the essential role of British scientists in the World War effort of our grandparents – I they felt detracted from the movie. I first encountered the word in a British article title about astrophysics or cosmology a few years ago. Boffin is an example of a term that is driven by media and culture, and I am not a fan of television sitcoms (or even sitcom movies) generally, or of shows that appear to make lowbrow fun of intelligent, educated people such as the sitcom, *The Big Bang Theory* (2007). I guess that makes me an elitist and I don’t care, our civilization has enough low-brow and dumbing-down to fill the dark matter balancing requirement of a galaxy. The term originated as sailor’s comical slang, was elevated to somewhat heroic-status during World War II, but absent existential threat and positive media-shaping usage has slowly reverted to the comical. I certainly didn’t feel that its use in the article title was complementary of what the scientists in the article were reportedly doing – which raises, I guess, another issue more properly suited for journalism class: to what extent should print article titles be uncomplimentary, disparaging, disrespectful of the subject of the article?

- ✓ I searched a folder where I saved about 9,000 articles over the years. I did not find the article that included “boffins” in the title, but was surprised to find six articles where the word was used, including ‘astroboffins’ and ‘boffinry’ variations. All six articles, published between 2012 and 2015, were from *The Register*, a somewhat controversial, flamboyant, and disrespectful (they certainly push the tabloid-like envelope) “English technology news and opinion website” (Wikipedia article, “The Register,” May 3, 2019). It is odd cant that a website that makes its business and reputation reporting the progress of science, the products of technology, and from whose work and technology they exist (a situation akin to religion apologist bloggers criticizing, arguing against, damning, and dismissing science on their webpages), should regularly use a word so disrespectful to the scientists, technicians and engineers producing what they report? It is notable that *The Register*’s logo includes the phrase, “Biting the hand that feeds IT.” *The Register*, I suspect, won’t care what I think anyway (reference to their response to Martin Robbins’ criticism (with whom I agree regarding their repeated use of ‘boffin.’..), as partially reproduced in Wikipedia article. *Id.*).

⁴ **Commentary:** I include their epithet “The Manly Doctors of Divinity” for amusement at the stick-in-the eye implications to the rest of their profession, not for their promotion or for the truth of the matter; it is amusing that some of their colleagues must have been irked by it. The ‘men of the cloth’ have stumbled over their own robes lately.

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“[The question whether there is a patentable invention] is as fugitive, impalpable, wayward, and vague a phantom as exists in the whole paraphernalia of legal concepts. It involves, or it should involve, as complete a reconstruction of the art that preceded it as is possible. The test of invention is the originality of the discovery, and discovery depends upon the mental act of conceiving the new combination, for substantially every invention is only a combination. Nothing is more illusory, as nothing is more common, than to assume that this can be measured objectively by the magnitude of the physical readjustments required.

Courts never tire, or at least in earlier times they never did, of expatiating upon the freshness of insight which observes a little, but fruitful, change which had theretofore escaped detection by those engaged in the field. When all is said, we are called upon imaginatively to project this act of discovery against a hypostatized average practitioner, acquainted with all that has been published and all that has been publicly sold. If there be an issue more troublesome, or more apt for litigation than this, we are not aware of it. (...)”

– US Judge Learned Hand in *Harries v. Air King Prod. Co.*, 183 F.2d 158, 162 (2d Cir. 1950)

Pet Rock: In the real world, if you invent a successful product, no matter how trivial, someone will come out and say they invented it first and that you stole it from them, threaten lawsuits, even though they never wrote it down, published it, you never heard of them, and there is no way to make a connection between your invention and their idea – inventions and ideas can occur independently (e.g., bread, writing, bow and arrow) in different places and times.¹

- ✓ “Dahl continued to work in advertising; however, he avoided interviews for years, because ‘a bunch of wackos’ harassed him with lawsuits and threats. Dahl said in 1988: ‘Sometimes I look back and wonder if my life would have been simpler if I hadn’t done it.’” – from Wikipedia article, “Pet Rock,” citing to The Milwaukee Journal, “Between a Pet Rock and a hard place,” (no author credited), November 15, 1988 (available free on news.google.com/newspapers).²

I remember the Pet Rock fad from when I was young, I didn’t get it, thought it was dumb even in elementary school. Some kid in my class brought one to school, with the box and everything.

- ✓ “Although Dahl was referred to as the inventor of the Pet Rock in obituaries that followed his 2015 death at 78, he never filed for a patent or trademark. Maybe he didn’t get around to it – or maybe he figured that by the time his patent was approved, his fad creation would have run its course. That assumption would have proven correct, of course. The Pet Rock buzz lasted all of a year, if that, by which time Dahl estimated he had sold 1.5 million units. That was enough time to make him a rich man, driving a Mercedes and buying a swimming pool. Marguerite Dahl said he designed and built the Carry Nations Saloon in Los Gatos.” – Reid Creager, “Timing, Marketing Made the Pet Rock Roll,” *Inventor’s Digest*, July 1, 2017.
- ✓ “There is no way to patent a rock as a rock. As of a few years ago, U.S. patent law allows genetically modified organisms to be protected, although the Pet Rock wasn’t really one of those.

If the Pet Rock were a new invention, it would have required a utility patent. Utility patents must meet three criteria to be approved: novelty, non-obviousness and utility (usefulness). In other words, it has to be a new idea, one that would not strike an expert in the field as obvious, and it must have some use. Although it may sound ridiculous, when it was introduced the Pet Rock met these criteria: It was a new idea, it was hardly obvious to geologists or toymakers, and it had utility, i.e., it made people laugh.

With a really good patent lawyer, Dahl might have been able to get a utility patent to protect the Pet Rock as a new invention. The easier route would have been to trademark a design, etch it onto the rock, and to acquire a design patent on rocks etched with that trademark or logo.” – ‘lily kang 96,’ “The Pet Rock: A Story of Invention and Creativity,” Patent Club (blog), March 15, 2014.³

“Patent prosecution before the Office should not be viewed as adversarial. Instead it should be understood to be a cooperative investigation between the Examiner and the Applicant, which ensures an Applicant receives a patent only for that which they are entitled to in accordance with the Patent laws.”

– Sue A. Purvis (Innovation and Outreach Coordinator), “The Role of the Patent Examiner,” USPTO (NY Region), May 22, 2013⁴

The Galactic Patent Office: The role of the Concierge with regard to Patents is very similar to the role of the U.S. Patent and Trademark Office (USPTO); the Concierge serves both an adversarial and advisory role with regard to Patents (and throughout the game in general). The Concierge is adversarial to Patents (and players and positions) in that the Concierge serves as the critical eye, the ‘devil’s advocate,’ ‘Big Brother,’ the personification of Entropy, and the limiting factor to prevent abuse of the Patent Interpretation (or anything else).

As an initial principle, there are no perfect, indestructible, final, ultimate, or unstoppable technologies (see Patently Off-limits and Un-patentable discussions in 3 Patents, p. 750, *infra*), everything has a flaw, however microscopic – even Superman had a well-known vulnerability. The Concierge is advisory in the sense that the Concierge will communicate with players and help to balance technologies, and make rulings on particular situations when they arise in relation to the Patent as the game goes; the Concierge is there to facilitate the game and hopefully, no player or group of players will take umbrage to the Concierge.

- **Fuzzy Things:** The main point of the Effects and Costs statements in the Patent is to describe the major attributes of the technology. They do not have to be all inclusive, rather, they have to be sufficient to form a guide or general picture of the technology; some things may be assumed, and the Concierge will fill in the details of the technology through notes in the User Manual. Each Effect or Cost statement should relate to one attribute and be effectively, one statement, but when necessary, may contain two closely related statements.
- **Balancing the Pin:** Obviously, the point of developing a technology is to gain an advantage; positions are seeking to gain an advantage from a new technology. To obtain the new technology, the position is required to develop and expend valuable resources and time.

In any game where players may develop special skills, house specializations, magic spells, or technology, the development of the ‘whateveritis’ creates a special exclusive exception to the rules (which form only the baseline of the game) for that player or position in exchange for the cost of resources and the elimination of other possibilities.

Balance should not be construed to mean that there will be no advantage from the technology, or even that it’s fair to the rest of the positions in the game. *Balance means a fair (and playable) advantage gained for the effort expended.* Balancing in GGDM terms is not an equal sign in an equation; the resulting equation must be unbalanced to have gain (e.g., synergy, emergence, profit, capabilities, 1+2 must equal 5). Positions are free to expend effort in whatever direction they choose, but no position can expend major effort in every direction at once. The Concierge is free to adjust the Effects and Costs sections as necessary to balance the Patent application and make the proposed technology playable (playability is very important) prior to the processing of the Patent. After the Patent is successfully processed, the Patent may not be adjusted or changed (so players need not fear that the technology will be changed after they begin using it), only the User Manual is available for the Concierge (and only the Concierge) to enter play notes as the game continues.

- ✓ Darkness of Silverfall (DOS) is a free online PBEM game that I played back around the millennia. The game hosts up to 30 players, and the premise of the game is that the Dark Lord has installed ten ‘battlestations’ near the center of the play area to create a black hole that will pull in all planets in the game area. A toothless non-player supreme counsel of Wizards who own the five neutral trading planets near the center, need the player races to find and destroy the Battlestations before the singularity catastrophe. All’s well, because it never happens, the players cooperate in the beginning of the game and launch their attacks in time (it’s a good mechanic to encourage player diplomacy); after the Dark Lord is stopped it’s a free-for-all interstellar war to the end of the game. The problem with the game is the structure. The Wizards dole out rewards and special technologies (the only technological progression) throughout the game based on criteria such as number of ships, money, industry, etc. to the positions with the least (to level up, catch up), the ‘most mediocre’ (to push them forward) and the most/best (to reward them for achievement). This creates a situation where positions get rewarded for doing poorly in the game as well as for excelling, or being average. The pinball-game logic of this was that DOS was originally a pay-to-play PBM game and the rewards were to keep players paying instead of dropping out.

GGDM is structured much differently, I do not anticipate this being an issue, but it is an argument for why the Concierge is *not* ‘rewarding’ positions, is not ‘fair’ (in a childish sense), and is *not* to ‘level-up’ game positions through Interventions or Patents (or any other Interpretation). The Concierge will not issue ‘make up’ calls like an umpire or referee in sports.

- ✓ See previous Darkness of Silverfall discussion regarding cheating, 1 The Sidereal Stage, p. 111, *supra*, and spatial injustice discussion, Never Achievable, 3 Expansion, p. 908, *infra*.
- Razor Blade Floating on Water: The Concierge may take into account the circumstances of the game and any relevant factors at the time the Patent application is submitted. These may include, but are not limited to, the industrial base of the position (manufacturing expertise), the types and numbers of Applications on the Matrix at that time (e.g., a position who has

90% weapons and energy Applications, will have a difficult time developing a new colony ship technology), Fundamental Realities, Government Titles (and sociopolitical factors), the type of Patent under consideration, and other Patents and consistency with previous Patents, and anything else that seems relevant.

- ✓ Maria von Wedemeyer was the fiancé of Dietrich von Bonhoeffer who was executed by the Nazis about a month before the Germans surrendered. She studied math at the University of Göttingen (according to the NY Times and encyclopedia.com) and possibly at Bryn Mawr College (according to Elizabeth Raum), and emigrated to the United States in 1948 (Bryn Mawr College is located in Pennsylvania, so both could be true). Thereafter, she worked for Remington Rand and Honeywell corporations on minicomputers, pioneering computer science, especially in emulation capability. She died in 1977, but her posthumously published collection of love letters provides an important historical source on Dietrich Bonhoeffer.⁵

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The lives of many German citizens intersect in this way in post-WWII between socio-political circumstances of their youth or early careers and later importance in contribution to technological and scientific advances wherever they happened to be living after the war. For these people, the choice of science and technology was an act against the futility and human failings of their birth nation and western civilization in their youth, math in particular is held by scientists, engineers and technologists to be the code of the universe and not of humanity, free of party ideology and failings.

“The politicization of the education system essentially replaced academic tradition and excellence with ideological adherence and trappings...”

– from Wikipedia Article, “German Nuclear Weapon Program,” captured May 22, 2018 ⁶

Deutsche Physik: One of the best-known and most thoroughly-studied examples is the failed German Nuclear Weapon Program during WWII. Much blame has centered on the politicization of German academia where, as well as, causing the emigration flight of certain famous scientists and a generation of lesser known colleagues from Germany in the 1930s, they sought to make physics ‘German’ or ‘Aryan.’

- ✓ Nazi ideology had a problem – the most important discoveries in physics in the last three generations were made by people from groups they considered racially inferior. Subtracting the contributions of the ‘racially inferior’ German colleagues, German science in any field was not demonstrative of racial superiority. Remember Jesse Owens at the 1936 Berlin Olympics? It was all about racial superiority.

In place of tradition and critical excellence, the anti-Semite, *Deutsche Physik* movement – not just a club for colleagues or to insure scientific loyalty to the state – attempted to make physics ‘Aryan’ and to ignore or discount all non-Germanic contributions (especially or mainly from Jewish scientists) to physical sciences, by ignoring relativity and quantum physics.

Heisenberg, the 1932 Nobel Prize laureate in Physics, was called a “white Jew” by Himmler (a man whose education was *agriculture studies*) in an SS newspaper editorial, for lecturing on Albert Einstein’s theory of relativity; Himmler suggested he should be made to disappear. *Id.*

- ✓ Wikipedia article cites to: “Klaus Hentschel (Editor) and Ann M. Hentschel (Editorial Assistant and Translator) Physics and National Socialism: An Anthology of Primary Sources (Birkhäuser, 1996). In this book, see: Document No. 55 ‘White Jews’ in Science [15 July 1937] pp. 152–157.”

Only racists would concern themselves with the irrelevant race and ethnicity of a scientific discoverer or inventor. Although the German *Deutsche Physik* took it to extremes, they were not the first to confuse science with social policy or nationalism or alleged racial superiority:

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- ✓ “Despite the second Nobel Prize and an invitation to the first Solvay Conference with the world’s leading physicists, including Einstein, Poincaré and Planck, 1911 became a dark year in Marie’s life. In two smear campaigns she was to experience the inconstancy of the French press. The first was started on 16 November 1910, when, by an article in *Le Figaro*, it became known that she was willing to be nominated for election to *l’Académie des Sciences*. Examples of factors other than merit deciding an election did exist, but Marie herself and her eminent research colleagues seemed to have considered that with her exceptionally brilliant scientific merits, her election was self-evident. Notwithstanding, it turned out that it was not merit that was decisive. The dark underlying currents of anti-Semitism, prejudice against women, xenophobia and even anti-science attitudes that existed in French society came welling up to the surface.

Normally the election was of no interest to the press. The most rabid paper was the ultra-nationalistic and anti-Semitic *L’Action Française*, which was led by Léon Daudet, the son of the writer Alphonse Daudet. [Maj. Alfred] Dreyfus had got redress for his wrongs in 1906 and had been decorated with the Legion of Honour, but in the eyes of the groups who had been against him during his trial, he was still guilty, was still ‘the Jewish traitor.’ The pro-Dreyfus groups who had supported his cause were suspect and the scientists who were supporting Marie were among them. Jokes in bad taste alternated with outrageous accusations. It was said that in her career, Pierre’s research had given her a free ride. She came from Poland, though admittedly she was formally a Catholic but her name Sklodowska indicated that she might be of Jewish origin, and so on. A week before the election, an opposing candidate, Édouard Branly, was launched.

The vote on January 23, 1911 was taken in the presence of journalists, photographers and hordes of the curious. The election took place in a tumultuous atmosphere. In the first round Marie lost by one vote, in the second by two. In all, fifty-eight votes were cast. A Nobel Prize in 1903 and support from prominent researchers such as Jean Perrin, Henri Poincaré, Paul Appell and the permanent secretary of the *Académie*, Gaston Darboux, were not sufficient to make the *Académie* open its doors. This event attracted international attention and indignation. It deeply wounded both Marie and indeed Édouard Branly, too, himself a well-merited researcher.” – Nanny Fröman, “Marie and Pierre Curie and the discovery of polonium and radium,” nobelprize.org, captured October 31, 2018.

We have this 20th Century history behind us, but can anyone say with certainty that this will never happen again? There is a brand of lunacy in it that would be dismissed as ludicrous, except that we know it happened (see 1 Dreamtime generally, *supra*, for Facts discussion). And that the same sorts of things happen over and over again.

- ✓ Heisenberg, crucial to *The Man in the High Castle*, was captured May 1, 1945.

The development of the nuclear weapon during and before WWII would be a milestone, equivalent to a Patent in GGDM (if it wasn't a pregame technology), discovery of fission in 1938 might be a Research Piece or Group. The Concierge has many Interventional tools available to simulate this sort of situation in GGDM, throughout the technology process and in Colleges.

“Science is a collaborative enterprise spanning the generations. When it permits us to see the far side of some new horizon, we remember those who prepared the way, seeing for them also.” – Carl Sagan, Cosmos, Episode 5

Operational Qualities: Each Patent in GGDM is both a collaborative effort and a new horizon in the current game universe.

As noted previously, the Operational Quality assigned to the new technology has a major effect on the rest of the Patent. If you take a moment to think about the range of all of the possible technological ideas; all of those ideas can be broadly classified into two categories (just as we broadly classify all life as either plant or animal): technologies that introduce major new physical items or things or devices, and technologies that improve or enhance or add to existing physical items, things, or devices.

- ✓ This is similar to the Primal States, which consists of those species that were already in the Galactic Space and those which enter the Galactic Space at or near the beginning of the game. Each category is then divided into three possible Primal States.

Within this game, each of those two categories is further divided into two subcategories and those four subcategories form the four ‘types’ of technologies available, and define the Operational Qualities of those technologies, as follows:

- **Physical Item Technologies (PITs):** Physical Item Technologies introduce into the game the capability to produce new physical items, mainly ships, that function as the major units of the game (see View from a Height, 1 Construction, p. 660, *supra*, for discussion of game units concept). Generally, these physical items are intended to be mass produced and available throughout the entire position, wherever the capability exists to produce them. Any Patent for a ship *must have at least one Stardrive Application*.
 - ✓ Patents for Physical Item Technologies must have at least two and no more than seven Applications, and do not have an automatic ‘base cost’ (in RPs), rather, due to the variable nature of the possible physical items, the cost will be determined by the Concierge. PIT Patents include and assume all of the minor and lesser technologies required to make the new physical item work within the game.
 - ✓ ‘Base Cost’ as used here refers to the Cost section of the Patent where cost per unit is set in RPs; ‘base cost’ is simply a relative RPs cost guideline for Patents, it *does not* refer to any cost in RPs to prosecute the Patent (there is *no RP cost* to activate the Technology Power for the purpose of Patent prosecution, see Back to the Drawing Board, 3 Patents, p. 748, *infra*.) The ‘cost’ of Patent Prosecution is getting Applications on the Matrix and Technology Power activations.
 - ✓ A PIT Patent for any starship may not be prosecuted (or bought with IPs during the setup process) unless the position has first obtained a stardrive patent (i.e. the Generic Stardrive Existential Patent), because what is a starship without a stardrive? Further,

only the Scout Ship Existential Patent may be obtained if the position does not have the Ship System Existential Patent.

- Continuous Operational Technologies (COTs): A Continuous Operational Technology is one that presents a minor, non-expendable, improvement in an existing technology (i.e. Patent), e.g., gradual improvements in ship speed, or industrial production, or the range of an existing weapons system. Continuous Operational Technologies *may not add new capabilities* to units or installations, only improve the performance or output of existing systems/units.
 - ✓ Continuous Operational Technology Patents may only have two **Effects** and must specify another previously successful Patent for a Physical Item Technology, Enhancement Technology or Continuous Operational Technology, to which the COT Patent is related. The COT Patent may not be submitted in the same Regular Turn as the Patent upon which it depends. Generally speaking, the ‘base cost’ of the COT Patent is the cost of developing it, and as such, *in most cases*, no RP cost will be assigned per unit to ‘upgrade’ the units, installations or enhancements to which the COT Patent relates.⁷ The Concierge may take into account, however, the number of current items to be affected, and may impose minimal RPs cost to ‘balance’ the COT Patent. Time delays while upgrading are also an option for balancing the proposed COT Patent, e.g., upgrade when ships return.
 - ✓ Because Effects must equal the number of Applications minus one, this means that all COT Patents will use three Applications, no more, no less. See Effects, 1 Patents, p. 731, *supra*.
 - Delays in implementation of new, imperfect technology and improvements are at the core of Arthur C. Clark’s classic 1951 short story, “Superiority,” where the vastly technologically superior human fleets were overwhelmed by less advanced, but more numerous attacking aliens, leading to the surrender of Earth. Everyone blamed the R&D department for the humiliating loss. A parallel of Clarke’s “Superiority” was, perhaps inadvertently, played out in the 1981 Eurisko AI situation quoted at length in Imperial Admiral Eurisko, 4 Colleges, p. 512, *supra*. See also WWII history.
- Enhancement Technologies (ETs): Enhancement Technology is the only means to add new capabilities or ‘dimensions’ to existing physical items, colonies, and colony installations technologies. Such enhancements may be expendable, like Ship Missiles, or may require a unit upgrade cost for the existing ships and installations to use the new capability. Most things built on colonies, such as industry and defenses, will be colony enhancements and are thus Enhancement Technologies.
 - ✓ The easiest difference between a COT and an ET is that a COT adds ‘more of the same’ whereas an ET adds ‘something new’ to an existing technology or game unit. There could be some fuzzy borderline cases.
 - ✓ Enhancement Technology Patents must use at least two Applications. If an ET Patent is not a colony installation or if it improves on existing colony installations, it is required to list an existing Patent upon which it is based, and an ET Patent may not be processed in the same turn that the Patent upon which it is based is approved. The base cost in RPs of an ET Patent is 5 RPs times the number of Effects used in the ET

Patent. An ET Patent may use between two and four Applications (hence, have one to three Effects).

- Technological Devices (TDs): Technological Devices are the ultra-powerful, extraordinary (within the setting), possibly one-of-a-kind or rare physical items that are not generally capable of being mass produced. For example, the dynamite-stick like Illudium Q-36 Explosive Space Modulator. Technological Devices are sometimes installations on colonies, sometimes they can be enhancements to existing ships, and sometimes, they can be a third major unit in the game. The key to Technological Devices is the think BIG.

- ✓ Technological Device Patents require at least five, and no more than nine Applications, and have a base cost of 50 RPs times the number of Applications for production of each such device. Additionally, the Cost section must contain a statement limiting the number of such items on some logical basis, such as one per planet, one per system, or even one of a kind, for example. This may involve some storytelling.⁸

Technological Device Patents can act as either Physical Item Technologies (PIT) or Enhancement Technologies (ET), *ut supra*. Not all Technological Devices have to be massive weapons or useable as a weapon, but they usually are in video science-fiction:

- ✓ “Frequently, the Wave Motion Gun [as a TV trope/archetype big weapon] is made of Lost Technology, or is an experimental prototype, but sometimes they’re a dime a dozen. It also explains how a small fleet can win consistently against enemies that grossly outnumber them: the defense units just have to hold their ground until the Gun(s) is ready to fire. Invariably, just before firing, The Captain has to order the attack.” – TV Tropes (tvtropes.org), “Wave Motion Gun,” December 19, 2018 (because the captain’s only job is to look heroic and order the big gun to fire! – like Lt. Tawny Madison in *Galaxy Quest* (1999)⁹).

As mentioned in *View from a Height*, 1 Construction, p. 660, *supra*, the game has two major units: Colonies and Ships. Typically, something that would already be considered a unit in the game will not be a Technological Device, no matter how big. Therefore, for example, a Death Star is a starship, and no matter how big, it was intended to be mass produced (e.g., DS-1, DS-2) and the only production limitation was cost and time, so it would not be considered a Technological Device. However, the main weapon of DS-1 that could destroy a planet might be a Technological Device (acting as an ET). *The line can be a bit fuzzy*. On the other end of the scale, the Magogg Worldship in the *Andromeda* television series, consisting of twenty planets around a captive artificial sun, is one of a kind and would be a technological device (even if it is a ‘generation ship,’ a PIT) as would its main weapon, the Point Singularity Projector, that fired miniature black holes (as an ET) in that universe.

“The word enigma didn’t jump from referring to riddles to referring to people. In between those uses, it was (and still is) applied to things that puzzle people. Egypt’s meticulously constructed Pyramids of Giza or a theory of quantum physics, for example, might be described as enigmas. In these uses, the meaning is simply a figurative extension of the original ‘riddle’ sense.”

– Merriam-Webster online dictionary article, “Are you an enigma?”

Enigma: Technological Devices in GGDM border into the area of ‘enigmas’ – their rarity, uniqueness, unknown technology and outlandishness make them enigmas to future populations in the game universe. Technological devices can be small things, but taken to extremes in science-fiction imagination, they are often monumental, shading over into the interstellar neo-Egyptian trope of ‘monument builders.’

- ✓ “Champollion was overwhelmed by the grandeur which surrounded him. ‘It is the union,’ he said ‘of grace and majesty in the highest degree. We in Europe are only dwarfs. No nation, ancient or modern, has conceived the art of architecture on such a sublime, great and imposing style as the ancient Egyptians. They ordered everything to be done for people who are 100 feet high.’” – Cosmos, Episode 12.

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A couple of modern real world strange musical instruments provide a range of examples related to the ‘Technological Devices’ in the GGDM sense here.

- ✓ While the Great Stalacpipe Organ is one of a range of lithophone instruments, it is a unique, one-of-a-kind instrument, it exists only in the Luna Caverns in Virginia. Because of its location-specific construction, it will not be mass produced. Some primate shaman will find it 100,000 years from now and construct a religion around it.
- ✓ Wintergaren’s Marble Machine could theoretically be mass-produced, but it will not be; it is a unique hand-constructed instrument for that band, and there is no market for it outside the band that constructed it. They have gained some notoriety from it, some trademark identity, and there is a video on YouTube.
- ✓ The strange-looking hurdy-gurdy, on the other hand, has been reduced in size from Medieval times and modern mass produced and is a staple of folk music festivals. There is even a fine young lady singer who plays the hurdy-gurdy and has adopted the instrument as part of her stage name, search for Patty Gurdy videos on YouTube.
- ✓ Finally, instrumentalist William Close created the Earth Harp, the largest stringed instrument in the world with 300m strings. Though the original one-of-a-kind instrument was constructed in Santa Monica, California, the instrument has been replicated and adapted to stage performance by a few musical groups.

The TARDIS is a one-of-a-kind, not-capable-of-being-reproduced, technological device in the Dr. Who universe. There were once many TARDIS ships – as shown in the repair shop scene where many TARDIS ships were lined against a wall. The TARDIS is considered the “most powerful warship in the universe” despite having no weapons or armor. Dr. Who features a number of Technological Devices, usually universe-destroying weapons – sort of a fetish of the show – such as The Moment, the handheld De-Mat Gun, the Reality Bomb, the Pandora – and when the TARDIS explodes, it destroys the universe and causes a second Big Bang.

- ✓ “Trillian deduces that the Krikketers have been manipulated, reasoning that the people of Krikkit could not simultaneously be smart enough to develop their ultimate weapon – a bomb that could destroy every star in the universe – while also being stupid enough not to realize that this weapon would also destroy them. The characters discover that the true force behind the war has been the supercomputer Hactar. Previously built to serve a war-faring species, Hactar was tasked to build a supernova-bomb that would link the cores of every sun in the Universe together at the press of a button and cause the end of the Universe.” – from Wikipedia article, “Life, The Universe, and Everything,” August 15, 2019.

- Life, The Universe and Everything (1982) was originally intended as a Dr. Who serial. As 1982 was near the end of the Cold War (though we didn't know it at the time), doubtless the Krikkiters weapon is a parody of the global obsession with nuclear weapons on Earth.

Control of massive natural phenomenon may also constitute a TD or require a TD Patent, for example, the Logopolitans control of CVEs (Charged Vacuum Emboitment) which they used (via Block Transfer Computation) to attempt to stave off the heat death of their universe in the Fourth Dr. Who episodes. This is analogous to someone on Earth, either now or in ancient times, having the ability through a device to control the movement of Luna. In Stargate SG-1 episode “Demons” (1999), the ruler of a village on a medieval Christian world had a ring on his finger that could very precisely control the weather, though there might have been many of those in the universe, it was an enigma and a TD to that setting.

“Their opinion might be roughly summarized in the words of Arnold Toynbee: ‘With the increase in our power, our sense of responsibility and our sense of distress increases.’ Toynbee has said that the growth of science and technology makes more acute the disparity between the real and the ideal.”

– Brian Aldiss, [Galactic Empires Vol. 1](#) ¹⁰

The Rive: Has technology replaced the gods in the irony of modern humanity? That we have so much, but also are so little – secular removal of the parental god has left us small people on a small planet – and are seemingly very distant from our ideals. How will this play end? We at least avoided burning down the house so far, but ...

- ✓ “The expression cosmic irony or ‘irony of fate’ stems from the notion that the gods (or the Fates) are amusing themselves by toying with the minds of mortals with deliberate ironic intent. Closely connected with situational irony, it arises from sharp contrasts between reality and human ideals, or between human intentions and actual results. The resulting situation is poignantly contrary to what was expected or intended.” – from Wikipedia article, “Irony,” January 22, 2019.

I can see at least a plausible argument that Toynbee’s observation of disparity is the origin of the dominance of modern ironic humor, in frustrated humor we sarcastically say what would have been ideal (e.g., ‘Nice play, but he forgot something important – the puck!’ or the common laconic-ironic responses, ‘Not!’, ‘Dream on!’, ‘Right!’ (or Bill Cosby’s “Riiiiight!”) or ‘Uh-huh!’) in opposition to what actually happened or is expected to actually happen. We have been an increasingly frustrated people for the last three centuries and it almost killed us, and may yet.

Indeed, frustration is the cause of most sapient distress. We can see how things should be, should work, *ought to be*, in an ideal world or even the ideal way the job in front of us should proceed, and then what actually happens, *what is*. Mr. Toynbee had an early idea of what has become clearer now. Our ancestors either accepted that the chaos in their lives was unexplainable, or bad combinations of random chance, or more likely, invented mythopoeic explanations for it. But the chaos is too regular, too petty, and too predictable and certainly is a phenomena that we can now contemplate. We now have the framework to recognize the ‘fracture’ of the original order of the universe that are the emergences called life and sapience (see Order of Genesis, 1 Order, p. 522, *supra*), and the fault line is the petty chaos of our daily lives, all the stupid little

things that happen almost predictably in the pettiest ways. This fracture is both the frustration of sapience and the special relationship of sapience to the universe.

- ✓ “‘Do not create an ideology out of something that a young girl has to say,’ says Naomi Seibt, apparently without a trace of irony.” – Harry Cockburn, “Anti-Greta: Far-right groups trying to turn teenager into climate change-denying version of Greta Thunberg,” *The Independent*, February 25, 2020.¹¹
- ✓ See Turbulence of Being discussion, 1 Entropy, p. 223, *supra*.

“In the ‘Bad Nauheim Debate’ (1920) between Einstein and (among others) Philipp Lenard, the latter stated the following objections: He criticized the lack of ‘illustrativeness’ of Einstein’s version of relativity, a condition that he suggested could only be met by an aether theory. Einstein responded that for physicists the content of ‘illustrativeness’ or ‘common sense’ had changed in time, so it could no longer be used as a criterion for the validity of a physical theory. Lenard also argued that with his relativistic theory of gravity Einstein had tacitly reintroduced the aether under the name ‘space.’ While this charge was rejected (among others) by Hermann Weyl, in an inaugural address given at the University of Leiden in 1920, shortly after the Bad Nauheim debates, Einstein himself acknowledged that according to his general theory of relativity, so-called ‘empty space’ possesses physical properties that influence matter and vice versa.”

– from Wikipedia article, “Criticism of the theory of relativity,” captured September 4, 2019¹²

Endnotes.

¹ Commentary: This latter happens to me all the time. Sometimes I see an article that has a striking idea that is new to me, e.g., Kate Becker’s ‘quantum intuition’ article, but most often in designing GGDM, I find articles or stumble on quotes or writings that support, accord with, or add to commentary and ideas I had already expressed years ago in the GGDM text. Do I suffer from confirmation bias? Or am I part of a larger churning process where multiple intellectuals arrive at the same ideas, conclusions, insights, concepts independently from their own angles, publish them and others publish them as reinforcement or addendum to their own somewhat similar thinking? Is anything new?

² Citation: “But wealth and fame came with burdens. Dahl was reportedly sued by one of the Pet Rock’s original investors and had to pay a six-figure settlement. Gimmick inventors crawled out of the woodwork to pepper him with the next Pet Rock. ‘I’m sick of the whole damn thing,’ he told the Houston Chronicle. ‘Most inventors call me because they’ve come up with their own novelty idea. A pet stick or pet poop or pet gravel. I’ve seen them all – they’re all bad. ...’ ‘There’s a bizarre lunatic fringe who feel I owe them a living. Sometimes I look back and wonder if my life wouldn’t have been simpler if I hadn’t done it.’ The Chronicle dispassionately summarized his life, post-Pet Rock: ‘Dahl got rich, got cocky, had a damn good time, opened a bar, bought a big house, drank too much.’ He ‘sold his bar, dreamed up a few clever but cataclysmic marketing flops, took up golf, got a real job, sued, got sued, felt betrayed.’” – Reid Creager, “Timing, Marketing Made the Pet Rock Roll,” *Inventor’s Digest*, July 1, 2017.

³ Citation: Text from this article was quoted at the bottom of the preceding *Inventor’s Digest* article without a link or date, referencing just “The blog Patent Club.” I found the original Patent Club article by Google search at <https://lilykang96.wordpress.com/2014/03/15/the-pet-rock-a-story-of-invention-and-creativity/>. Presumably the author is ‘lily kang 96’ as no other author is attributed. No qualifications were provided for the author, the blog’s About page is just a standard template and the blog seems to be inactive since December 15, 2014.

- ✓ In presenting this, I exercise my own judgment. What Lily Kang 96 states seems to accord with my own *non-attorney* understanding of patent law in the U.S. as a litigation paralegal of many years.

⁴ Citation: https://www.uspto.gov/sites/default/files/about/offices/ous/PatentExaminerRole_20130514.pdf.

⁵ Commentary & Citation: Information on Maria von Wedemeyer is sparse on the internet, information here comes from articles on encyclopedia.com (mostly repeating the NYT obituary article, available free online in NYT archives) and awesomestories.com (captured May 26, 2019), the latter of which cites extensively to (and quotes) Elizabeth Raum, *Dietrich Bonhoeffer: Called by God* (2002).

⁶ Commentary: Sort of like working on the White House staff.

⁷ Commentary: The most pervasive current example of a COT are the constant, annoying, interminable, mostly unnecessary ‘upgrades’ and ‘updates’ pushed out by software and OS providers for their products to justify their jobs.

⁸ Commentary: *Godsfire* boardgame was published in 1976 by Metagaming, a year after they published *Stellar Conquest*. *Godsfire* is and was considered one of the most complex and ‘realistic’ strategic interstellar conflict games ever designed. Unlike most war games, and much like GGDM, it focused on politics, economics and sociology as much as the warfare; it also had a three-dimensional movement system on a flat game board. I have never played *Godsfire* or read the rules (I don’t own a copy and have not seen one in many years); I looked at a copy of it briefly in 1985 when I was playing *Stellar Conquest* at The Caisson E-club on Ft. Sill, OK, but it was too complicated to learn and play quickly so the gaming group passed on it. However, the game was legend, especially for the *Godsfire* mechanic: Too many ships equipped with *Stardrive* in the same system at the same time could tear a rip in reality and release the catastrophic *Godsfire* event which would explosively flood the entire star cluster with extradimensional radiation. This is an example of a TD-like reasonable restriction of numbers of devices in a system.

- ✓ I have become aware from reading commentaries about *Godsfire* that GGDM may be considered in many respects similar to that vaunted boardgame. Three insightful comments by BGG user *cannoneer* were striking: The first that the space combat system is pedestrian once you get past the unique 3D movement system, and second that the designer abstracted the right things; he also noted that the game is better political theory than game. BGG user Rick Smith (from Canada) notes that “The designer innovates, innovates, innovates, but things don’t QUITE come together” (emphasis in original). All of these things I sadly fear may be true also of GGDM.

⁹ Commentary: I usually don’t go for comedy movies, science-fiction themed or otherwise, but *Galaxy Quest* was surprisingly well done. This is one instance where I agree with the critics.

- ✓ I’ve never been a sitcom viewer, not even when I was young. Sitcoms are cheap humor punctuated with fake audience laugh tracks, and like cheap wine, you get what you pay for. And the cheapest humor is to make fun of intelligent, educated, career adults and prodigal, gifted youth.

¹⁰ Commentary: This quote is referenced in 2112 *Absurd Words*, *supra*.

¹¹ Commentary: When I read this, I thought, did someone write that line for her? Did she read it somewhere? Did she not think it sounded odd when she said it? Has she not heard of Mary who claimed she was still a virgin?

¹² Citation: “On the other hand, Einstein stresses that illustrativeness is a changing concept. The Galilean mechanics is for us the highest point of illustrativeness, while it was very non-illustrative for Galileo’s contemporaries. And in the present we find electricians, for whom nothing is more illustrative than the electric field, and for whom the electrical phenomena even become images for mechanical ones. Thus one cannot use such a changing concept for or against the theory. To the example of the decelerating train he remarks, that this is without any doubt an interaction between masses, and for the success it is irrelevant, which mass is moved against the other. To let decide the ‘common sense’ in this question, is no less problematic as it was before in respect to illustrativeness. To the example of the rotational motion it has to be said, that the role of the speed of light in the general theory of relativity is completely different as in the special theory, and that the first requires no constant speed of light at all. – Nearly all other speakers in the debate agreed with Einstein in the essential points – for example von Laue, Mie (who responded to Lenard that the aether was abolished not only by the theory of relativity, but already three decades earlier by H. A. Lorentz) and particularly inspired by Born, who feels attracted to Einstein’s theory just because of its illustrativeness.” – translation from K. Körner, *Die 86. Versammlung der Deutschen Naturforscher und Ärzte in Bad Nauheim* (1921), *Zeitschrift für Mathematischen und Naturwissenschaftlichen Unterricht*, 52, pp. 79-84 (translated 81-82) on Wikisource at https://en.wikisource.org/wiki/Translation:The_Bad_Nauheim_Debate.

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See Appendix EPAT1 – The Existential Patents
See Appendix EPAT2 – Existential Patents Quick Summary
See Appendix TECH – Technology Progress

“If nature has made any one thing less susceptible than all others of exclusive property, it is the action of the thinking power called an idea, which an individual may exclusively possess as long as he keeps it to himself; but the moment it is divulged, it forces itself into the possession of everyone, and the receiver cannot dispossess himself of it. Its peculiar character, too, is that no one possesses the less, because every other possesses the whole of it. He who receives an idea from me, receives instruction himself without lessening mine; as he who lights his taper at mine, receives light without darkening me.

That ideas should freely spread from one to another over the globe, for the moral and mutual instruction of man, and improvement of his condition, seems to have been peculiarly and benevolently designed by nature, when she made them, like fire, expansible over all space, without lessening their density at any point, and like the air in which we breathe, move, and have our physical being, incapable of confinement or exclusive appropriation. Inventions then cannot, in nature, be a subject of property.” – Thomas Jefferson ¹

Learning to Make Fire: Isn't there something very odd about the nature of information – something profound and sublime that we have rediscovered over the last two centuries? That there can be more of something without anyone being lessened by it – sort of like procreation of life except that information doesn't have the same relationship apparently to the arrow of time. There is, of course, a well-established connection between life and information, that is, genes, learning, civilization, sensory processing, psychogenesis, and the abstractions of sapience and thus, in a – I guess – neo-Platonic sense, it is not surprising that they share the same properties.

- ✓ If I email you a document, I am not lessened by it, in fact, I may be better off, because if mine is accidentally deleted, you may return the favor rescuing me.

And as we discovered in the last century, information exists in a very different framework in our universe. Which probably means that we exist in a different framework in our universe as well. See additional discussion, 2 Expansion, pp. 890-897, *infra*, see also Order of Genesis discussion, 1 Order, p. 522, *supra*. It seems/feels like there is something about it right there in front of us, but we cannot yet grasp it.

Obviously, everyone learned to make fire eventually, and none were lessened for it, except perhaps those whose original power and position came from holding the exclusive secret of making fire and those who were careless.

- ✓ Our mythopoeic ancestors inherently recognized and tried to explain – in mystic ways – the nature of information. It is no light coincidence that there were ancient gods, spirits and such representing fire, knowledge, invention, light, teaching, education, craft. But rarely do we grasp or express the importance of this in development of civilization, rather, we tend to be *dismissive and derisive toward pre-monotheistic religions* when not presented as adventure-fiction trope (e.g., Jason and the Argonauts (movie 1963, miniseries 2000), Clash of the Titans (1981, 2010), Thor (2011), Ulysses (1954), etc.). Adventure-fiction stories are non-threatening and can be dismissed.

Ideas and information tend to be indifferent to long term monopolization. Ideas and information are not zero sum. Power of any kind that depends on exclusive knowledge is tenuous at best (as

Mr. Spock noted, military secrets are the most fleeting kind, ST:OS “The Enterprise Incident”); for example, high school students in Australia have manufactured Martin Shkreli’s \$750 per dose Daraprim using non-industrial school chemicals, processes and equipment, for just \$2 per dose (Fiona Macdonald, “Students have made Martin Shkreli’s \$750 drug in their chem lab for just \$2,” sciencealert.com, December 2, 2016). The purity of their product was confirmed spectrographically in a lab, presented to the Royal Australian Chemical Society, and published online.²

“You can’t connect the dots looking forward; you can only connect them looking backwards. So you have to trust that the dots will somehow connect in your future. You have to trust in something – your gut, destiny, life, karma, whatever. Because believing that the dots will connect down the road will give you the confidence to follow your heart even when it leads you off the well-worn path; and that will make all the difference.”

– Steve Jobs, Stanford University Commencement Speech, June 2005
(video available on YouTube)

Patent Prosecution: Patent Prosecution is the process by which the connectivity of all of the Applications in the Patent are tested on the Era Matrix.

- **Connecting the Dots:** During the final processing of the Patent Application, the Concierge will check to see if all of the Applications listed on the Patent Theory section (by location) are connected. Only unconnected Applications will be tested; previously connected Applications are ignored. The base chance of connecting any two Applications is 50%. The connectivity of all listed Applications will be tested on the Era Matrix even if the Patent ultimately fails. Once any two Applications are connected, they are permanently connected.
- **Stamp of Approval:** If all Applications on the Patent are connected on the Era Matrix, forming a line exactly in the order specified in the Theory (and approved by the Concierge), the Patent is successful and a new technology is introduced into the game. It is possible for a position to submit a Patent for links that have all already been tested, and thus have an automatic Patent (after Concierge approval), however, as indicated in the following Eras section, that may not always be a good strategy. A new Patent may be used on the Regular Turn after it is approved and also must serve as the Interpretation (but not published on the forums) for the Technology Power activation for the purpose of Patent Prosecution on the Regular Turn of the Patent’s approval.
- **Patently Baaaad:** The Patent will fail if any two Applications fail to connect. A failed Patent cannot be used as an Interpretation on that Regular Turn; instead, the News Event required when submitting a Patent, see Patent Process, 1 Patents, p. 728, *supra*, will be used. Connections established by the Patent check will not be lost by the failure of the Patent.

A failed Patent may be submitted again on any subsequent turn by *another activation of the Technology Power* for the purposes of Patent Prosecution. A position may alter or change the failed Patent prior to resubmission, and each Patent Application will be treated by the Concierge as a new Patent Application for review and balancing purposes. If a link between Applications is tried enough times, it will eventually connect, and the connection only needs to be made once.

- ✓ Modification and resubmission are necessary for players to be able to ‘invent’ new technologies to move the game. This game does not use a ‘technology tree’ and there is no ‘ultimate,’ final, top-level technology.
 - ✓ Successful Patents are ‘locked’ and cannot be changed – ever – or disrupted.
- Back to the Drawing Board: A Patent prosecution is different from a Development Attempt in that it will not continue automatically from turn to turn until successful or disrupted. However, Patents don’t cost RPs and cannot be disrupted.

Capt. Kirk: *All right, Harry, explain. How did you get here? We left you in custody after that affair on the Rigel mining planet.*

Harry Mudd: *Yes, well, I organised a technical information service bringing modern industrial techniques to backward planets, making available certain valuable patents to struggling young civilisations throughout the galaxy.*

Capt. Kirk: *Did you pay royalties to the owners of those patents?*

Harry Mudd: *Well, actually, Kirk, as a defender of the free enterprise system, I found myself in a rather ambiguous conflict as a matter of principle.*

Mr. Spock: *He did not pay royalties.*

Harry Mudd: *Knowledge, sir, should be free to all.*

– Star Trek, “I, Mudd” (1967) ³

Letters Patent: A Patent is the property of the position that created it and is available for the exclusive use of that position. A Patent is secret – not published on the forums (one of the advantages of having a Concierge run the game), and the successful Patent serves as the Interpretation on the Regular Turn of its approval (only). An approved Patent may never be changed by any position or destroyed and is unaffected by other game events (except *Uber Alles*); very few technologies have ever been permanently lost in the troubled course of human history.⁴

- ✓ If you search Google for ‘lost technologies’ there are a few dozen (mostly clickbait) sites that list 10-15 technologies that have been lost. Most famous of the lost technologies is Greek Fire of the Byzantium Empire, others include Damascus Steel and the method for making Stradivari violins. There is also an article on Gizmodo and forum discussions on Quora. Some point out that lost technologies may not really be lost, but exist in different forms in modern times, or that modern technology has already far surpassed them. Thus, it is not impossible in GGDM for this to occur, but rarely.

Patents may be affected by later Patents (such as COT Patents), and may become effectively obsolete (see Eras). Patents may be *stolen* by Special Operations Black-ops (see specific discussion in Fuzzy Ops, 3 Special Operations, pp. 1306-1307, *infra*), and may also be shared with other positions under the proper conditions (e.g., through MegaCorporations, see 2 Commerce and 2 Corporations, generally, *infra*).

- ✓ Due to the nature of information (which Thomas Jefferson pointed out, *ut supra*), Patents are not lost when ‘stolen,’ but rather, ‘shared involuntarily.’ Don’t try to argue that in criminal court though.

If other positions reverse engineer or ‘inadvertently’ create similar Patents, their Patents are for their exclusive use, even if everyone has basically the same Patents. Even Existential Patents are

‘exclusive’ to their owners, and can be modified by COT or ET Patents so that the technology eventually differs from others.

- ✓ And of course, it is well known that the Soviet Union stole the atomic bomb information from Los Alamos (the Soviets had a whole spy network, there were about a dozen people involved); the Soviets exploded their first bomb in August 1949. How many billions did the Soviets save by stealing the design instead of doing it themselves? This issue is still being debated; the bomb was not stolen in one act, but was funneled to the Soviets in reams of technical information over several years. It took them years to build their own bomb when they had our information (partly, they lacked the material production infrastructure), avoiding the costly mistakes and dead-ends of our development process. What would have happened if the United States had retained sole possession of the atomic bomb for ten years before the Soviets matched? So much of the Cold War (e.g., bellicose behavior) is shaped by the fact that the Soviets got the bomb so easily and so soon.

“Act as if the maxims of your action were to become through your will a universal law of nature.”

– Immanuel Kant, First Formulation of the Categorical Imperative

Patent Consistency: As all positions are governed by the same physical laws of the universe,⁵ what one position can do with a Patent can be done equally by another. Once a Patent is successfully prosecuted, the abilities granted by the Patent become a permanent part of the ‘laws’ of the game universe⁶ (Sokal notwithstanding, see Alan Sokal feature quote, bottom of 3 Entropy, p. 249, *supra*) and are equally applicable to everyone who has a Patent granting those abilities, even if the Patent is secret. Another position could create a Patent to grant them the exact same, or very similar set of abilities by accident, observation or reverse engineering, though they may accomplish it in a different way.⁷

Creation in GGDM is like letting the genie out of the bottle – once loosed upon the game universe, that genie just won’t go home; I suspect that God – by whatever name – has the exact same problem: Humanity must be so annoying. See genie discussion relating to nuclear weapons, Little Willie Won’t Go Home, 1 Combat, p. 937, and the suitcase nuke discussion, 4 Combat, EN 14, p. 1002, *infra*. The Concierge will do his Kantian best to insure that the laws of the game universe remain constant, but entropy always wins in the end.

Whereas the physical laws of the universe are arguably the nearly perfect tyrant, in that they operate consistently, indifferently, every time, predictably, without fail, whether we understand them or not; but those same laws are not the ultimate tyrant, in that intelligent life finds ways to manipulate them, use them against each other, and ultimately circumvent them – we call it technology – the application of engineering to theory.

Other Interpretations have the same effect of becoming a ‘law’ of the *game universe*, but in less permanent ways, in less universal ways, in *different* ways, than the Patent. See official interpretations at the conclusion of Five Types of Facts discussion, 1 Dreamtime, p. 137, *supra*.

- ✓ Patents are strong Nomic elements. The Nomic is a game designed by Professor Peter Suber at Earlham College, Philosophy Department to demonstrate and explore the nature of “self-amending systems” and systemic logical hierarchies.

- ✓ Throughout GGDM, I point out that we are not placed here of our will, no one sought our consent (doing so is impossible) to be born. In other places, it is pointed out that things are created in GGDM by word, that the participants are universal legislators. GGDM has now reached the stage where participants are not only creating social interpretations, but creating the physical laws of the universe; you have reached the God-level where time and space do not matter (e.g., Robert Heinlein, *Job: A Comedy of Justice* (1984)). From there it follows that ‘populations’ in the game, the existence of the game universe, is not here by its own, or their own consent – you may think this is silly because they are not ‘real’ but that’s another discussion moving into *Tron* (1982) movie territory – which pretty much just recreates the situation in which we – and all things we consider ‘real’ – find ourselves. That is the very essence of the simulation. When you were a child you dreamed of being a race car driver? But what you got was a trike or a bike with training wheels (or maybe a Big Wheel!).

“The received intellectual tradition has it that, in the sixteenth and seventeenth centuries, revolutionary philosophers began to curtail and reject the teleology of the medieval and scholastic Aristotelians, abandoning final causes in favor of a purely mechanistic model of the Universe.”

– Ransom Johnson, Monte (2008), *Aristotle on Teleology*, pp. 23-24

Patently Off-limits: There should be no ‘final,’ ‘ultimate,’ or ‘unbeatable’ technology in the game. The Concierge and players should avoid viewing and treating game technology as a ‘tree’ or any sort of table, avoid the teleological view.⁸

- ✓ The game should also avoid ‘freebees’ (something from nothing) and retroactive effects of technologies in most cases; there must always be a cost, a limitation, and a counter (even if ‘non-technological’) or improvement to any technology in the game.

These are the ‘what not to do with Patents’ admonishments. It is offered in the same vein of the Keep the Sand in the Sandbox comments in 2 Dreamtime, p. 147, *supra*, to keep the game from veering into Monty Haul territory:

- ✓ “Mode: Monty Haul. Any campaign where the gamemaster doles out huge amounts of experience/treasure/power/other rewards. Usually becomes stupefyingly pointless after the player characters become the most wealthy/powerful beings in the universe.”
– Jason Sartin, The RPG Cliché List.
- **Un-patentable:** *Teleos* is Greek for ‘final cause or end purpose’; the term teleology, coined in 1728 by Christian von Wolff, describes a process of defining things by their goal or purpose.
 - ✓ For example, suppose you ask a young child, “what is a fork?” And the child replies, “It’s for eating,” or “It’s for putting food in your mouth.” These are teleological answers, instead of describing a fork as an eating implement, usually made of metal or plastic, about 6” to 8” long, with a thin metal handle, prongs at one end...

Teleology is thus the opposite of technical description employed by scientists and philosophers. Even calling a fork an ‘eating implement’ is a bit teleological as it describes the *end purpose* of the fork. But on some level, description of the end purpose is necessary; if I provide a technical description of something, you will ask what it is used for, to put it in context.

- ✓ Discussion of teleology in language (and avoiding such usages) is an attack, frankly, on the basic cognitive habits *relating to or taught by religion*. It is thus not surprising that little progress has been made against teleological speech outside of professional scientific journals. Teleology is really the first line of battle.

Perhaps the ultimate attack on teleological thinking (and the patronage system of Europe) is Voltaire's description of Professor Pangloss:

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- ✓ “‘It is demonstrable,’ said he, ‘that things cannot be otherwise than they are; for as all things have been created for some end, they must necessarily be created for the best end. Observe, for instance, the nose is formed for spectacles; therefore we wear spectacles. The legs are visibly designed for stockings; accordingly we wear stockings. Stones were made to be hewn and to construct castles; therefore my lord has a magnificent castle; for the greatest baron in the province ought to be the best lodged. Swine were intended to be eaten; therefore we eat pork all year round. And they who assert that everything is right, do not express themselves correctly; they should say that everything is best.’” – Voltaire, *Candide* (1759).
 - See discussion of Gottfried Leibniz' ‘best of all possible worlds’, PANGLOSS DOESN'T VISIT OFTEN, 1 Fallen to Earth, p. 1495, *infra*.

In terms of in-game technology, the teleological view would be that there is an ultimate form of every technology that all preceding technologies existed to lead to the ultimate, final technology. This is the video game technology tree that GGDM rejects.

- ✓ I have determined that the purpose for which Microsoft products, especially MS Word and the Edge browser in the last few months, were created is to annoy me. Observe for instance that both programs freeze, crash, and do inexplicable things; therefore I get annoyed daily when using them, and that must be for the best end.
- Predecessor Technologies: The Existential Patents, which represent the base technologies of interstellar culture and which must be completed before progression to the 2nd Era (see Event Horizon, 1 Eras, p. 760, *infra*), function effectively as predecessor technologies for the 2nd and 3rd Era. Most or many of the 2nd and 3rd Era Patents will be improvements upon or related to 1st Era Existential Patents. For example, the 1st Era Warship is an Existential Patent that will serve as the predecessor (even though one is *not strictly required*) for the 2nd Era Warship Patent, even if no 1st Era Warships are constructed (and the game becomes a big group hug event). But at the same time, a position could skip the 2nd Era Warship Patent and possibly develop a new Era Warship in the 3rd Era. The Concierge should certainly take into account ‘predecessor’ technologies as appropriate, but structurally, GGDM is (intended to be) non-teleological.
 - ✓ There is a technical argument for predecessor technologies used in the Stellar Conquest board game; e.g., copper metallurgy required somewhat advanced fire making ability and stone pottery, possibly charcoal production. Stellar Conquest also had ‘predecessor discounts’ – a mostly gamey gimmick to encourage players to follow one technology to the max (again, there might be some realistic argument, but mostly it was a design gimmick).
 - ✓ The Chinese never had the wine press, thus never invented the printing press, though I am sure they could have if there was a pressing social need and a tinkering genius.

These are the sorts of arguments offered supporting technology trees in games. However, *not all pre-requisites are strictly technological*; it is notable for example, that the reusable rocket and vertical landing were developed by commercial space operators, not by NASA, or the EU Space Commission, or the Chinese space agency, it was developed because business minds realized how expensive and wasteful (and non-competitive) were one-use rocket lifters. As of 2018, I believe that no other space-capable nation has developed either commercial space providers, vertical landing or reusable rockets (in fact, Russians were mocking their own space program online after the FalconX Heavy launch).

“Teleology is like a mistress to a biologist: he cannot live without her but he’s unwilling to be seen with her in public.” – J. B. S. Haldane

Patent Defect: Evolutionary biology is the area of study most plagued by and most aware of, the use of teleological language. Even when not intending to suggest teleology, the teleological concepts built into our language for millennia are nearly inescapable in evolutionary biology. As an anthropology student long ago, we were sternly warned to avoid and set aside teleological thinking as to the evolutionary process that led to humans; humans are not the ‘ultimate’ end or purpose, or even the inevitable result, of life and biological evolution on Earth, evolution didn’t happen to create us.

The most common form of teleological thinking is the unspoken assumption of people that the purpose of life on Earth, and of all of evolution, *was humans* who are at the same moment, regarded as the final purpose and product of evolution. This is really just the merger of evolution with preexisting creationism; or the substitution of scientific evolution for the creation myth.

- ✓ “Many people who say they believe in God no longer mean a person, or a trinity of persons, but only a vague tendency or power or purpose immanent in evolution.” – Bertrand Russell, “What is an Agnostic” (1953).

Humans need to continue to believe they are at the top of the heap, something special, without which, the Existential Void becomes so much more menacing (see Carl Sagan quote in *Empirical Mythology*, 1 Technology, p. 691, *supra*). Think about that.

- ✓ “We do not ask for what useful purpose the birds do sing, for song is their pleasure since they were created for singing. Similarly we ought not to ask why the human mind troubles to fathom the secrets of the heavens. The diversity of the phenomena of nature is so great and the treasures hidden in the heavens so rich, precisely in order that the human mind shall never be lacking in fresh nourishment.” – Johannes Kepler, as quoted by Carl Sagan in *Cosmos*, Episode 13.

In respect to Mr. Sagan’s scholarship, this is a good example of human-centric, teleological thinking, which is entirely consistent with the worldview (e.g., Voltaire’s *Candide* (1759)), cultural milieu of Mr. Kepler’s time and place in history. Though Mr. Sagan admirably avoids being teleological or overtly human-centric in his expressed views, he does echo throughout *Cosmos*, the idea expressed by Kepler of a wondrous universe that exists for humanity’s intellect, a view with which I take some issue in 2112 *Absurd Words*, *supra*.

- ✓ See also *Empirical Mythology*, 1 Technology, p. 691, *supra*.

“Science, is stuff we understand about truths we only partially grasp. Religion is trying to get closer to truths we don’t understand.”

– Guy Consolmagno, as reported by Dennis Overbye, *New York Times*,
December 22, 2014

Endnotes.

¹ Commentary: I wonder what Thomas Jefferson would think of Wikileaks? Having read this far in GGDM, you cannot dispossess yourself of it. You are trapped in the room with me. You have more, I do not have less.

² Commentary: Pharma-bro then cemented his already considerable reputation as a total jagoff by getting into a Twitter spat over their achievement.

³ Commentary & Citation: This is an interesting issue that gets an occasional flyby in science-fiction adventure: Once the information is out there, and there is an environment of overlapping or open and widespread interstellar civilizations, what control exists on technology and knowledge? Even in situations where there is a homeworld and colonies in a singleton, it is likely that the homeworld may be (and must be able to) keep ahead of the colonies technologically (unless one of the colonies is in a position to discover a whole new technology).

- ✓ This plays into the discussion of Reverse Engineering, 3 Technology, p. 712, *supra*.
- ✓ Up to this point in human history – unless the ancient astronaut conspiracy theorists are correct – everything we have has been invented by humanity, all of our technology, scientific knowledge. Everything we know. What happens when not everything we know is about us, by us? Science-fiction authors play with this idea frequently, but rarely gets serious (e.g., Stargate SG-1 series) with the implications.

⁴ Commentary: A lesson imparted on me by my mother at a very early age. I am not sure how or why it came about, but I recall my mother discussing with me in first or second grade, how ideas and inventions cannot be lost or destroyed, how, even when oppressed or suppressed, they surface again in other places and in later generations. In a modern example, LaserDisk was marketed in late 1978, two years after VHS VCR; VHS VCR eventually beat out LaserDisk and Betamax competitors and became the dominate video player for 15 or more years. LaserDisk however, developed into Compact Disk (CD) and reemerged in the 1980s, followed by DVD and Blu-Ray formats. VCR is now obsolete, of course; I had a DVR/VCR player, but now it’s junk, it wasn’t compatible with my new TV.

⁵ Commentary: For example, the *Law of Ka-plunk*: The probability of the occurrence of an inevitable Ka-plunk Event (K) (the sound of a cat jumping into an empty cardboard box) is a function of the size of the empty box (B), the proximity of cats (C) and time elapsed since placing the empty box on the floor (T). This natural law is easily verifiable, repeatable, and most of all, predictable. It is believed that cats share some sort of quantum link with nearby empty boxes, but it has yet to be experimentally verified.☺

⁶ Citation: **Q:** [analyzing the cause for the *Bre’el IV* moon’s trajectory] This is obviously the result of a large celestial object passing through at near right angles to the plane of the star system. Probably a black hole. **Lt. Cmdr. Data:** Can you recommend a way to counter the effect? **Q:** Simple. Change the gravitational constant of the universe. – Star Trek: The Next Generation, episode, “Déjà Q” (1990).

⁷ Commentary: e.g., when I bought an Atari ST in 1989, it had a GUI interface and a mouse. IBMs were still using DOS Shell. The innovation did not win the market for Atari, yet all computers are now mouse-driven. Mozilla introduced tabbed browsing; IE didn’t have it for a year. Mozilla innovated, but has not won the market from MS.

⁸ Commentary & Clarification: For the first 7 or 8 years of the design (the 1990s), I started with and expanded the existing Technology Tables from Stellar Conquest, adding new levels. They expanded and expanded until finally they imploded under their own weight, left the universe and resulted in the current technology rules. As a side note, the Colleges also started as three tables, but operated somewhat differently (via cumulative investment, instead of levels) than technologies, but again, grew and grew. I was always uncomfortable with determining what is the ‘final’ or ‘ultimate’ technology for each table; at some point (2001-2002), I made a conscious decision to abandon technology tables and trees, and all teleological thinking, opening the system up to whatever the players can dream of and work towards in the game. Colleges went somewhat the same direction, becoming open to whatever mission might be named. The Patent format is what insures that technology is sufficiently defined for operational purposes.

Why Europe and the West? Why Not China?
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David S. Landes

The world history of technology is the story of a long, protracted inversion. As late as the end of the first millennium of our era, the civilizations of Asia were well ahead of Europe in wealth and knowledge. The Europe of what we call the Middle Ages (say, tenth century) had regressed from the power and pomp of Greece and Rome, had lost much of the science it had once possessed, had seen its economy retreat into generalized autarky. It traded little with other societies, for it had little surplus to sell, and insofar as it wanted goods from outside, it paid for them largely with human beings. Nothing testifies better to deep poverty than the export of slaves or the persistent exodus of job-hungry migrants.

Five hundred years later, the tables had turned. I like to summarize the change in one tell-tale event: the Portuguese penetration into the Indian Ocean led by Vasco da Gama in 1498. This was an extraordinary achievement. Some scholars will tell you that it was some kind of accident; that it could just as easily have been Muslim sailors, or Indian, or Chinese to make the connection from the other direction. Did not the Chinese send a series of large fleets sailing west as far as the east African coast in the early fifteenth century – bigger, better and earlier than anything the Portuguese had to show?

Don't you believe it. These affirmations of Asian priority are especially prominent and urgent nowadays because a new inversion is bringing Asia to the fore. A "multicultural" world history finds it hard to live with a eurocentric story of achievement and transformation. So a new would-be (politically correct) orthodoxy would have us believe that a sequence of contingent events (gains by Portugal and then others in the Indian Ocean, followed by conquests by Spain and then others in the New World) gave Europe what began as a small edge and was then worked up into centuries of dominion and exploitation. A gloss on this myth contends that a number of non-European societies were themselves on the edge of a technological and scientific breakthrough; that in effect, European tyranny (to paraphrase Thomas Gray's "Elegy Written in a Country Churchyard"), "froze the genial current of the [Asian] soul."

...I shall return later to this revisionist debate. Here, suffice to say: 1) The Portuguese success was the result of decades of rational exploration and extension of navigational possibilities in an ocean (the south Atlantic) that was hostile to traditional techniques of navigation, which essentially involved following the coastline. This technological enhancement rested in turn on a systematic utilization of astronomical observations and calculations, taken from the Muslims and transmitted largely by Jewish intermediaries, which allowed the Portuguese to follow winds and currents across the south Atlantic, and then use a knowledge of latitude to swing back around the tip of Africa and into the Indian Ocean. 2) The Chinese abandonment of westward exploration was partly the result of contingent political events; but at bottom it reflected the values and structures of Chinese society and civilization. 3) European exploitation of the breakthrough rested on a disparity of power technology (better powder and better guns) as well as on navigational superiority. The extension of European power into other parts of the world was the expression of these and other disparities. Why other regions did not keep up with Europe is an important historical question, for one learns almost as much from failure as from success.

The First Chance: Science without Development

The one civilization that was in a position to match and even anticipate the European achievement was China. China had two chances: first, to generate a continuing, self-sustaining process of scientific and technological advance on the basis of its indigenous traditions and achievements; and second, to learn from European science and technology once the foreign “barbarians” entered the Chinese domain in the sixteenth century. China failed both times.

The first failure has elicited much scholarly inquiry and analysis. And yet it remains an abiding mystery. The China specialists tell us, for example, that in a number of areas of industrial technique, China long anticipated Europe: in textiles, where the Chinese had a power-driven spinning machine in the thirteenth century, some 500 years before the England of the Industrial Revolution knew water frames and mules; or in iron manufacture, where the Chinese early learned to use coal and probably coke (as against charcoal) in blast furnaces for smelting iron and were turning out perhaps as many as 125,000 tons of pig iron by the later eleventh century – a figure not achieved by Britain until 700 years later (Elvin, 1973, p. 85). In general, one can establish a long list of instances of Chinese priority: the wheelbarrow, the stirrup, the rigid horse collar (to prevent choking), the compass, paper, printing, gunpowder, porcelain. (But not the horse-shoe, which implies that the Chinese did not make use of the horse for transport.)

The mystery lies in the failure of China to realize the potential of some of the most important of these inventions. One generally assumes that knowledge and know-how are cumulative and that a superior technique, once known, will dominate older methods and remain in use. But Chinese industrial history offers a number of examples of technological regression and oblivion. The machine to spin hemp was never adapted to the manufacture of cotton; cotton spinning was never mechanized; and coal/coke smelting was allowed to fall into disuse, along with the iron industry. Why, asks Elvin (1973, pp. 297–298)?

It would seem that none of the conventional explanations tells us in convincing fashion why technical progress was absent in the Chinese economy during a period that was, on the whole, one of prosperity and expansion. Almost every element usually regarded by historians as a major contributory cause to the Industrial Revolution in north-western Europe was also present in China. There had even been a revolution in the relations between social classes, at least in the countryside; but this had had no important effect on the techniques of production. Only Galilean-Newtonian science was missing; but in the short run this was not important. Had the Chinese possessed, or developed, the seventeenth-century European mania for tinkering and improving, they could easily have made an efficient spinning machine out of the primitive model described by Wang Chen. A steam engine would have been more difficult; but it should not have posed insuperable difficulties to a people who had been building double-acting piston flame-throwers in the Sung dynasty. The crucial point is that nobody tried. In most fields, agriculture being the chief exception, Chinese technology stopped progressing well before the point at which a lack of scientific knowledge had become a serious obstacle.

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See Appendix EPAT1 – The Existential Patents
See Appendix EPAT2 – Existential Patents Quick Summary
See Appendix PUBS – Expansion of the Public Space Selected Summary
See Appendix TECH – Technology Progress

“They will have time enough, in those endless aeons, to attempt all things, and to gather all knowledge ... no Gods imagined by our minds have ever possessed the powers they will command ... But for all that, they may envy us, basking in the bright afterglow of Creation; for we knew the Universe when it was young.” – Arthur C. Clarke, Profiles of the Future (1962)

Childhood’s End: Suppose I decide – somewhat arbitrarily – that the ‘First Era’¹ of human technology ended in or about 1850 – the word “technology” came into our language in 1859 (Merriam-Webster online dictionary), did I mention that before? – and thereafter began the ‘Second Era’ which we are in currently. Under that division of human history, what would be the defining technology or development that sets the Second Era apart from the First Era that gives Second Era technologies that almost intangible extra dimension that makes First Era technologies not only obsolete, but quaint and clunky in hindsight?

- ✓ One must be careful in retroactively applying modern concepts. For example, we refer to prehistoric technology of which prehistoric people clearly had no collective concept. To them, it was something else, magic perhaps, perhaps a reason to make up an origin myth or to be thankful for the puddle that fit them just perfectly. Commonly, we are rather careless in retroactive application, other examples discussed in GGDM include modern concepts of evil, romance, empiricism, smiles, and feudal.

The defining event of the Second Era would be the understanding of electricity, and the development of technologies to utilize, generate, and transmit electricity. Napoleon used telegrams on the eve of the change from the First Era to the Second Era. The most famous inventions of the late 19th Century were almost all based on the use of controlled electrical current – a technology based on ‘controlled lightening’ harnessed by human ingenuity, and by the 1950s the world moved from electrical engineering to electronics – the pioneers of the modern computer were electrical engineers pushing the edge of electric technology.

Now, were I to speculate on what development might be the defining element moving us into a ‘Third Era,’ I wouldn’t have much of a clue, but like so many before me, I would speculate that it would probably have to do with the invention of a new space propulsion system (and the principles that would be involved would revolutionize other technology areas) or intelligent machines. Others might speculate that it would be the development of a Unified Field Theory that revolutionizes the world’s technology, still others might look to the quantum (e.g., quantum computing, quantum communication) for the next era emergence.

- ✓ On the exponential progress of technology, perhaps an analogy: we can only see the shadow of a hypercube in three dimensions, a hypercube exists in a direction we cannot point to. It is thus that I know what the difference in Eras should look like, but can’t predict the new direction that technology has taken from the 1st Era to the 2nd.

Now, in the game, the invention of the Stardrive,² is the technology that (arbitrarily) defines cultures in the game as moving into the 1st Era of interstellar technology. Continuing on, I don’t know, and wouldn’t speculate, in game terms, what defining development would usher the interstellar civilizations into the 2nd Era, or what 2nd Era technology would look like, but based on the previous observations of recent Earth technology, I know what the effect/difference should look

like. That effect/difference, what I call here the Uber Alles, can be simulated abstractly – without needing to define the technological details.

- ✓ The Stargate SG-1 episode, “2010” shares some vague conceptual similarities to Arthur C. Clarke’s novel, Childhood’s End, except that the Aschen Confederation conquers by benevolently helping races to extinction with their advanced medicines while lulling them into complacency with peace and prosperity. The Aschen are like the bratty kid who helps grandmother down the steps with a kick from behind. Rumor is that there are a few of those in the Galactic Space. Don’t be grandma! See ‘total extinction’ in Countdown to Extinction, 1 Resolution, p. 1462, *infra*. The main characters mount an assault on the Aschen-controlled Gate to send a note back in time in hopes of avoiding the Aschen future. It’s a clever episode, but it probably didn’t work: Locking out the Aschen gate address in 2001 likely just created a branch non-Aschen timeline, while the Aschen timeline to human extinction continues.
- Scaling Eras: The 1st Era of Technology in GGDM necessarily corresponds to Type 1 Civilization on the Kardashev Scale (this was not intentional design).³ Whether the 2nd Era corresponds to Type 2 and the 3rd Era corresponds to Type 3 civilization depends on the imaginations of the participants and the type of game being played. But it is not likely.
 - ✓ On the John Barrow Microdimensional Mastery Scale, the 1st Era corresponds roughly to Type IV Minus technology, with the possibility that the 2nd and 3rd Eras might reach from Type V Minus to Type Omega Minus capabilities.
 - ✓ Finally, in the Robert Zubrin Scale of Civilizational Range, most positions begin at Type I and it is expected that for the time of the game, most will progress to and remain at Type II Civilizational Range.

The three scales are not necessarily incompatible or exclusive of one another in any way, and taken together represent a conceptual map for interstellar civilization.

- ✓ “As an example, consider the human civilizations of Avatar and Ender’s Game. Both use relativistic craft and travel between fairly local systems. Though there are world-destroying weapons and much larger-scale space travel in Ender’s Game and its sequels, the phlebotinum involved is specifically said to use enormously less energy than normal physics would suggest for accomplishing those tasks. In Avatar, the necessity of brute-forcing relativistic travel speeds may put that civilization higher on the Kardashev scale, despite the largely inferior technology and scale of development. Keep this in mind when placing examples, and try to include some explanation. After all, a hallmark of improving technology is increased efficiency, which would actually lower a civilization’s Kardashev rating, all else equal.” – from TV Tropes.com, “Abusing the Kardashev Scale.”

Thus, greater power consumption does not correspond directly to greater technology; the breakthrough technology was transistors and then Very Large Scale Integration (VLSI, i.e. the computer chip) which use less energy.

An interesting concept and one I have not seen elsewhere in this form (and is probably more to the point), and so I guess I am proposing here, is that the true measure of a civilization’s ‘progress’ is its mastery of abiogenesis, psychogenesis, and noogenesis, and maybe cosmogenesis (see Order of Genesis discussion, 1 Order, p. 522, *supra*). Those four, which I will

call the Gee-scale (in the vein of the preceding scaled measures of civilizations) holistically represent a true measure of ‘levels’ of civilization and shelf levels of existence. Science-fiction literature, of course, is filled with examples of the ability to bring life to inanimate matter (abiogenesis) and self-conscious intelligence/sapience to entire races (‘uplift’) or to machines (AI), all of which are usually presented as the godlike achievements of ancient star-faring races or the accidental, tragic bumbblings of man. But it is usually expressed in other frameworks, and not as a ‘genesis’ scale.

“Second, I hope very strongly that one of the by-products of IGY may be this: that it drive the last nail in the coffin of the juvenile, and dangerous argument over the value of basic research. Scientific advances, whether national or international, can no longer be sustained on a crash basis or by gifted tinkerers. They depend almost exclusively upon the rewards of basic research. The mere symbols of basic research have become fantastically powerful in recent years.”

“The IGY has had a double impact upon society, first as a purely scientific enterprise, and this I have already briefly discussed. That IGY also has overriding significance as a purely human engagement, as an activity of man without specific reference to its subject matter. ...

First, it was not a government program, although governments at home and abroad supported it generously. Second, it was not a military program, although the military establishments of many governments, like our own, provided a variety of logistic support. Third, it was not an internationalized program, even though one of its greatest achievements was in the field of international cooperation. The very fact that it was none of these things accounts for a large measure of its success, scientific and international.

What it was and what it is, is this: a gathering together of private human beings, each of whom had a vital personal interest in a particular subject, each of whom felt that this subject needed, out of its own exigencies, a concerted attack, but one for which a simple, uncluttered mechanism would suffice.

Thus the IGY was at root an enterprise of private persons, an enterprise in the hands of doers, and the form and shape it took largely reflect this. This form and this shape reveal much about the character of the IGY and may well afford a pattern worth noting, worth using again in other areas.”

– “The Meaning of the International Geophysical Year,” Remarks by Dr. Hugh Odish, Executive Director, US National Committee for IGY, before the National Press Club, Dec. 4, 1958

The Matrix: The Era Matrix is a separate two-dimensional grid to which Research Groups are moved when they become Applications. It is not part of the Public Space, and is not affected by events in the Public Space. The Matrix contains only connectors and Applications, and each position has its own Era Matrix which (like the Public Space) is hidden from the view of others.

There is inherent in the Application the assumption that at the moment it is placed on the Era Matrix, the new technology represented by the Application is demonstratively superior to the currently existing technology of the same general type. This is an important concept for Patents and technological progress in GGDM.

- First Era Matrix: Matrix' represent objective physical laws. Each Era has a different Matrix, however, all positions have the same Matrix for each Era, such that, unlike Public Space, they are not unique to the position. The 1st Era Matrix is a *four by four square* where Applications are placed one each in the squares of the grid. Thus, the 1st Era Matrix has room for sixteen Applications and connections may be made vertically, horizontally, and diagonally.
- #IGY: One is added to each dimension of the Matrix for each Era following the first. That is, the 1st Era Matrix is 4x4 and has spaces for 16 Applications, the 2nd Era Matrix is 5x5 and the 3rd Era Matrix is 6x6 with space for 36 Applications.
- Current Era Matrix: Whenever the rules refer to the 'current Era Matrix' the term means whatever Matrix they are currently using. When a position passes to the next Era, the Matrix from the previous Era remains and is available, however, there is little reason for positions that have passed to the next Era to continue to use the previous Era Matrix to develop technologies; it is kept mostly for reference. Applications **are not** transferred to the next Era when a position advances, rather, in each Era, each position must start over again (*tabula rasa*) developing Applications and prosecuting Patents for that Era.
- Fourth Era and Beyond: The game design is premised on three technology Eras, however, it is possible, theoretically, for positions to move beyond the 3rd Era into the 4th Era (however, see Terminus, 1 Temporal Technology, p. 801, *infra*); it is possible for the game to have an infinite number of Eras, with each Matrix increasing in size. However, this game is premised on a balanced development of technology, culture, industry, military machines, and exploration and expansion, such that it is not anticipated that most positions will pass beyond the 3rd Era before the game ends. See It was the End of History, 1 Resolution, p. 1456, *infra*.

“Laws of thought, traditionally, the three fundamental laws of logic: (1) the law of contradiction, (2) the law of excluded middle (or third), and (3) the principle of identity. That is, (1) for all propositions p, it is impossible for both p and not p to be true ... (2) either p or ~p [not p] must be true, there being no third or middle true proposition between them ... ; and (3) if a propositional function F is true of an individual variable x, then F is indeed true of x.... Another formulation of the principle of identity asserts that a thing is identical with itself ... or simply that x is x. Aristotle cited the laws of contradiction and of excluded middle as examples of axioms. He partly exempted future contingents, or statements about unsure future events, from the law of excluded middle, holding that it is not (now) either true or false that there will be a naval battle tomorrow but that the complex proposition that either there will be a naval battle tomorrow or that there will not is (now) true...

That the laws of thought are a sufficient foundation for the whole of logic, or that all other principles of logic are mere elaborations of them, was a doctrine common among traditional logicians....

In 1920 Jan Lukasiewicz, a leading member of the Polish school of logic, formulated a propositional calculus that had a third truth-value, neither truth nor falsity, for Aristotle's future contingents, a calculus in which the laws of contradiction and of excluded middle both failed. Other systems have gone beyond three-valued to many-valued logics – e.g., certain probability logics having various degrees of truth-value between truth and falsity.”

– Encyclopedia Britannica article, “Laws of Thought,” retrieved April 20, 2018

The Laws of Human Thought: I played a game of Mahjongg this evening. The game lasted 4 minutes and 22 seconds, the game also lasted nearly an hour. Both statements are true and most would not have difficulty accepting them in the proper framework (i.e. I paused the game to go put dinner in the oven and ended up doing several other tasks before returning), but a really simple machine intelligence might not resolve the contradiction. The program, “60 Minutes” can be said (truthfully) to have run 2,325 hours (i.e. episodes) as of December 3, 2017, over 51 years. On American television, an NFL game lasts 60 minutes and also 3½ (or more) hours. The last 5 minutes game time of any broadcast sporting event lasts 30 to 45 minutes. Girlfriends get mad when you say there is only 5 minutes left in the game, I want to finish watching this – and it finally ends 45-minutes later. This is true of nearly every sporting event broadcast. The ability to understand these truths is the same as a double entendre:

- ✓ “I shot an elephant in my pajamas this morning. How he got in my pajamas, I don’t know!” – Groucho Marx.

According to the 2011 IBM TV commercial that aired this video sound byte, computers could not understand this double entendre. In 50 years, this will probably be a historical moment.

- ✓ **Guin:** I’ll see you in 500 years, Picard. **Picard:** And I’ll see you in a few minutes. – Star Trek: TNG, “Time’s Arrow, Part 2” (1992).

The ending of Carl Sagan’s *Contact* (1997) takes advantage of this; the sphere dropped through the spinning rings and into the safety net in seconds, but the internal time passed was 18 hours. Although the politicians covered themselves with a Congressional investigation into an apparent boondoggle (citing Occam’s Razor), both time measurements were objectively true. Non-scientific humanity simply didn’t have (or want to have) the proper framework.

- ✓ Within GGDM there warships and not warships (e.g. Colony Ships, Cargo Ships, Scouts, Log Ships), something is either a warship or not a warship and both cannot be true at the same time.
- ✓ A Log Ship is not a warship, but is allowed to move as a warship because it is necessary for the game (see Warships, 1 Combat, p. 941, *infra*).
- ✓ Within GGDM, there are starships and fighters, the line between the two is bright and clear at the start (but may become less so later in the game), one is a unit, and the other a unit enhancement, and as such, there is no middle or third option (see Fighters, 1 Carriers & Fighters, p. 1046, *infra*).
- ✓ But a system boat is not a starship, and not a fighter, but can frequently act as a ship but cannot move between stars on its own (see System Boats, 3 Construction, p. 677, *supra*), could carry fighters, but can never act as a fighter in any sense.
- ✓ Fighters, however, can never act as a ship except that they can initiate combat as if they were a warship if based on another unit, a colony for example.
- ✓ “It’s all terribly confusing.” – Ancient One, The BeastMaster TV series.

Now, I could have attributed the previous quote properly to “The Ancient One,” the character’s official name, but since there is only one Ancient One in the series (and presumably that world), an appearance of the character is either p or $\sim p$, and thus, if the Ancient One’s appearance is p , then we don’t need to include ‘the’ article to distinguish from others and it is usually ignored.

- ✓ In the real world, I read an article, I think it was in 2019, ridiculing Ohio State University for engaging trademark lawyers to register “The Ohio State University”; viewers of NFL football have seen alumni players introducing it in that way on national television, with an emphasis on the “THE.” It also appears that way on the university website. Pundits ridiculed the egotistical waste of money as no one would confuse Ohio State University in Columbus, Ohio, with the much smaller Ohio University in Athens, Ohio. Nor is there another state university in Ohio or anything close.
- Progress: The word ‘progress’ is fraught with controversy, as indicated perhaps by the fact that there are political parties and movements in most nations who call themselves ‘progressives’ and are opposed by those who don’t call themselves ‘anti-progressives,’ but prefer the warm fuzzy term ‘conservative’ (or ‘ultra-nationalist’ nowadays, wherever progressive thought is associated with urban globalism and multi-culturalism) instead. Progress in this sense was previously discussed in *The Bargain*, 5 Culture, p. 426, *supra*. And as discussed in *Patently Off-Limits*, 3 Patents, pp. 750-752, *supra*, there are philosophical and scientific issues where ‘progress’ is linked to teleological thinking. But when I say that I am progressing down the page, no controversy exists as to what is meant and whether this is good or not.
 - ✓ After all that said, ‘progress’ of Eras is intended here in the simplest sense, as defined by Merriam-Webster online dictionary at *progress* (n): **3**: gradual betterment; especially: the progressive development of humankind, and *progress* (v): **2**: to develop to a higher, better, or more advanced stage.

“You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete.”

– Buckminster Fuller

The Blurry Lines of Progress: There is no bright line or singular event that defines 1850 as the year that humans on Earth passed from one technological era to another, nothing special at all about 1850. Lines and retroactive terms are things imposed in historical hindsight (e.g., terms such as ‘feudal’ or ‘the Middle Ages’), whereas, the actual course of progress is like a drunken person staggering forward in a blur.⁴

- ✓ “Historians cheat.” – Dr. Paul T. Mason, Jr., Duquesne University, Dept. of History.
- The Progress of Eras: An Era is complete when:
 - 1) All Applications spaces on the Era Matrix are filled, and
 - 2) All Applications are connected to at least one adjacent Application.

When this occurs, the position automatically progresses to the next Era (however, see next section regarding the 1st Era) and the next Era Matrix becomes available, a new Current Era.

Conceptually, the completion and connection of all of the Applications in the Era, collectively advances technology by an order of magnitude; the advancement of technology or technological progress is not accomplished usually by a single incredible invention, but rather by the accumulation of small inventions and application to engineering problems. For example, compare the cell phone to the rotary phone to the telegram.

- ✓ Remember that Development of the final Application of an Era is automatically successful. See Short One Wingnut, 2 Technology, p. 708, *supra*. Connectors however, are not automatic, they are part of the Patent process (see Patent Prosecution, 3 Patents, p. 747, *supra*).
- Event Horizon: There are two additional requirements that must be met to exit the 1st Era:
 - ✓ First, in order to progress to the 2nd Era, the position must have obtained a Stardrive Patent. This is not negotiable, a 2nd Era position cannot exist without Stardrive.
 - ✓ Second, before exiting the 1st Era, a position must have obtained or successfully prosecuted *all* of the Existential Patents (if possible, see below).

The Generic Stardrive Existential Patent *satisfies both requirements*, as it is also an Existential Patent. The 1st Era may be quite long for some positions, most positions will spend the majority of the 1st Era developing technological basis for interstellar culture: The Stardrive and the Existential Patents, with one or two new unique technologies. Further:

- ✓ A 1st Era position may only prosecute Existential Patents until it has successfully prosecuted (and/or ‘bought’ during the setup) 11 Existential Patents, excluding GSD.
- ✓ See further, And One Moving Violation, 1 Stardrive, p. 789, *infra*.

There are a mind-boggling number of possible combinations to fill the 1st Era Matrix; it is probably possible to do so without completing all of the 1st Era Existential Patents. When this happens, automatic progression should be delayed two (rounded up) Regular Turns for each un-obtained Existential Patent, thus providing an incentive to keep the 1st Era tidy.

- All Things Are in Motion: Upon advancing to the next Era, a roll is made for each Patent completed in the Era to see if a new Monad is added to the position’s Public Space. There is a 10% chance x the level of the new Era for each Patent to result in an added Monad, e.g., there are 17 Existential Patents in the 1st Era, each of which has a 20% chance to add a Monad to the position’s Public Space (average result would be 3-4 added Monads). The new Monads are randomly inserted into the Public Space. As described in Over the Edge, 1 The Sidereal Stage, p. 108 and Edge of Reality, 4 Writs, p. 452, *supra*, inserting Monads in the Public Space can push existing pieces out of adjacency and just generally mess things up.
 - ✓ “But today we find modern science almost repeating Heraclitus’ dictum when it says: ‘*All things are in motion.*’ Like all dicta which briefly resume wide truths, this dictum of modern science requires expanding and explaining if it is not to be misinterpreted. By the words, ‘All things are in motion’ we are to understand that, step by step, science has found it possible to describe our experience of perceptual changes by types of relative motion: This motion being that of the ideal points, the ideal rigid bodies, or the ideal strainable media which stand for us as the signs or symbols of the real world of sense-impressions. We interpret, describe, and resume the sequences of this real world of sense-impressions by discussing the relative positions, velocities, accelerations, rotations, spins and strains of an ideal geometrical world which stands for us as a conceptual representation of the perceptual world. In our Chapter V. we saw that space and time did not themselves correspond to actual perceptions, but were *modes* under which we perceived, and by which we discriminated, groups of sense-impressions” – Karl Pearson, The Grammar of Science (1892), p. 239 (found on Google Books, also on archive.org)(emphasis in original).

“Part 1: Beyond the Zero’ contains 21 episodes. The name ‘Beyond the Zero’ refers to lack of total extinction of a conditioned stimulus. The events of this part occur primarily during the Christmas Advent season of 1944 from December 18–26. The epigraph is a quotation from a pamphlet written by the rocket scientist Wernher von Braun and first published in 1962: ‘Nature does not know extinction; all it knows is transformation. Everything science has taught me, and continues to teach me, strengthens my belief in the continuity of our spiritual existence after death.’ The epigraph reflects themes of anticipated redemption and blurring of the sacred and secular, both of which pervade Part 1.”

– from Wikipedia article, “Gravity’s Rainbow” (“a 1973 novel by American writer Thomas Pynchon”), captured September 5, 2019 ⁵

Beyond the Zero: Nothing could be more telling on so many levels than the defeat of the Mahdist at the Battle of Omdurman in 1898 and the Battle of Umm Diwaykarat in 1899. Those who were paying attention might have been the prophets of World War I combat: Industrialized technological warfare had finally overwhelmed religious fanaticism (promise of afterlife reward), tribal savagery and human wave attacks that had characterized human warfare for more than ten millennia. Methodical technological tactics overtook fearsomeness and impact of numbers.

The jihadist state, as a political, religious and economic power model failed miserably in less than a generation; while England, led by Prime Minister Gladstone (whose opposition to the Opium Wars as an MP fueled his political rise; his sister suffered heroin addiction), began to have doubts and back away from imperialist colonial adventure and European colonialism subsequently crumbled in the next three generations. The results of Omdurman and Umm Diwaykarat perhaps foreshadowed a similar, broader process of the 20th Century – that had begun two centuries before – where technology and industrialization completely overwhelmed and changed the institutions of the Western world and more slowly, the institutions of humanity globally.⁶

“Luckily for quantum physicists, you don’t always need to explain a phenomenon in order to use it. Ancient humans didn’t know about friction before inventing the wheel; doctors in medieval China didn’t know about antibodies when they began inoculating people against smallpox 600 years ago. Not knowing what’s behind quantum entanglement didn’t stop Jian-Wei Pan, a physicist at the University of Science and Technology of China in Shanghai, from rocketing it into space.”

– Sarah Kaplan, “Quantum entanglement, science’s spookiest phenomena, achieved in space,” The Washington Post, June 15, 2017

Advanced Technology: There is no difference in the Research process in any Era, as Research occurs in the Public Space. Research and Research Groups are the same throughout the game, for everyone in all Eras.

- ✓ “Any sufficiently advanced technology is indistinguishable from a completely *ad-hoc* plot device” – David Langford, “A Gadget Too Far,” (New Worlds 2, 1992, anthology) as a corollary to Arthur C. Clarke’s Third Law.

- Advanced Development: Positions may attempt to Develop Applications on the next Era before completing the current Era. Positions *may not* attempt to develop Applications two or more Eras ahead of their current Era Matrix. The next Era Matrix becomes available for Patents as soon as a position successfully Develops the first Application in that Era.

If a position intends to attempt to Develop an Application in the next Era, that must be indicated in the Actions sent to the Concierge, otherwise, it will be assumed that the Application is being Developed in the current Era Matrix. The cost of Developing an Application in the next Era is tripled and the base chance of Development of the Application is reduced by the percentage (fractions are truncated) of uncompleted Applications in the current Era.

- ✓ For example, the normal base chance of Developing a Research Group into an Application is 50% (see Short One Wingnut, 2 Technology, p. 708, *supra*). When attempting Advanced Development into the next Era, the base chance is 50% minus the percentage of uncompleted Applications in the current Era. Thus, if attempting Advanced Development into the 2nd Era, the position would need to have completed more than 8 of the 16 Applications on the 1st Era Matrix and would pay triple RPs.

Additionally, for the first Application Developed in the next Era, there would be a negative adjustment (see Short One Wingnut, 2 Technology, p. 708, *supra*) for the first Application in a new Era. Thus, practically, a position may not attempt to Develop Applications in the next Era before most of the current Era Matrix has been filled.

- ✓ Continuing the previous example, there is a 10% penalty to the normal chance of Development for the first Application in a new Era (see Short One Wingnut, 2 Technology, p. 708, *supra*). Thus, a 1st Era position would need to Develop 10 Applications on the 1st Era Matrix before attempting Advanced Development of the first Application on the 2nd Era Matrix (50% base chance minus 10% for first Application minus 37% uncompleted Applications on the 1st Era Matrix = 3% chance of Advance Development of the first Application on the 2nd Era Matrix). Once the first Application in a new Era is successful, future Applications can take advantage of adjacency bonuses.

Conversely, if a position has filled the current Era and is merely waiting (and a bit unlucky) for the last connections to be made between Applications to trigger the automatic progression, then there is minimum adverse effect on Development in the next Era, except the cost.

- ✓ Advanced Development should not be confused with or considered as advancing to the next Era, which cannot occur until the current Era Matrix is completed and all requirements are met.
 - ✓ Advanced Development may be an option if a Research Group has failed Development in all remaining Applications in the current Era and is foreclosed from the current Era. See The Kitty Incident, 2 Technology, p. 708, *supra*.
- Folding Space: It is possible for a position to attempt to avoid the specific requirements for automatic progression from the 1st Era to the 2nd Era using the Advanced Development and Advanced Patents rules presented below (i.e. never completing the last Application on the 1st Era Matrix). Doing so makes a hard and expensive hill to climb and may ultimately retard technological progress later in the game. Additionally, the Concierge may rule (but is not required to) that a position may not automatically progress to the 3rd Era when eligible, until

the 1st Era is completed (i.e. the last Application on the 1st Era Matrix is completed after the position has nearly filled the 2nd Era Matrix with Advanced Developments).

- ✓ The Advanced Development and Advance Patent rules simulate the blurry part of the line of technological gain, they create a situation that snubs both the Law of Contradiction and the Law of Excluded Third (*ut supra*).
- **Advanced Patents:** Positions may attempt to prosecute **non-Stardrive** Patents in the next Era as soon as the position has enough Applications in the next Era to try a Patent (i.e., a minimum of two Applications). Because Patents operate on the connection of all Applications listed on the Patent, a Patent *may not contain Applications from different Eras*; that is, all Applications used in a Patent must be found on the same Era Matrix. It is possible, if difficult, to create COT and ET Patents in the next Era based on a PIT Patent in the current Era.

The cost of prosecuting a Patent in the next Era will be 5+1-10 RPs per attempt (based on a die roll on a ten sided die) and the base chance (50%) of connecting any two Applications is reduced by 10 minus the number of successful Patents in the *current* Era x 5%. Thus, if a position has 5 successful Patents (of any type) in the current Era, the chance of making connections for Advanced Patents is 25%, whereas if the position had 10 successful Patents in the *current* Era, there would be no adjustment to the base chance of making connections.

- ✓ Stardrive Patents are a separate, special type of Patent and are not available as Advanced Patents. See *And One Moving Violation*, 1 Stardrive, p. 789, *infra*.
- ✓ The RP cost of prosecuting a Patent (above) *only applies to* Advanced Patent attempts. There is no RP cost for normal Patent prosecution attempts in the current Era. See *Physical Item Technologies*, 2 Patents, p. 739, and *Back to the Drawing Board*, 3 Patents, p. 748, *supra*.
- ✓ While the number of successful Patents is being used as a criteria for Advanced Patents, there is no rule specifying any number of Patents required to advance to the next Era, except that a position must successfully prosecute one Stardrive Patent and all Existential Patents to advance to the 2nd Era Matrix, *ut supra*.
- **Future Shock:** The Concierge may impose additional, temporary costs and restrictions and other difficulties or instabilities on advanced Patents that will be lifted once the position properly progresses to the next Era. The Concierge may also make case-specific rulings on any other sort of cross-Era situations, such as applying 2nd Enhancement Technology Patents to 1st Era ships.
 - ✓ A classic example is insufficient energy to power an advanced weapon on an inferior ship, for example, the advanced Excalibur Class destroyer in *Babylon 5* whose main weapon, when fired, left the ship immobile and vulnerable for a minute (except life support and communications) while the power recharged the systems. The limitation manufactured drama for the program.

The Concierge will take into account in all cases, the level of industrialization of the position, the technology base of the position, the percentage of completion of the current Era Matrix, and social factors and institutions.

- ✓ Advanced Development or Patent Prosecution **does not entitle** the position to any abilities granted by the Uber Alles for the next Era, see 2 Eras, p. 767, *infra*, or any other advantages of the next Era (e.g., see *Player Piano*, 2 Eras, p. 770, *infra*).

“In an essay for the journal American Anthropologist, Brown University linguistics professor Philip Lieberman described as ‘absurd’ the mixture of different levels of advancement among different tribes living in close proximity. Lieberman pointed out that it ‘would be most unlikely 80,000 years ago’ for humans to still be exhibiting ape-like characteristics, at the same time noting that the Ivaka tribe was depicted as having ‘a village culture that would have been likely 10,000 years ago.’”

– from Wikipedia article, “The Quest for Fire (film),” captured June 10, 2019 (citing to Lieberman, Philip (December 1982). “Film Reviews: Quest for Fire.” American Anthropologist. 84 (4): 991–992)

Bruit Suit: There is an interesting distinction: While Prof. Lieberman’s point is probably true – and I say this with reservations because of the historical difference between the Europeans and the rest of the world in the 15th Century and Jared Diamond’s arguments – of cultures co-existing on the same planetary surfaces, it has not been true in science fiction (and *probably* will not be true in reality *if* we ever discover other intelligent technological civilizations) due to both the unbelievably vast interstellar distances, separate development of sapience and cultures on many planets, and because science fiction is generally based on Western history, particularly the period of European hegemony. Thus, ‘bruit,’ (pronounced ‘brute’ not ‘bru-it’) in all of its meanings, is a rather fitting (archaic) term for GGDM play:

- ✓ “Back in the days of Middle English, the Anglo-French noun bruit, meaning ‘clamor’ or ‘noise,’ rattled into English. Soon English speakers were also using it to mean ‘report’ or ‘rumor’ (it applied especially to favorable reports). We also began using ‘bruit’ as a verb the way we used (and still occasionally do use) the verb ‘noise,’ with the meaning ‘to spread by rumor or report’ (as in ‘the scandal was quickly noised about’). The English noun ‘bruit’ is now considered archaic, but the verb lives on.” – from Merriam-Webster online dictionary at *bruit*.

Within the Galactic Space co-exist (peacefully or not) races with different levels of technology, suspiciously watching each other or casting loving gazes, spreading or collecting rumors, and making a lot of noise in the vacuum of space.

“One of the biggest roles of science fiction is to prepare people to accept the future without pain and to encourage a flexibility of mind. Politicians should read science fiction, not westerns and detective stories. Two-thirds of 2001 is realistic – hardware and technology – to establish background for the metaphysical, philosophical, and religious meanings later.” – Arthur C. Clark ⁷

Kindergarten Experience: I once saw a news program about a business that offered a ‘kindergarten experience’ to groups of adults who paid to be – literally – treated like kindergarteners for a day. How can anyone conduct or attend such a farce with a straight face – I can only picture Allison Pill from Snowpiercer (2014) – without a noxious feeling inside?

Many people are nostalgic for their childhood, wishing they were children again to escape responsibility, pressures, and meaninglessness of adulthood. To be a child is to be powerless, completely dependent on adults, lacking in judgment, knowledge, understanding, gullible, vulnerable; “hell is for children!” as Pat Benatar sang (and screamed) in 1980.⁸ Who wants that

again? But as the West discovered in the early 20th Century, adulthood is the illusion that you are not powerless, dependent, or lacking in judgment, knowledge or understanding, thus we have constructed expensive social safety nets.

- ✓ This is also the problem with so-called ‘girlfriend experience’ services (which is just a repackaging of professional mistress and other similar services) – how can one engage in an intimate relationship they know is paid (contrast this with say, visiting a psychiatrist)? The feeling of illegal drugs is not real either, but the physical addiction is too powerful for users to disengage. The problem of human looking is that we cannot un-look. And this was the psychologically devastating ending of Robert Sheckley’s 1957 short story, “Pilgrimage to Earth” – in his naivety and need, the off-worlder was willing to think real the romantic love from a perfect girl who was programmed to please him (programmable girl is a concept reused in Dollhouse series).
- ✓ I worked with a young lady several years ago and would from time to time in walking through the office, overhear her talking to her boyfriend on the phone. The way she spoke to him like a juvenile, maybe being too cutesy or manipulative, almost made me ill and I had a sense that relationship would be over as soon as he finished remodeling her kitchen. I wasn’t wrong, it didn’t take long.

“Mighty and Everlasting Bomb, who came down among us to make Heaven under Earth, lighten our darkness. O instrument of God, grant us thy peace.”

“Glory be to the Bomb, and to the Holy Fallout. As it was in the beginning, is now, and ever shall be. World without end. Amen.”

“May the Blessings of the Bomb Almighty, and the Fellowship of the Holy Fallout, descend upon us all. This day and forever more.”

– Leader Mendez, *Beneath the Planet of the Apes* (1970) ⁹

Endnotes.

¹ Commentary: It is an East Asian tradition to define their history in periods or eras, or by the names of rulers, we do something similar, e.g., “Nixon era” or “Vietnam era.” That is not the basis of or inspiration for the eras scheme for GGDM technology progression. Instead, “Eras” were a reimagining of the ‘levels’ of the technology tables in the Stellar Conquest board game, a nominally non-teleological scheme to solve the technology tables problem.

² Commentary: What is most interesting about the reimagined Battlestar Galactica series is that the only technology that they have that we don’t have is their FTL drive. The Cylons have the same technology and have additionally evolved a biological-machine technology. Other than the FTL – and the fact that the Galactica can take nuclear missile hits and survive, the modern viewer easily recognizes everything else in the show; humans, technology and culture, except that they are polytheistic. The technologies we recognize, like their life support systems and space structures, are perhaps just a lot better than what we have, but not so much so as to impress the average viewer (who is unfamiliar with engineering details) as being ‘way beyond’ where we are now. It was a very viewer-friendly show in that way, while the story line is a bit less so for being big, dark and extremely complex, like the universe.

³ Citation: See <https://www.youtube.com/watch?v=mr7FXvTSYpA> for an explanation of the Kardashev Scale.

⁴ Citation: “I find it somewhat perplexing that so few people seem to realize how big of a problem it is that progress in the foundations of physics has stalled. Part of the problem I think is that physicist themselves have been talking so much rubbish that people have come to believe that foundational work is just philosophical speculation and has lost any relevance for technological progress. Indeed, I am afraid that most of my colleagues now believe that themselves. It’s wrong, needless to say; a better understanding of the theories we use to make all these fancy devices, will certainly lead to practical application. Maybe not in five years, or ten years, but more in 100 years or 500 years.

But eventually, it will.” – Sabine Hossenfelder, “Physics is still in crisis,” Sabine Hossenfelder YouTube Channel, June 5, 2020.

⁵ Citation: The von Braun quote referred to is from an article “Why I Believe in Immortality,” which, according to NASA’s bibliography page, was published in two books in 1962 and 1968. Full text of the article is apparently unavailable on the internet, there are different clippings on various pages some of which contain the quote, others not, and the quote appears frequently on quotes sites. On the bibliography compiled by NASA, von Braun had published an article titled “Immortality” in two magazines in early 1960.

✓ <https://www.nasa.gov/centers/marshall/history/vonbraun/bibliography.html>.

⁶ Commentary: In the modern time, some (omit derogatory name-calling) people post videos on YouTube that are taken from movies like Khartoum (1966), Outpost Morocco (1949), or Four Feathers or a hundred other 20th century desert dramas, with smug, self-righteous, suggestive captions such as, “this is how they used to deal with Muslims.” Technology and industry have not solved the problem of those kind of (omit derogatory...) uh, people.

⁷ Commentary & Citation: Compare the similarities of this statement by Arthur C. Clark to the feature quote by Alvin Toffler, top of the 7 Beginnings, p. 68, *supra*.

⁸ Commentary & Citation: Pat Benatar’s album Live from Earth was one of the first records I owned, I probably bought it just after it was released in late 1983 (and I still have it, though I don’t have a record player now). If you don’t remember her screaming Hell is for Children, it is probably because the radio-play version was tamer. I grew so used to hearing the Live from Earth tracks that later when I heard radio-play versions of her songs, they sounded slow and tame, they didn’t sound right. I later saw her in concert at the Pittsburgh Regatta around 2000 – though she complained that she was tired of singing some of her songs (I think it was right before “Hit Me With Your Best Shot”) – her and her husband were fabulous, especially when they pretended to have a marital argument on stage, he ran off the back of the stage and hid out in the crowd, while she pretended to look for him from the stage and he played from the crowd. Thank the inventor of cordless amps!

⁹ Commentary: “In one of the countless billions of galaxies in the universe, lies a medium-sized star, and one of its satellites, a green and insignificant planet, is now dead.” – ending narration to Beneath the Planet of the Apes (1970). When I was a young teen, an afternoon movie program called Dialing for Dollars, came on Channel 16 (Scranton, PA) at 4 p.m. to 6 p.m., Monday through Friday, followed by local and network news. Dialing for Dollars featured theme weeks where they showed for example, Clint Eastwood Westerns week, Time Tunnel week, Buck Rogers week, or John Wayne week, five thematically ‘related’ movies. Early Sci-Fi Channel had something similar, I remember in the early 90s a ‘time travel week’ where I discovered the excellent indie movie Navigator: A Medieval Odyssey (1989) – the other four movies that week were forgettable – one I think featured some ‘time quakes.’ Dialing for Dollars had a Planet of the Apes week when I was in about 9th Grade and, of course, I watched them all. It would have been a Tuesday, after school, when I watched Beneath the Planet of the Apes (what homework?). I remember my reaction was OMG, as I realized what kind of insanity was being served. The mutants and their bomb worship, and the ending, stuck with me for 35 years.

✓ “And what is even more extraordinary is that Beneath, as a result of its shortcomings, is one of the weirdest and most insane sci-fi films of its era. It’s strongly anti-war, even including a scene referencing the Vietnam protests of the time in which young pacifist chimps holding signs are physically moved aside by soldiers. Its surreal imagery – an illusion of a giant statue of the apes’ Lawgiver raining blood on a forest of crucified apes, the incredible church service in which dozens of deformed mutants sing a hymn to an atomic bomb – matches the first in terms of sheer originality, and that ending is among the bleakest the genre has ever offered. ... Two things the Apes movies rarely ran short of were strange concepts and bizarre imagery, and Beneath – while far from the best film in the series – may top them all in both departments.” – Don Kaye, “How Beneath the Planet of the Apes Nearly Buried The Franchise,” Den of Geek, May 25, 2018.

✓ “When Beneath the Planet of the Apes adheres closely to this theme of dueling cultures and clashing religious viewpoints, it proves rather impressive, in my opinion. And the mutant civilization, down to the presentation of the ruined city and the ghoulish make-up, is every bit as impressive as the special effects work done on the original Planet of the Apes. The moment here in which the mutants reveal their ‘innermost’ selves to their God, the bomb, is more than bracing. It’s ghoulish. The unmasking of the mutants may not equal the psychic jolt of the Statue of Liberty revelation in Planet of the Apes, but it certainly rivets the attention, and visually brings forth the horrific toll of nuclear war upon both the human flesh and the human visage. It also assures that this sequel contributes some real visual ‘punch’ to the franchise.” – John Kenneth Muir, “Cult Movie Review: Beneath the Planet of the Apes (1970),” July 27, 2011.

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See Appendix EPAT2 – Existential Patents Quick Summary
See Appendix TECH – Technology Progress
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“The intelligent minority of this world will mark 1 January 2001 as the real beginning of the 21st century and the Third Millennium.” – Arthur C. Clarke

Uber Alles: *Uber Alles* is a German phrase that means “above everything else”¹ – not a pair of overalls. Here the term represents an intangible quality or dimension, due to the combination of the discovery of physical laws and the accumulation of Applications such that their combined effect advances technology by an order of magnitude, and the changed worldview that results.

✓ The difference in Eras is like entering a literary contest against Runyard Kipling.

Uber Alles is a tangible, observable *gestalt effect*: What Mr. Harrison did with gears and counter-weights in inventing the maritime chronometer can now be done with a cheap digital watch.² This gestalt effect is not limited to technology but is also demonstrable on culture that uses the technology (e.g., “Out on the high seas without a GPS!” – Joe Block, Pirates broadcaster, July 22, 2019), e.g., popular music (see *The Music of Your Life*, 2 Culture, p. 367, *supra*); this will be the most difficult part for participants to imagine, the *Uber Alles* effect on cultural worldview.

✓ “Gestalt Effect” and “Gestalt Structure” are terms used in GGDM that are not readily found on the internet in 2018; any Google search for “gestalt” generally leads to pages about Gestalt Psychology and Therapy, occasionally, the search will yield a page about phenomenological theory. None of the main dictionaries have tackled the definition of these terms yet. The Gestalt concept of GGDM is discussed in the *dic-tum* section, 3 Fallen to Earth, *infra*; for now, ‘gestalt effect’ **used here** is a sort of an overall technological emergence.

- **Ut supra:** The *Uber Alles* for each Era is provided to each position by the Concierge, as soon as the position successfully prosecutes its first Patent in the new Era. The *Uber Alles* is provided by the Concierge to insure consistency in the physical laws (even if we don’t know the details) of the game universe. The *Uber Alles* won’t be the same for each game or for each Era, and constitutes a set of ‘mini rules’ that adds an extra ‘dimension’ to the technology of the new Era that sets it apart from the technology of the previous Era, and renders previous technology obsolete. The rules of the *Uber Alles* might affect Patents, the Matrix, and/or social factors of the position. Finally, the *Uber Alles* of an Era may continue to operate into the next Era (with a new *Uber Alles* being added) or it might be rendered obsolete by the *Uber Alles* of the next Era. There is no *Uber Alles* for the 1st Era.
- **Ut infra:** It is possible for the players to share the details of the *Uber Alles* with other players who have not yet advanced into the next Era, but doing so would likely be of little utility. Consider for example, that knowing Ohm’s law wouldn’t do a 17th Century watchmaker any good, so knowing the *Uber Alles* for the 2nd Era won’t affect 1st Era Patents much or at all.
- **Magic Formula:** The technologies of the 2nd and 3rd Eras are so far beyond what we now call technology that we cannot even begin to imagine their shape or operating principles; we can, in fact, only in the last century begin to imagine the shape and operation of Stardrive technology (e.g., see feature quote from US Patent Publication No. 20060073976 A1, 3 Temporal Technology p. 828, *infra*), the advent of which, in this game, marks the entry into the 1st Era of interstellar technology. Therefore, players should not look to the *Uber Alles* for any sort of logic, nor should they try too hard to find logical explanations for the *Uber Alles* given by the Concierge.

Because we don't know anything about what would constitute 2nd and 3rd Era technologies, following Clarke's Third Law (see Intonation of the Three, 1 Technology, p. 688, *supra*), the *Uber Alles* might as well be a magic formula (consider that our current technology of 'controlled lightening,' and more so – extracting power from unremarkable looking gray rocks in concrete buildings – must surely be the magic of the Gods to our distant ancestors). Rather, the only criteria of the *Uber Alles* is whether, first, it adds an interesting dimension (a twist some might say) to the next Era (the difference between the technology of the mechanical adding machine and the modern personal computer), and second, is it playable?

- Apprentices & Familiars: In "The Magician's Apprentice" (2015), Dr. Who is confronted with a boy who is trapped in a minefield; the Doctor initially intended to save the boy until he realizes that it is Davros, his future enemy, the creator of the Dalek race that rages destruction across the universes. It is the classic 'should I kill Hitler as a baby' time-travel problem, except that Davros makes Hitler look like a rank amateur. The Doctor, unsure and torn, flits away in his time machine leaving the boy stranded. At the end of the following episode ("The Witch's Familiar"), after defeating the future Davros once again and destroying his city, the Doctor returns to rescue the boy in the minefield, realizing that he must.

Although the story is nearly linear to the audience who can see all, being told in the normal three-act format (beginning, middle, end; *introduction, crisis, resolution*), it is not to the boy, who sees a man appear in a box out of nowhere who says he will save him, but then acts threatening, then disappears, then reappears and saves him from the minefield (of 'hand-mines') and escorts him home. The resolution of the boy's and the Doctor's crisis occurred in a time loop into the far future (and the Doctor's past memories) in the few minutes between when the box disappeared and reappeared while the boy stood in the minefield.

- ✓ Had the Doctor resolved differently, killing the boy Davros, a paradox would have been created that unraveled the entire series from the second serial (1963) onward.

The TARDIS is perhaps the final and ultimate *Uber Alles* for whatever Era the Gallifreyans are in and serves as an example (for those familiar with Dr. Who) of the 'other direction' to which 2nd and 3rd Era civilizations might have access which we cannot see in the same way that a 17th Century watchmaker would not have imagined Dick Tracey-like iPhone watches.

"This seems to be the law of progress in everything we do; it moves along a spiral rather than a perpendicular; we seem to be actually going out of the way, and yet it turns out that we were really moving upward all the time."

– Frances E. Willard

Bottle Spin Whac-a-Mole: Ms. Willard was playing the game of whac-a-mole discussed in 4 Culture, p. 404, *supra*. The mole was rampant alcohol consumption, she was a late 19th Century temperance campaigner and women's suffragist. In the process, she used careless rhetoric that made alcoholism a racial issue instead of a holistic issue, and bumped up hard against the rising Civil Rights movement. The Temperance Movement had the bigger mallet just then, but peaked, whacked the mole, and imploded, leaving the stage to those trying to whack the mole of racism.

- ✓ To understand Ms. Willard's reference, envision climbing a spiral staircase instead of taking an elevator that moves perpendicular to the ground to reach your destination.

Every half turn along the spiral stair, you are seeming to be moving in the wrong direction horizontally, but you are still climbing up. Whereas in an elevator, you look bored, listen to elevator music, and check your voice mail, Twitter, or text messages.

- ✓ The implosion of the Temperance Movement following the Prohibition Era is discussed in *Flying the Banner*, 4 Government Titles, p. 632, *supra*.

Spiral-Perpendicular Discussions: How to visualize an emergence? The simplest way is a pair of perpendicular lines joined, the emergence is moving off at ‘right angles’ from the origin.³ But that is a crude two-dimensional representation. What is the three-dimensional equivalent?

This is the same as the question asked by Kip Thorne who was the science consultant for *Interstellar* (2016): We have been picturing black holes as two-dimensional objects on the ‘surface’ of space (like a whirlpool on the surface of the water), but in the process of working on the film, he asked, what is a circle in three dimensions? A sphere.⁴

- ✓ Three-dimensional space is not likely even the proper means to envision an emergence, since there is necessarily a time element to it. Likely then the real question is what is a perpendicular pair of lines in three-dimensional space with forward time effect. That is way beyond my topology, but visualizations I have seen of a spatial movement in time have been shown as a spiral or helix in an attempt to display a fourth dimension of movement (on a two dimensional page). Like Ms. Willard’s spiral staircase, instead of a perpendicular elevator.
- ✓ But here’s the thing: Kip Thorne wasn’t asked to explain why the universe is ‘designed’ or evolved so that black holes exist. He was asked to provide scientific thought on how to accurately portray a black hole in a film, and from that sprang certain insights that apparently had not occurred to anyone before his team tried to accurately visualize a black hole on film.⁵ Likewise, GGDM only has to simulate emergent technology in a game. Thus only a vision of the concept is needed.

There is a parallel sense between what Kip Thorne did for the movie *Interstellar* (2016) and what I have done in GGDM, see *The Problem of Immersion* discussion 1 Culture, p. 352, *supra*. The difference is one of orders of nature, differences in perceived empirical respectability between first and fourth order knowledge, resources and current cultural interests in the topics.

- ✓ “[Dr. Who] was created to fill a gap between children’s and young adult programming.” – from Wikipedia article, “An Unearthly Child.” “The programme was originally intended to appeal to a family audience as an educational programme using time travel as a means to explore scientific ideas and famous moments in history.” – from Wikipedia article, “Dr. Who.” Dr. Who has moved a long way from its intended ‘no bug-eyed monsters’ function; time-travel fiction cannot help but to be existential, and when the existential is avoided, it just becomes silliness. GGDM’s evolution over time has paralleled that of Dr. Who, conversations about civilization cannot help but to become existential; when avoided, they just become gloss and cliché.
- **Uber Emergents:** Each Uber Alles consists of two parts, one is related to activation of the Technology Power and the second is not related directly to the Technology Power. The pairing of Technology Power and non-Technology Power effects provides endless interesting combinations of effects (with no explanation necessary, it is effectively ‘magic’) and sufficiently simulates the perpendicular nature of emergences. Ten pregenerated Uber Alles are

provided for each category so that the Concierge may simply generate – either randomly or by considered choices – new Uber Alles pairs for each Era. It may also be possible for participants to create new Uber Alles effects.

- **Diagonal Play:** Imagine playing a game of chess or checkers without diagonal movement? The knight is a pretty darned good piece, but is very limited, imagine a game without bishops or pawn captures? There is probably a sociopolitical reason why bishops move diagonally.
 - ✓ I play Hashira, a tile falling game like Tetris (there is a “Let’s Play Hashira” video on YouTube). One of the keys to my modest success (I have barely topped 100,000 points a couple of times) is playing the diagonals. I first noticed that exploiting diagonals tended to ‘fix’ problems with the current board, bringing things into alignment and sometimes creating chain reaction eliminations. As I became more cognizant, I understood that chain reactions are extremely important not only for scoring, but for keeping the board from filling up which ends the game. I became more aggressive, creating diagonals instead of letting them occur naturally, it works as long as it is integrated with the other plays and the cat doesn’t jump on your desk and hit your face with his tail while you are trying to play – the universe engages in diagonal plays too!

To humans, diagonal represents the ‘other direction’ in a two-dimensional game that we import into our lives in thinking about our time and space and future possibilities.

- ✓ Cats are a little short on cause and effect; there is no way I can make him understand that whatever I am doing with my hands has anything to do with what is occurring on the computer screen in front of me, or of any importance to what he wants at the moment, and he doesn’t care (i.e. has no reason to look). Comprehending causality and caring outside ourselves (even for selfish reasons) are both diagonals of sapience (and the super-organic) that we teach children.

“Finnerty shook his head. ‘He’d pull me back into the center, and I want to stay as close to the edge as I can without going over. Out on the edge you see all kinds of things you can’t see from the center.’ He nodded, ‘Big, undreamed-of things – the people on the edge see them first.’”

“It was an appalling thought, to be so well-integrated into the machinery of society and history as to be able to move in only one plane, and along one line.”

– Kurt Vonnegut, Player Piano (1952)

Player Piano: The receipt of one Act or Scene per undisrupted Government Title (see On the Soapbox, 3 The Sidereal Stage, p. 122, *supra*) is intended to be a challenging management problem for most of the game. Scarcity leads to discipline and innovation. It is also intended to realistically – if that is possible – represent the complexity and political will of nascent interstellar civilizations. But, of course, at some point the limit may become an impediment to the game.

- ✓ Scenes especially represent inbuilt systemic inefficiencies: The larger a position becomes, the lower the percentage of colonies (and population) that will be subject to Power Activations each Regular Turn (or regularly), like being the only child vs. being one of ten; many familial problems are caused when the only child is no longer.

- More or Less: Technology has multiplied the effectiveness of each person in doing a job. For example, half a century ago, each attorney had a secretary who filed, took phone calls and spent much of the day typing from a Dictaphone.
 - ✓ Emperor Napoleon I had a dozen male secretaries, who would take turns in his office scribing letters as he dictated them. Napoleon Bonaparte dictated letters, laws, orders, dispatches, for 12 or more hours a day.
 - ✓ Adolf Hitler had four female secretaries.

Now one secretary works for multiple attorneys, some attorneys do not have secretaries, much is done by email, and most young attorneys are proficient at doing their own typing and formatting. Legal research is done online, instead of the associate going to the law library or the firm keeping an expensive hardbound law library which takes up office space.⁶

- ✓ But we all still have the same amount of minutes in a day. What technology does – theoretically – is to allow us to do more in the same amount of time. Many would dispute the truth of that, and say what we have to do in a day has simply shifted or that the newfound time has been quickly filled with other complexities. Because to add technology to solve problems is to add layers of complexity (*à la* Joseph Tainter).

The scarcity of Acts and Scenes and Power Activations in GGDM should be interpreted as a time function, a day in the life of a civilization. Since we all still have the same number of minutes in a day as each person had in the Middle Ages, participants should be *very careful* about changing the established rules on Acts, Scenes and Power Activations. The most direct way to gain time in a day is time travel, if you could be in two places at once, even for short times, you could make your day into 25, 26, 30 hours. It may also be possible that time gained from the multiplying effect of technology does outstrip the additional complexity so that there is some modern benefit (which explains the apparent acceleration of our lives), and that certainly might be the case with the technology assumed to exist in GGDM.

Within GGDM, the Concierge may optionally, allow more Acts and Scenes to positions that have reached the 2nd Era, for example, one Act plus one Act or Scene received per undisrupted Government Title. And in the 3rd Era, either two Acts or two Scenes (a choice to keep it interesting) received per undisrupted Government Title. This would definitively separate positions of different Eras *by an order of magnitude* and provide positions with an incentive to advance quickly through the technology Eras. It would also penalize positions that fall behind, like the fictional medieval state in the modern world in Leonard Wibberley's 1955 novel, The Mouse that Roared.

This does not equate to a position receiving more *Power Activations* in a Regular Turn (cf. Gone with the Wind discussion in 1 Government Titles, p. 582, *supra*); extra Acts and Scenes represent only the *power of opportunity* – technology and ‘advanced cultural sophistication.’ Early in the game, there will be turns where positions do not use all Power Activations, either holding back building-up for expensive Power Activations or because they have expended Acts and Scenes in a flurry of activity. The effect of the extra Acts and Scenes will be fuller use of available Power Activations, less fear of more expensive Power Activations.

- ✓ See additional scarcity discussions, Shoestring Production, 3 The Sidereal Stage, p. 122, *supra*, and Corporation Games, 1 Corporations, p. 1243, *infra*.

- Technological Unemployment: Everyone knows that when employers can pay less people to do the same work, they will; long term savings is the selling point of capital investment and software upgrades, social responsibility much less so. This is generally called Technological Unemployment, and demonstrates that the increase in productivity which leads to additional Acts and Scenes is also an opportunity for creative Interventions by the Concierge.

Generally technological progress has been a see-saw ride, each person can do more, but with explosive growth in populations and complexity, and knowledge, there is much more to be done as well. This pattern is well established. As Joseph Tainter notes, improvements in agriculture in the Proto- and Pre-Classical times to solve the food problem only resulted in increases in population, starting the cycle over again (see 2 Government Titles, EN 9, p. 604, *supra*, for full quote).

- ✓ “Cultural factors that develop independently from environment are the wildcards that have made history unpredictable. The use of the QWERTY keyboard and Chinese pictographic writing represent cultural developments independent of environment that have actually had relatively negative effects on societies – our inefficient typing system and the lower levels of Chinese literacy due to the difficulties of their writing system.” – Jared Diamond, Summary of Guns, Germs, and Steel (2017), pp. 45-46, Kindle Edition.

Technology multiplies the power of individuals in all endeavors, but also multiplies the complexities and demands of our civilization. GGDM civilizations are likely not immune from all of that.

The relationship of technology, social change, unemployment, capitalization and economics is a huge and hotly-contested intricate subject into which participants can delve on their own. Charles Dickens wrote during the time in which England was being most affected by the Industrial Revolution (see Gradgrind, 1 Colleges, p. 463, *supra*), but the process of enclosures, tenancies, and population shift to urban areas had already begun two centuries before with the Agricultural Revolution intensification that allowed less farm workers to produce more food per acre, and additionally, to work more farmland (see enclosure discussion and Raymond Birn quote in 3 Reformation, EN 3, pp. 1404, 1412, *infra*). The most famous starting point in the debate are the so-called Neo-Luddites, named after the Luddites of the 19th Century; the Luddites were also an anti-technology faction in a science-fiction space wargame (called Third Foundation) I played long, long ago! But there are many arguments across many disciplines on this, the most important socioeconomic subject of the 20th Century.

- ✓ “Anita had the mechanics of marriage down pat, even to the subtlest conventions. If her approach was disturbingly rational, systematic, she was thorough enough to turn out a credible counterfeit of warmth.” – Kurt Vonnegut, Player Piano (1952).
- Watching the Wheels Go Round and Round: There are other thresholds for increasing Acts and Scenes which might define a new Era of the game or for a position, in a non-technological sense. For example, the Concierge may determine that all positions get the first increase in Acts and Scenes after Turn 20 and maybe the second increase after Turn 40 or 60, if the game lasts that long. Or the increase may be based on position population thresholds, such as 300, 500, or 1000 total population factors on Converted, Friendly and Naturalized Colonies.

Other possible markers for the end of an age in GGDM, might include all positions having made First Contact (see *A Bump in the Night*, 1 Diplomacy, p. 1099, *infra*), or perhaps radical shifts in Structural Government Titles (see *Home-Wreckers*, 6 Government Titles, p. 651, *supra*). Or possibly even physical extinction of one or more of the Major Races in the Galactic Space (see *Countdown to Extinction*, 1 Resolution, p. 1462, *infra*). Most likely, a combination of factors will be in play.

There are also many hybrid thresholds that might be devised. Inherent in GGDM, as with most competitive games, is the potential for the big to get bigger, the rich to get richer and everyone else to get smaller and poorer (or drift away), and the first positions to gain the extra Acts and Scenes will have a definite advantage over the long term. The participants will need to decide what sort of game they like, what flavor to add to their own GGDM game.

“The French and Hussites had already demonstrated the power of artillery in the field, and now the fall of Constantinople gave proof that the mightiest walls no longer offered a refuge against gunpowder. Yet that May morning in 1453 is remembered as more than a tactical landmark. For a last spiritual link with the ancient world had been broken, and henceforward men would feel free to turn their eyes toward the future rather than the past.”

– Lynn Montross, *War Through the Ages* (3rd Ed., 1960), p. 195

Bulwark of the Past: Constantinople was the most powerful city in Europe for most of the Middle Ages. The Crusades passed through and became entangled in Constantinople, the Fourth Crusade attacked and sacked the city in 1204, destroying or carrying off countless historical treasures that are now lost. Constantinople was the last link to the Roman Empire and the Classical Ages. It could be considered a *Symbolic Constructural Element* in GGDM terms, within the worldview of ‘feudal Europe.’ Conquest of Constantinople (renamed Istanbul) also provided a gateway to Europe allowing the Ottomans to conquer all the way to Hungary; the Habsburg-Ottoman-Polish contest over two centuries shaped modern Eastern Europe, especially Romania.

- ✓ “After the sack, many feared other European Christian kingdoms would suffer the same fate as Constantinople. Two possible responses emerged amongst the humanists and churchmen of that era: Crusade or dialogue. Pope Pius II strongly advocated for another Crusade, while Nicholas of Cusa supported engaging in a dialogue with the Ottomans. The Morean (Peloponnesian) fortress of Mystras, where Constantine’s brothers Thomas and Demetrius ruled, constantly in conflict with each other and knowing that Mehmed would eventually invade them as well, held out until 1460. Long before the fall of Constantinople, Demetrius had fought for the throne with Thomas, Constantine, and their other brothers John and Theodore.

Thomas escaped to Rome when the Ottomans invaded Morea while Demetrius expected to rule a puppet state, but instead was imprisoned and remained there for the rest of his life. In Rome, Thomas and his family received some monetary support from the Pope and other Western rulers as Byzantine emperor in exile, until 1503. In 1461 the independent Byzantine state in Trebizond fell to Mehmed.” – from Wikipedia article, “Fall of Constantinople,” captured August 12, 2019.

Thomas died in 1465 and his son (and royal beggar) Andreas Palaiologos (brother of Sophia (Zoe Palaiologina) whose marriage to Ivan III of Moscow was arranged by the Pope) sold his crown and all rights in 1494 to the King of France. Had Constantinople been ‘liberated’ after 1494, it would have been claimed by Charles VIII of France and several French kings thereafter claimed to be Emperor of Constantinople (for what it was worth) until 1566 (at which time the claim was considered extinct and pointless). Andreas Palaiologos allegedly sold his crown and rights a second time to Queen Isabella I of Castile and King Ferdinand II of Aragon (of Christopher Columbus fame).⁷ Despite all, he died in poverty in Rome in 1502 and no members of his family claimed right to Emperor of the East. Just like the last Western Roman Emperor.

“The pomp of chivalry had increased in proportion to its weakness, and at Agincourt in 1415, the French host of 40,000 was literally an army with banners. But even though a pennon or standard fluttered over every contingent, the display only served to commemorate one of the last great efforts of a dying feudal age.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 182

A Dying Age: All of the things that we know gradually and collectively marked the end of the Middle Ages would not have been apparent to the combatants at Agincourt as they trudged through the mud on a soggy cool fall day in 1415. Not one person present would have had reason to think that the world as they knew it would not go on forever (or at least into the time of their grandchildren’s children, which is the same as forever for most people) unchanging.

There were reportedly some primitive cannons and handguns at Agincourt, but not enough to be more than a noisy curiosity. The walls of Constantinople were yet to be battered down by Turkish cannons (in 1453), rendering all castles and fortified cities in Europe vulnerable to the same fate as the power of cannons improved over the next century (and leading to the centralization of government power). The Portuguese had not yet reached India (in 1498), and as we all learned in school, Columbus had not yet discovered the New World (in 1492).⁸ The War of the Roses was still 40 years in the future, two generations hence. Sir Francis Bacon wasn’t to be born for another 145 years, and his vision had to wait another century after his death to emerge.

The events that might have been worrisome to the sages of the age would have been the Black Death, which passed through France, reaching England in about 1349-1350, a dark, continuing nightmare for which there seemed no cure and no end. The very concerning Western Schism of the Papacy (1378-1417) was finally nearing an end in 1415. And the last part that would have concerned the sages of the day, the Ottoman advance into the Balkans around the ailing, feeble Byzantine Empire,⁹ and the ultimate failure of the Crusader States in the Holy Land and Cyprus.

So here we have a balance of things:

- 1) Those things that would have been the worldview of the participants on the ground at the time,
- 2) Those things that we know from hindsight, that historians glowingly state led inexorably to the end of the age or era in question, and
- 3) Those signs and events that would have been known and worrisome to the wiser and more educated minority of the time.

GGDM is a game (like any of this kind) during which the civilizations (both collectively and individually) may seem to pass through ages;¹⁰ most likely, those ages will be tied approximately to the progression of Technological Eras. And as noted previously, there will be those who see an age coming to an end, those historians who will retroactively mark the end of an age in glowing, finalistic terms, and those on the ground – the ship crews, the colony populations, the soldiers, the explorers, the governments, the corporate types – who think that their current lifestyles will go on forever, generation after generation. It is an important distinction to remember when participating in GGDM that what the players or Concierge may know or see as the approach of the end of an age should not necessarily affect the people on the ground.

At the bottom of much of space-opera and solar system colonization science-fiction literature is the coming-of-age idea of leaving the nest and wandering afar in the galaxy.

✓ **Prof. Brand:** So how do you plan on saving the world? **Cooper:** We're not meant to save the world, we're meant to leave it. – Interstellar (2014).

Age and Era are distinguished here only because GGDM uses Eras for Technological Progression. Out in the wild, wide world, the two terms are often used interchangeably, and carelessly.

➤ **Crusade:** Many people bristle now at the mention of 'crusade,' thinking it an anti-Islamic term, and Islamic extremist exploit that idea with their propaganda. In other times, 'crusade' in English has been disassociated from its historical roots and simply means a great, ongoing focused effort, usually against some perceived medical or social problem (another name for the game of whac-a-mole). Historically however, a 'crusade' (a term not invented in English until after 1700 A.D. according to Merriam-Webster online dictionary) was used generally by the Roman Catholic bloc against anyone who wasn't part of Roman Catholic Europe, for example, the Northern Crusades against the Eastern Orthodox Church and various Slavic pagans, or against heresy, such as the Albigensian Crusade against the Cathars in the County of Toulouse and against the Crown of Aragon in Southern France. While crusade is an offensive term in this respect, it is because of militant religious expansion and suppression against *anyone* who didn't share the Roman Catholic beliefs or submit to the Lords Spiritual of Western Europe.

“Her freedom, Gupta, she chose homage a Sanjiro Gupta, an ark administrator of the early First Starfaring Age, who left the system of Sol with a consignment of stellar colonists dredged up from the deepest political dungeons of a consortium of sponsoring national governments, and arrived three generations later as the guiding memory of the sanest political system of the day, the forerunner of our modern transtellar society. Though this model colony ship society did not long survive planetary dispersion, and the proto-Lingo that had evolved soon began to break down into its constituent sprachs, it was Sanjiro Gupta who tossed the first pebble of modernity into the dark pool of that chauvin-ridden age, whose time-amplified ripples are the social mantra of our day.” – Norman Spinrad, The Void Captain's Tale, p. 10, Kindle Edition

Second Starfaring Age: Norman Spinrad published two books (The Void Captain's Tale (1983) and Child of Fortune (1985)) set in the Second Starfaring Age, 3,000 years in the future (the same number is used in the 2016 movie Arrival, a possible nod to Spinrad).

It is clear from his history that the First Starfaring Age consisted of sub-light generational starships. The Second Starfaring Age started with the discovery of the Jump Circuit, from alien

technologies left behind by *We Who Have Gone Before* (similar to the later *Babylon 5* television series, 1993 to 1998, and *Race for the Galaxy* card game, 2007).

It would be very interesting if Mr. Spinrad were to write even a short story or short novel describing – in his own inimitable manner – how the Jump Circuit was discovered. Mr. Spinrad is one of the few science fiction writers to write challenging novels set in a very distant, very different future trans-stellar civilization.

Sanjiro Gupta is the Sir Francis Bacon of Spinrad's First Starfaring Age. "Proto-Lingo" is the forerunner to some sort of trans-stellar human language that Spinrad attempts to simulate in his Second Starfaring Age books by mixing about 20% foreign (European) words into English. This is a subject that is only lightly mentioned in GGDM, and sci-fi tends to sidestep the problem with gadgetry such as universal translators, telepathy, or just completely ignores the problem.

- ✓ Notably, Harry Harrison's 1964 short story, "Final Encounter" (discussed in *Circumambulation*, 1 Expansion, p. 875, *infra*) goes into some detail of an AI-assisted process of translating and reconciling two languages that are discovered to be from the same root Earth language, with hundreds of centuries of linguistic drift.
- ✓ The movie *Bladerunner* (1982) also gives a brief nod to the problem by mentioning a mash-up language, "Cityspeak" (invented by actor Edward James Olmos, something more substantial than a *street cant*), but then moves on as Cityspeak is just background, setting window dressing.

But considering that Afrikaans is only 350+ years separated from Dutch and already shows significant divergence; within the timescales of GGDM, this drift would soon become a major problem for interstellar civilizations. See *Language Drift*, 3 Entropy, p. 246, *supra*.

Since the 19th Century, various attempts have been made at forming a universal human language, or forming international auxiliary languages (IALs, 'auxlangs') with limited success – while the languages exist in theory (the most popular being Interlingua, Ido, and Esperanto), very few speak them and they are not easy to learn. Instead, the natural trend has been toward international standardization of existing languages spread by European colonialism (with the usual objections, of course), such as International English and Mediterranean Lingua Franca. What happens when we go to space?

"Every epoch dreams its successor"

– Jules Michelet (1798-1874), French Historian

Endnotes.

¹ Citation & Commentary: "From the verse *Deutschland, Deutschland über alles, über alles in der Welt* ('Germany above all, above all in the world'), from the German national anthem *Lied der Deutschen*, composed by Joseph Haydn in 1797. The verse originally meant that the Germans and their rulers have to overcome existing divisions and keep in mind the goal of a unified Germany." – From Wiktionary entry for "über alles," August 22, 2018 (italics in original). Like any politicized phrase, there are various claims; some claim that the Allies in WWII deliberately mistranslated it for propaganda purposes, others claim that the meaning is a myth. The various inane arguments will not be repeated here (as they are irrelevant to the instant purpose of this text), *Google It!*

² Commentary: The award-winning television mini-series, *Longitude* (2000), tells the story of the invention of the maritime chronometer by John Harrison in 1730 in competition for the prize offered by the Longitude Act of 1714. The film demonstrates an entire political and cultural struggle in early 18th Century England, between science and

religion, astronomy and astrology, the needs of the Royal Navy (and the fact that no one had even determined the longitude of Jamaica before testing the maritime chronometer), leadership senility, and the entire English system's prejudice against a self-educated Scottish carpenter, John Harrison, winning the Longitude Prize.

³ Commentary: I had been thinking about Uber Alles off and on for a few days. In mapping out the end route to finish GGDM in March 2019, I had realized that I still needed to create a half dozen Uber Alles, a task, unlike Government Titles or Fundamental Realities, that I had never previously tackled (that is, I had written both of them years ago and revised them during the final edit, so I had at least a concept in mind). For Uber Alles, the question was, how do I simulate an emergence, at least a technological emergence? We have historical examples, which I have used in GGDM, but how do I translate those into a game which does not have a history?

- ✓ Late on March 10, 2019, I watched the movie *Annihilation* (2018). After I got up, all the sudden it clicked in my mind, the question of how do you visualize an emergence? *Annihilation* is a very strange movie, and I am glad to have seen it regardless of the subsequent outcome, but what happened in that moment of intuition a very few minutes after the movie? Does the movie contain some kind of *subliminal* messaging? Was it perhaps a practical demonstration of whatever a perpendicular line is in four dimensions? Most people think that time is a fourth dimension, see *Humanity in a Box* discussion 3 Reformatations, p. 1407, *infra*.
 - Rhetorical Question: Does subliminal messaging work only if there is a 'teachable moment' in the viewer for that message? Or does it work regardless of whether the viewer has reached the 'teachable moment' for the message? See *Teachable Moment*, 1 Kairotic Moment, p. 1418, *infra*.
- ✓ The difficulty that the film *Annihilation* (2018) has with audiences is that the audiences don't think in terms of emergences; the concept is not enculturated yet, we think mainly in straight lines and causalities. The film is about an emergence. Though critics understood the mastery and the risks that the film took, it was considered a box office bomb in 2018; the audiences didn't get it.
 - Unfortunately, because this impressive adaptation of award-winning novels was a box office bomb (thanks to our current culture milieu), it is very unlikely that the second and third movies will be made in the Southern Reach trilogy (Paramount Pictures owns the movie rights for the entire series). It's that money thing again, the intellectual value of the work is irrelevant next to colorful big budget movies with big explosions, cool gadgets and effects, and empty-minded silliness (e.g., *Star Trek 2009*, *Back to the Future* trilogy, etc.).
 - I have tried very much to develop an internal image of what an emergence looks like, how to recognize them. I would never have thought of the idea behind the movie *Annihilation* any more than Charles Babbage would envision a modern PC but I could recognize the intent when I saw it, and that will have to do for now. It is like a late medieval painter trying to find another way to do art, who is presented with a humanist work of Raphael from two centuries in the future: We know that one led to the other, but placed side by side, they are clearly much different concepts.

⁴ Citation: "Even black holes wear makeup in Hollywood. Last year's hit film *Interstellar* used real scientific equations to depict what happens when a team of space farers venture near a supermassive black hole. Now, a joint paper published in the journal *Classical and Quantum Gravity* from the movie's visual effects team and scientific consultant reveal that the real black hole ... was deemed too confusing for audiences, and some of the science had to be toned down. *Interstellar*'s premise was first conceived by physicist Kip Thorne of the California Institute of Technology, who wanted to make a realistic movie about black holes. He got together with director and co-writer Christopher Nolan, and also with London-based visual effects studio Double Negative to create the movie's black hole, Gargantua. ... The most striking element of *Interstellar*'s Gargantua is its accretion disc, the glowing ring of matter that encircles it. The team started out using a simple, rainbow-coloured flat disc to figure out how it would be warped by the black hole, then exchanged it for a more wispy disc with realistic colours. The result looked good, but the central black hole seemed to be squashed up against one side. That's because the movie's time dilation effects meant the black hole had to spin very fast, causing it to drag the light to one side. Nolan didn't like this asymmetry and thought moviegoers wouldn't understand why, so the team slowed it down, says James." – Jacob Aron, "Interstellar's True Black Hole is Too Confusing," *New Scientist*, February 13, 2015.

- ✓ "Kip Thorne looks into the black hole he helped create and thinks, 'Why, of course. That's what it would do.' This particular black hole is a simulation of unprecedented accuracy. It appears to spin at nearly the speed of light, dragging bits of the universe along with it. (That's gravity for you; relativity is superweird.) In theory it was once a star, but instead of fading or exploding, it collapsed like a failed soufflé into a tiny point of inescapable singularity. A glowing ring orbiting the spheroidal maelstrom seems to curve over the top and below the bottom simultaneously. All this is only natural, because weird things happen near black

holes. For example, their gravity is so strong that they bend the fabric of the universe. Einstein explained this: The more massive something is, the more gravity it produces. Objects like stars and black holes do this so powerfully that they actually bend light and pull space and time with it. And it gets weirder: If you were closer to a black hole than I was, our perceptions of space and time would diverge. Relatively speaking, time would seem to be going faster for me. What does Thorne see in there? He's an astrophysicist; his math guided the creation of this mesmerizing visual effect, the most accurate simulation ever of what a black hole would look like. It's the product of a year of work by 30 people and thousands of computers. And ... the simulation plays a central role in *Interstellar*, the prestige space travel epic directed by Christopher Nolan opening November 7. Thorne sees truth. Nolan, the consummate image maker, sees beauty. Black holes, even fictional ones, can warp perception." – Adam Rogers, "WRINKLES IN SPACETIME: The Warped Astrophysics of *Interstellar*," *Wired.com*, October 2014 (CAPS IN ORIGINAL).

⁵ Commentary & Citation: After the movie, the scientific team published a paper in the journal *Classical and Quantum Gravity*.

⁶ Commentary: My first job in a law firm was as a part-time law librarian, which involved insertion of pocket parts, hunting down missing books, setting up lunch seminars, and the people at Westlaw who hear only what they want.

⁷ Commentary: A similar situation is the premise of the board game *Nexus Ops* (2005). An explorer sold the claim to a planet four times – to four massive spacefaring corporations. He disappeared with the goodies, and the four corporations went to war over control of the planet. Another wonderful Intervention idea for the Concierge.

⁸ Commentary: Foreign colonization and trade lifted Europe out of general poverty, upset the European feudal economy, and most importantly, provided monarchs with a source of income not tied to the feudal system, thus allowing the building of national armies, and other initiatives that eventually consolidated power to the central government, and away from the feudal lords and guilds. Remember this when reading the Commerce section, later.

✓ See previously Why Europe and the West excerpt at the beginning of this section.

⁹ Commentary & Citation: Lynn Montross, who was certainly aware of the criticism that his spiritual ancestor Edward Gibbon (*The History of the Decline and Fall of the Roman Empire* (pub. 1776-1788)) *had entirely neglected the important contributions of the Byzantine or East-Roman Empire*, used two chapters in *War Through the Ages* (3rd Ed., 1960) in paying handsome tribute to the accomplishments of Byzantine arms, diplomacy and strategic position. It was partially attributable to the Byzantine Empire that the Battle of Tours was fought in 732 A.D.

✓ This same criticism is true in movie-making; critics have noted that there are very few Hollywood movies that show Byzantines or that are about the Byzantine or East Roman Empire. It is as if the West, especially across the Atlantic, *has an inexplicable blind spot to that immense period of history* covering just about any history south of the Danube, except ancient Greece, or north, south or east of the Black Sea; there are hundreds of 'Roman' (as in Western Roman Empire) movies, many of which are considered classics of cinema (e.g., *Ben Hur* (1959), *Quo Vadis* (1951)). Movies about the Byzantines are more the subject of local nationalism, e.g., the Bulgarian movie, *Khan Asparuh* (1984) (heavily edited, reduced, released internationally as *681 AD: The Glory of Khan* in 1984) made to mark the 1300th anniversary of Bulgarian nationalism.

✓ The 1968 West German movie, *Kampf um Rom* (aka *The Last Roman*) focusing on the intrigues between 6th Century Romans (who actually live in Rome), Ostrogoths, and a Byzantine General to reclaim Italy received poor critical reviews. Likewise, the very expensive 2016 Russian movie *Viking*, about Vladimir the Great, Prince of Novgorod (the Novgorod Republic remains dear to Russian nationalism) features some Byzantine diplomatic contacts and an attack on a Byzantine colony in Crimea, and was panned by critics.

¹⁰ Citation & Commentary: "It was the dawn of the Third Age of Mankind..." – *Babylon 5*. At some point in the development of the game, I did consider creating a mechanic or cycle to mark the passage of ages or epochs. It was too arbitrary and the game didn't develop in that way, though some of the elements of the game – Technological Eras, and Reformations, and Kairotic Moments, *infra* – possibly evolved from the general idea of ages and epochs. Additionally, the whole general thrust of the game is toward epic civilization.

✓ "The scientific-technical revolution that reinvigorated the industrial revolution at the turn of the 20th century was not due to any one specific scientific discovery or single invention.... While some have named succeeding ages – coal, oil, nuclear energy (and since [Harry] Braverman, the computer and biological revolutions) – it is not these developments that clearly mark the age. Rather, the age can only be understood as one in which science and technology has become an adjunct to capitalism, an age in which science and technology are systematically developed, shaped and exploited to expand capital." – Frank Elwell, *Macro Social Theory* (2009), Kindle Edition, p. 60.

Quark Fusion – Pop and Fizzle Excerpts from November-December 2017

Excerpt from “Fusion breakthrough explained: What are quarks again?”

Charlie Wood, Christian Science Monitor, December 11, 2017

“Quark fusion” may sound like “Star Trek” technobabble, but a recently confirmed particle could be the result of this process – an explosive reshuffling of some of nature’s smallest constituents.

Q: What are quarks again?

You’re looking at quarks right now. Magazines, screens, and air are made of atoms, and atoms are largely made of protons and neutrons – which are the most familiar examples of the three-quark bundles that physicists call baryons. Quarks come in six varieties: up, down, strange, charm, top, and bottom. Up and down quarks form protons and neutrons, while the unstable and much heavier strange, charm, top, and bottom quarks tend to transform into lighter particles fractions of a second after being created.

Excerpt from “‘Quark Fusion’ Produces Eight Times More Energy Than Nuclear Fusion”

Dom Galeon, Futurism, November 6, 2017

To reduce the emissions fueling climate change and develop more efficient ways of generating energy, while focusing on the bottom line, governments and private institutions all over the world have been turning to renewable energy. And while solar and wind energy advance and become more widely accepted, scientists continue to explore the possibility of stabilizing nuclear fusion as a truly renewable energy source that far outperforms current options.

But what if there’s an even better source of energy that’s also potentially less volatile than nuclear fusion? This possibility is what researchers from Tel Aviv University and the University of Chicago proposed in a new study published in the journal *Nature*.

This new source of energy, according to researchers Marek Karliner and Jonathan Rosner, comes from the fusion of subatomic particles known as quarks. These particles are usually produced as a result of colliding atoms that move at high speeds within the Large Hadron Collider (LHC), where these component parts split from their parent atoms. It doesn’t stop there, however, as these disassociated quarks also tend to collide with one another and fuse into particles called baryons.

It is this fusion of quarks that Karliner and Rosner focused on, as they found that this fusion is capable of producing energy even greater than what’s produced in hydrogen fusion. In particular, they studied how fused quarks configure into what’s called a doubly-charmed baryon. Fusing quarks require 130 MeV to become doubly-charmed baryons, which, in turn, releases energy that’s 12 MeV more energy. Turning their calculations to heavier bottom quarks, which need 230 MeV to fuse, they found that a resulting baryon could produce approximately 138 MeV of net energy – about eight times more than what hydrogen fusion releases.

Excerpt from “Particle Physics Discovery: Fusing Heavy Quarks Can Produce 10 Times More Energy Than Nuclear Fusion”

Allan Adamson, Tech Times, November 7, 2017

Melting elementary particles such as quarks can produce amounts of energy so massive it is equivalent to 10 times that of nuclear fusion, researchers have reported.

Quarks

Quarks are the most basic building blocks of matter. The protons and neutrons that make up matter are composed of quarks. Unlike protons and electrons, which have charges of +1 and -1, however, quarks have fractional electric charge. Quarks that are joined together form composite particles called hadrons. Quarks come in six flavors namely: up, down, top, bottom, strange, and charm.

Fusion Of Quarks Can Produce Massive Amount Of Energy

In a new study, researchers showed that two bottom quarks could theoretically fuse together in a powerful flash that can result in massive amount of energy that can spill out into the universe.

The fusion of two bottom quarks will produce 138 megaelectronvolts (MeV), which is eight times more powerful than individual nuclear fusion events inside a hydrogen bomb.

Is There Reason To Worry About Threats From A Quark Bomb?

Researchers, however, said that this kind of quark fusion could not be used to make a powerful quark bomb.

Excerpt from “Physicists Just Discovered Such an Explosive Type of Fusion They Almost Hid The Results”

Mike McCrae, Science Alert, November 3, 2017

A pair of physicists discovered a new kind of fusion that occurs between quarks – and they were so concerned with its power they almost didn’t publish the results.

It could have been the dawning of a new subatomic age. But as they’ve explored the idea they’ve discovered there are limits to its potential that we can be both disappointed by and thankful for all at once.

The discovery of this highly energetic form of fusion between quarks comes with limits that make it an unlikely candidate for any kind of fuel source of the future. But it also means we won’t see it become the next generation of nuclear weapon.

Karliner and Letzter calculated the fusing of the charm quarks in the recent LHC discovery would release 12 megaelectron volts. Not bad for two itty-bitty particles.

But if we were using another pair of heavy quarks? Bottom quarks, for example? That becomes an astonishing 138 megaelectron volts.

We’d like to imagine this caused the physicists to tap wildly at their calculator screens.

Given such impressive energy output, our first reaction would be jubilation at a new way to produce copious amounts of energy from a small handful of materials. Followed by images of mushroom clouds.

But, as it turns out, neither will happen.

Excerpt from “No, Melting Quarks Will Never Work As An Energy Source”

Ethan Siegel, Forbes Magazine, November 8, 2017

When it comes to the ultimate dream of clean, efficient, and prolific energy sources, it’s hard to do better than the secrets held within the interior of an atom. While conventional energy sources rely on chemical-based energy and the atomic/molecular transitions of electrons, nuclear energy is far more efficient. For the same amount of mass, a single atomic nucleus, either when split (for an atom like uranium) or fused together (in the case of hydrogen) can give off up to a million times the amount of energy of a combustion reaction. Recently, “melting quarks” have been discovered to be up to ten times more energy-efficient than fusion reactions. But

while fusion and fission both hold tremendous potential for revolutionizing the world’s energy, melting quarks will never work. Here’s the science of why.

The way nuclear fusion works is by taking stable, bound states of quarks (like protons, neutrons, and composite nuclei) and bringing them together under high-energy, high-density conditions. When you overcome the electrostatic force and get these charged nuclei close enough, their quantum wave functions begin to overlap, meaning there’s a finite probability that they’ll fuse into a heavier, more stable nucleus. When this occurs, a significant amount of energy is released: about 0.7% of the rest mass energy of the initial reactants. Via Einstein’s most famous equation, $E = mc^2$, that mass gets converted into energy, the ultimate goal of a fusion reaction.

But normal nuclear bound states, even the unstable ones, are made up of up and down quarks only, including the proton, the neutron, and every element on the periodic table. There are a myriad of other possibilities, however, since there are four other types of quark known: strange, charm, bottom, and top. We’ve even made bound state analogies to the proton and neutron with strange, charm, and bottom quarks inside. If we can fuse protons, neutrons, and other bound quark states together, perhaps we can fuse these strange, charm, and bottom “baryons” together as well. (A baryon is any combination of three quarks, bound together.)

Even though they only exist for fractions of a second, we can perform detailed calculations and simulations with these particles. We can learn exactly how they’ll behave, given that we understand the laws of physics. And in a new study, scientists Marek Karliner and Jonathan L. Rosner have demonstrated that an unprecedentedly efficient “melting quark” reaction is possible.

Your mind might immediately race to unprecedented applications. “This could revolutionize our energy needs,” you might think. “This could be the most efficient weapon of all time,” the military-minded part of you says. But the truth is that these are just pipe dreams, never to be realized with any sort of practical application in the physical Universe.

Why not, you ask?

Because these particles are too unstable, and the amount of energy required to make them is far, far greater than the amount of energy you’d get out.

But it cost you over 100% to make these particles in the first place! They’re also incredibly unstable, meaning they’ll decay to lighter particles on incredibly short timescales: a nanosecond or less. And, finally, when they do decay, you get 100% of your energy back, in the form of new particles and their kinetic energies. In other words, you don’t get any net energy out; you simply get out what you put in, but in a lot of different, hard-to-harness ways.

It’s still an incredibly important find to learn – even via simulation – how these bound-quark systems bind together and interact with one another. It’s important to understand how binding energy works, how much energy is liberated, and what form it takes when various unstable particles react. These steps forward are an integral part of nuclear and particle physics. But melting quarks will never work as an energy source or a weapons source, as the increased efficiency over traditional nuclear fusion at these high, unstable energies is far surpassed by the 100% efficiency of matter-antimatter annihilation. If you can make particles where melting quarks is a possibility, you can also create antimatter: the most energy-efficient source in the Universe. But for cheap, abundant, clean energy, nuclear fusion, not melting quarks, is the wave of the future.

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“The spaceship was ancient, yet the mysterious force of the Great Destroyer chained within the sealed coils between the hulls drove it with unthinkable speed across the star-shot darkness. The interior was close and smoky, for the only light came from oil lamps turned low to slow the fouling of the air... On the lower decks, the horses of the small party of Valkyr warriors aboard stomped the steel deck plates, impatient in their close confinement; while in the tiny bubble of glass at the very prow of the ancient vessel, two shamen of the hereditary caste of Navigators drove the pulsing starship toward a spot beyond the veil...” – Alfred Coppel, “The Rebel of Valkyr” (1950)

C-question: Consider the following question: Assuming that C is constant, how did the point in space where the Earth is currently arrive before light from just after the Big Bang? Or as a Fermilab video on YouTube asks, “If the universe is only 14 billion years old, how can it be 92 billion light years wide?” There must have been a time right after the Big Bang event when the universe was expanding at faster than light speed, and thus, scientist theorize that no matter how powerful our telescopes, we will never be able to see the moment of the Big Bang. We should not be able to see farther back than about 100,000 years after the Big Bang event.

- ✓ “In the olden days of cosmology – that is, before the 1998 discovery that the universe’s expansion is accelerating – there was hope that the universe might bounce back from a ‘Big Crunch.’ In that scenario, the universe’s sheer heft would eventually cause it to stop expanding, switch gears and shift into reverse. Like a film of the Big Bang played backward, all of space would collapse to a single point. Cosmologist Stephen Hawking once speculated that time itself would switch directions during the contraction phase. (Later, after discussions with his assistant Raymond Laflamme, he changed his mind.) Today, with no end in sight for cosmic expansion, the ‘Big Crunch’ is out of fashion. But new theories are offering some hope that the heat death may not be terminal.” – Paul Halpern, “When the End is Just the Beginning: Exploring Cosmic Cycles,” NOVA Newsletter, August 12, 2014.

“Who would once have thought that the crossing of the wide ocean was calmer and safer than of the narrow Adriatic Sea, Baltic Sea, or English Channel? Given ships or sails adapted to the breezes of heaven, there will be those who will not shrink from even that vast expanse.”

– Translated by Edward Rosen (1965), Kepler’s Conversation with Galileo’s Sidereal Messenger (1610), p. 39¹

Breezes of the Heavens: The European ‘advantage’ from the 15th to the 19th Century was not gunpowder, it was sailing ships. It cannot be overstated. With sailing ships and navigation, Europeans could appear anywhere, at nearly any time, on the world’s coastlines on missions of exploration, trade, slavery, colonization or war.

And they could come back again and again, as long as the will to do so existed because the world had no comparable seagoing vessels. Such was the importance of sailing warships, as the most expensive and concentrated unit of military firepower, that the Seven Years War (1756-1763) is referred to by some historians as “World War Zero.”

- ✓ Are WWI and possibly the Seven Years War, ‘world wars’ because they were fought all over the globe by European colonial powers, with minimal contributions from non-European nations and peoples, or was WWII the first ‘true world war’ because it was fought all over the globe, equally by regional and global powers, nations, and peoples from all over the globe? It depends on how the term is defined.

In science-fiction settings, *starships serve the same purpose*, serve as proxies for sailing ships in stories that usually parallel Earth history, especially the Age of Sail and Age of Exploration – from alien invasions of the Earth now, to galactic exploration, colonization, trade, war – invasion of alien planets in the future by humanity – and futuristic far-flung empires.

Starship Jefferson: Starship is a term generically used to indicate a spacecraft capable of interstellar flight, with a minimum speed of half-light speed, and probably at faster than light (FTL).

- ✓ The term “starship” was first used in 1882, according to Merriam-Webster online dictionary, sixteen years before H.G. Well’s War of the Worlds (which didn’t require the Martians to have starship technology) was published. In 1610, Kepler mentioned, “ships or sails adapted to the breezes of heaven” (*ut supra*).

A Starship requires at the minimum, hull capable of withstanding the forces and protecting the crew, computers, flight controls (including stopping and turning), life support, fuel, food and medical supplies, and of course, the all-important stardrive propulsion system.² Starship technology (at least in Hollywood) also tends to assume that some kind of gravitational and anti-inertial technology has been developed (to prevent the crew from being splattered against the bulkheads when the ship takes off at FTL speed), and that that pesky time-dilation problem has been overcome so that the crew doesn’t come back to find everyone on home world is dead centuries gone (it would make storytelling very difficult).

- ✓ “You might have to decide between seeing your children again and the future of the human race.” – Prof. Amelia Brand, *Interstellar* (2014).

Starships, which are often treated in such a blasé, cliché manner on television and in movies – represent the most comprehensive and concentrated form of technology available to the society, much the same as a modern nuclear powered submarine or aircraft carrier. They are marvels of intricate engineering and advanced technology, they represent the combined result of all of the Applications on the current Era Matrix.

- ✓ Conversely, in Harry Turtledove’s 1985 short story, “The Road Not Taken,” FTL – which we always assume is extremely complicated physics – turns out to be absurdly simple such that it could have been discovered by 17th Century technology. The price, however, is that technological advance of a species stops with the discovery; this is not consistent with the mainstream assumptions of GGDM, but is interesting.

They also represent the most concentrated unit of firepower, and the tenuous links that bridge the vast interstellar void, face the unknown, and hold interstellar cultures together. And like modern nuclear ballistic missile submarine commanders, starship captains hold in their hands the frightening power to destroy planets or even an entire interstellar civilization, or to protect it from enemies and aliens, and over which planetary governments have little control.

- ✓ **Shona:** Reindeer can’t fly. They just can’t. **Santa Claus:** No. No, they can’t. It’s a scientific impossibility. That is why I feed mine magic carrots. – Dr. Who, “Last Christmas” (2014).

- Assumptions of Light: GGDM requires that certain assumptions be made that would not be approved by current science. Whether we (or anything) can travel at FTL speeds is not as clearly prohibited as it seemed previously. The game must assume, *for the setting*, that reliable, repeatable FTL travel is possible. FTL is the necessary “Applied Phlebotinum” of GGDM as it is in every other interstellar ‘soft sci-fi’ setting. To wit:

- ✓ “Phlebotinum is the versatile substance that may be rubbed on anything to cause an effect needed by a plot. Examples include but are not limited to: nanotechnology, magic crystal emanations, pixie dust, and Green Rocks. In essence, it is plot fuel. Without it, the story would grind to an abrupt halt. It’s the science that powers the FTL drive on the starship so the characters can get somewhere, it’s the magic that hatches the Egg MacGuffin so the protagonist can save an endangered species, it’s the strange things unknown to science or magic that do basically anything except those limits and dangers required by the plot. The reader does not know how Phlebotinum would work and the creators hope nobody cares. According to Joss Whedon, during the DVD commentary for the pilot episode of *Buffy the Vampire Slayer*, the term ‘phlebotinum’ originates from Buffy writer (and *Angel* co-creator) David Greenwalt’s sudden outburst: ‘Don’t touch the phlebotinum!’ apropos of nothing.” – from TV Tropes.com, “Applied Phlebotinum.”

Most FTL travel in science-fiction stories assume temporal abrogation or simply ignore the time-dilation effect. However, there are some interesting exceptions here and there. In Arthur C. Clarke’s Childhood’s End, a human stows away on an Overlord ship returning to their homeworld, and returns to Earth 80 years later (our time). All of his friends, everyone he knew is either deceased, or very elderly. Having much of the same practical effect as time dilation, cold sleep or cryogenic hibernation and near light speed travel, insures that passengers and crew age little, while on their return, everyone they knew is old or dead.

- ✓ “Space is big. Really big. You just won’t believe how vastly, hugely, mind-bogglingly big it is. So big, in fact, that if Faster-Than-Light Travel is impossible it would take multiple human lifetimes to reach another star, and one way around this is you hibernate for most of the trip there. This is the Sleeper Starship. A modern variation that is becoming popular is one where the passengers just upload their brains into the ship’s computers and are downloaded into cloned bodies when they reach their destination. An older variant – a cross between a sleeper ship and a generation ship – is the ‘seed ship,’ which carries frozen embryos instead of frozen adults to save weight. The problems involved in rearing a generation of newborns without live parents are left as an exercise for the author.” – TV Tropes.com, “Sleeper Ship.”
 - Arthur C. Clark’s Songs of Distant Earth (1986) featured a ‘seed ship’ with an AI or robotic parent. See also, Wikipedia article, “Embryo space colonization.” Someday the theoretical will need to actualize.

An example of this is shown in the short-lived television series, *Earth 2*, where the young-looking pilot, who is over a century old due to cold sleep, is stranded on a frontier colony 22 light years from Earth and appears to be in mental distress over having to live on a planet and age normally. Due to cold sleep, it is unclear in the series whether they are travelling at FTL speeds. GGDM probably assumes abrogation of time dilation, but it’s not frozen in stone, and participants could experiment with time-dilation effects.

- ✓ Suppose someone invented a hibernation or stasis technology that would allow humans to sleep for decades or centuries. How would you test it? By having a person – probably a terminally ill person, unless that would cause a problem with the test – enter the hibernation unit and sleep. How long does the test need to be, do they need to sleep for decades or centuries to prove the system works? Why only one person?, you’d need a bunch just in case of medical or mechanical failure. Maybe there are people in hibernation sleep now in some deep place, just in case there was a nuclear war (yes, I played the Morrow Project RPG long ago)? Maybe sometime after 2100, a news conference will reveal that a hibernation unit experiment begun in the late 20th Century was successful, the people slept for over a century and woke up, and we can now begin putting all of humanity in hibernation ships. The movie *Magellan* (2017) unveiled stasis technology as part of the human ability to reach Saturn and beyond, but wisely never provided details, except to say that humans are not supposed to be able to dream while in stasis.

“The brave explorers or colonists set out in their spaceship to spread humankind to the stars. You can’t travel faster than light, so they’re going to spend most of the trip on a Sleeper Starship as Human Popsicles, or it’s a Generation Ship and it’ll be their descendants who step out at the other end of the trip. Either way, they’re saying goodbye forever to everyone and everything they know. Decades and centuries pass, and eventually they arrive at their destination – and there’s people there waiting for them.

Turns out, Faster-Than-Light Travel (or at least sublight travel that is vastly faster than theirs) is possible, and it got sorted out while they were in transit. Now the same trip that took them centuries can be done and be back in time for Christmas. And that planet you were all set to colonise? Done already, and actually we’re not sure there’s any room for you... Expect the brave pioneers to be upset about this.”

– TVTropes.com, “Lightspeed Leapfrog”³

Stardrive: In the modern era of television and big-screen space adventure, the momentary screenshot of starships taking off or accelerating, has become the visual signature of every series or movie. Nothing says you are off to escapist adventure more than a ship taking off at a mind-blurring faster-than-light speed, or passing through a bright gate into some other dimension, bound for who knows where (accompanied by loud orchestra music and drama). And increasingly, every new story with serious science-fiction pretensions has had to invent a new, visually interesting way to travel between stars and planets, such that there are now, at least a dozen different ways to take off for adventure at mind-bending (if not particularly safe) speeds burned into the memories of dedicated science-fiction fans. There are now warp drives, hyper-drives, jump gates, jump circuits, FTL drives, slipstream drives, star gates, wave engines, transwarp drives, improbability drives, gravity drives,⁴ planar drive, foldspace, and planespace.

In most programs, the form of interstellar travel is just a visual effect, an afterthought from the special effects department, but in the rarified air of *good science-fiction writing*, the stardrive takes its proper place as a symbol or metaphor of the story and the universe in which it is set.

- ✓ For example, warp drive has become the signature of Star Trek; it probably doesn’t have any greater meaning within the Star Trek universe than simply a visual effect

and a way to get there in a blurry hurry (*ut infra*). However, slipstream travel in Andromeda – that is, travel along cortex-like quantum superstrings underlying the reality of the universe – is portrayed visually like travelling through a brain at microscopic level and may serve as a metaphor for the series (like maybe a trip through Gene Roddenberry’s brain!). Since travel between routes becomes easier the more it is done, making regular routes between colonies easy and fast, slipstream travel also resembles *neuroplasticity* (or brain plasticity); the mode of learning and retention in human brains. Seamus Harper in Andromeda said, “Slipstream is our method of going faster than the speed of light, without going faster than the speed of light.”

- ✓ In the 2016 movie *Interstellar*, the wormhole travel is important to the story, it is the place where the characters connect briefly with creatures in a higher dimension, which echoes the story overall regarding the potential of humanity.

Yet, in each program, in each universe, in each novel, there is usually only *one* efficient form of interstellar travel which is used universally by all starfaring races. In GGDM, this does not have to be true; positions are free to develop their own forms of stardrives (or try to steal others) such that multiple competing Stardrive Patents may play out in the game universe.

- ✓ Extra-dimensional travel is often the mechanism for FTL travel in science-fiction stories. People describe it as folding a piece of paper in half then punching a pen through it (this is probably the origin of the ‘folding space’ idea). But with a modern PC at my disposal, it seems that another explanation would be navigating the universe (like a document) via thumbnail view on the sidebar; you don’t have to scroll through 20 pages, you just pull down the thumbnail bar, click the page, and you are there.
- T-minus 10,000,000: A ‘real world’ theory for a ‘warp drive’ is called the Alcubierre Drive, invented in 1994 by Miguel Alcubierre, 30 years after the term was popularized in the original *Star Trek* television series.
 - ✓ “The *Star Trek* television series and films used the term ‘warp drive’ to describe their method of faster-than-light travel. Neither the Alcubierre theory, nor anything similar, existed when the series was conceived – the term ‘warp drive’ and general concept originated with John W. Campbell’s 1931 science fiction novel *Islands of Space*. Alcubierre stated in an email to William Shatner that his theory was directly inspired by the term used in the show and references the ‘warp drive of science fiction’ in his 1994 article. The 1975 *Star Trek Star Fleet Technical Manual* suggests that the essential concept is the same as that later proposed by Alcubierre.” – from Wikipedia article, “Alcubierre Drive,” captured September 5, 2019.
 - ✓ See EM Drive and Alcubierre Warp Drive excerpts, Movement, *infra*.
- Ten Million Year Leap: It seems a likely possibility that in order to travel at FTL speeds, humans would first have to become *something else* ... that the current form of humanity is not suited to interstellar travel and colonization. That is, there may be an epochal connection between *FTL travel* and *trans-human evolution*.
 - ✓ In the 2018 short story “The Lantern” by Exurb (aka, Exurb1a, available in audio on YouTube, 14 minutes), Lanterns are humans who are intentionally mutated specially to function in ‘E-space’ which human ships use in transit between the stars. In E-space, neither human minds or computers work normally, so human passengers are

cryogenically frozen and the ships are manually steered and controlled by Lanterns (they are no longer human really), who sit in the forward bubble of the ship. Lanterns can see past and future by virtue of their mutation and exposure to E-space, human interstellar culture entirely depends on them. The Lantern in the story indicates that humans will not need Lanterns in about 3,000 years.⁵

If any higher SQ (Sentience Quotient) extraterrestrial (in our dimension) or extradimensional intelligences are watching, the invention of technology allowing faster-than-light travel by humans would be comparable to the spontaneous invention of an internal combustion engine by a toddler. Or by someone from the year 1066 A.D. It is not impossible, it is just extremely, in the most extreme sense, unlikely. Perhaps a once in a ten-million year leap outside the potential energy well, a temporal alpha decay. Carl Sagan pointed out:

- ✓ “It is all a matter of time scale. An event that would be unthinkable in a hundred years may be inevitable in a hundred million.” (*Cosmos*, p. 73).⁶

And the universe is over 13 billion years old, the sun over 4 billion years. The universe is vast, how many interstellar civilizations are out there? Well, that depends on who you ask and how the Drake equations are modified and what assumptions are made,⁷ see *Primal States*, and EN 2, 6 *Beginnings*, pp. 61, 67 respectively, *supra*.

If humans invented stardrive anytime in the next million years – that would be about two million years after human predecessors began using (not making) fire – we’d likely be well ahead of the probability curve.

- ✓ Standing in 2019: We consider the events of 2000 years ago to be ancient history; in the West, in the year 19, the Roman Empire, just transformed from the Roman Republic two generations prior, was approaching its zenith, Augustus Caesar had died five years prior, Roman expansion had been stopped at the Battle of Teutoburg Forest ten years prior. And the 19 year old Jesus was wandering around Roman Palestine. Ten thousand years ago is the dim twilight of history which we know with fair certainty, and much of that comes from archeology rather than contemporary recorded history. If it takes another 10,000 years for humanity to invent stardrive, and reach what GGDM calls the 1st Era of interstellar culture, what will our time seem like to those people, wherever they happen to be living in the solar system?
- Trans-human Touchdown: Kate Becker may have inadvertently suggested a path for human epochal evolution in her July 28, 2014 article, “Is Quantum Intuition Possible?” on NOVA discussing how babies learn intuitively the physics of our world:
 - ✓ “These innate notions, plus ‘elaborations’ born from watching and interacting with the world, add up to a sort of ‘naïve physics’ that we all grasp without any formal physics training, says [Kristy] vanMarle [University of Missouri]. But what about building quantum intuition after that early mental groundwork has already been laid?”

Of necessity it must also be true that any animal, especially of the higher orders, obtains “a sort of ‘naïve physics’” of the world in which they live, especially predators and their prey. This must be the co-defining mark of ‘progress’ or increasing neural complexity along both the sentience and sapience axes (plural of axis). Viewed in this way, it is remarkable that humans have only in the last four centuries passed beyond “a sort of ‘naïve physics’” as a spe-

cies, noting though that ancients had impressive engineering skills and used projectile weapons, such as catapults, and so possessed visionary application of “a sort of ‘naïve physics.’” It is now the place of humanity that we have arrived after the sudden spurt of formalized understanding able to imagine the quantum world, though having some trouble framing it.

- ✓ Continuing, she states, “To get from Aristotle to Newton, you have to be able to imagine a world without friction. Luckily, that isn’t so hard; if you’ve ever played air hockey or laced up ice skates, you can vouch for Newton’s first law. But what is the quantum equivalent of an air hockey table – an everyday object that provides us hands-on access to quantum physics?” *Id.*

- See full feature quote, 4 Colleges, p. 505, *supra*.

Thus, one might expect an epochal transformation of humanity – and no one can possibly predict the ramifications across our civilization, it would be as profound as reproductive consciousness or learning to make fire – when humans gain an intuitive understanding of the quantum in the same way we play air-hockey or intuitively understand the Classical Physics from the time we were infants. This is not at all impossible, as Albert Einstein hinted at the Bad-Nauheim debate in 1920 while dismissing illustrativeness in physics:

- ✓ “I would like to say, that what humans consider as illustrative or not, has changed. The view about illustrativeness is so to speak a function of time. I’m of the opinion, that physics is conceptual, not illustrative. As an example for the changing view about illustrativeness, I remind you of the view on illustrativeness of Galilean mechanics in different periods.” – Albert Einstein, Bad Nauheim Debate (1920).
- ✓ See further, Peek-a-Boo discussion, 2 Expansion, p. 893, *infra* and also human intuition discussion in You Already Knew It, 4 Colleges, p. 505, *supra*.

It would be interesting to see truly post-transhuman fiction (other than Frederik Pohl’s classic New Wave short story, “Day Million”) that describes the universe of human descendants who would legitimately regard us as Australopithecus (or babies). It is difficult to describe such a world, it would be like a blind-from-birth man describing seeing. The closest I have seen to this concept are the Therians’ “hyperlife” from the game AT-43, and the Mindjammer RPG setting, the New Commonality of Humankind (Mindjammer and Eclipse Phase were groundbreaking trans-human RPGs). GGDM does not address this epochal transformation; instead taking the convenient, well-trodden paths of standard science-fiction trope.

- Humans Advance Swiftly: To avoid addressing the epochal transformation or millions of years of sublight travel, and to keep the story accessible to the audience, science-fiction writers usually take the highly unlikely ‘temporal alpha decay’ above to give humans FTL. This is evident in the Stargate SG-1 series where an advanced alien visitor insisted that humans (with late 1980s early 1990s technology) could not have learned to operate the Stargate on their own, it is also the backbone of Star Trek, e.g., Cochran’s invention of the Warp Drive, and dozens of (in fact, nearly all other) science-fiction stories involving humans, technological alien civilizations and interstellar civilization. This also provides the credible intellectual basis for human adventurers to radically upset the existing galactic order, become a threat to the universe, and prove more dangerous and intelligent than all other races combined.

- ✓ “For every species bar one, Medieval Stasis is how the world works. Changes in technology and society take hundreds of years, and any existing alien civilization or

elf kingdom today looks more or less the same as it did a century ago – or will in a century more. For most races in the setting, slow change is the norm. The great exception are humans. Somehow these talking plains apes, who have only learned to walk fully upright a few hundred thousand years ago, have mastered technology and civilization in a fraction of the time it took everyone else, despite their incredibly short individual lifespans. Or maybe it is that very brevity that drives humans, the sense that they don't have decades to spare and need to accomplish things now. Or the rapid generational turnover means that once we become set in our ways we don't last long enough to impose our views on successors still young enough to be open-minded to new ideas.” – TV Tropes.com article, “Humans Advance Swiftly.”

All of this is a continuation of the “European mania for tinkering” (see David Landes excerpt, Eras, *supra*) and exploration that became science, technology and expresses itself in science-fiction colonization.⁸ It is not surprising then that science-fiction literature not do well outside the West, with the exception of Japan, because Western science-fiction genre does not have a basis in their cultures. Many thus see science-fiction genre as a continued form of racism and/or global enculturation of European ideals, with the stories and settings replaying 17th-19th Century European exploration, colonialism, and East-West relations and Western-African relations. In this milieu, Japan occupies a peculiar place, a continued legacy of the Meiji Restoration program, it has embraced Western science, technology and business-manufacturing ideas (and science-fiction), a secular government was imposed after WWII, but remains otherwise, culturally xenophobic and suspicious of foreigners and foreign ideas, and remains one the most racially and ethnically homogenous populations on Earth.

- ✓ I have read somewhere in a news article, an allegation that Japan is one of the last major nations on Earth that has not addressed racism, and this is because of the factors outlined above.

“Nor did science fiction’s refusal to champion a collective prescription for a space program vitiate its successful social role as a major spiritual and even mystical inspiration for Project Apollo. For while science fiction never did predict the details of Project Apollo, let alone champion anything so apparently ludicrous as going to the Moon via brute-force rocketry directly from the surface of the Earth without building an orbital space station first, many were the astronauts and space scientists whose careers were set in motion by its multiple visions of space-faring futures.”

– Norman Spinrad, [Science Fiction in the Real World](#) (1990), p. 124

Starship Scale: Undoubtedly, most participants of this game will envision human-scale starships – the kind usually featured in science-fiction movies and television programs. Such ships approximate the size of the largest oceangoing tankers on Earth, with some variation. At that size, such ships could presumably land on a planet surface without too much disruption, if built for atmospheric entry and landing. *Most Starships in GGDM are not assumed to be able to land on planets.*

Human imaginations are limited by first, our body size, and second, by our appreciation of the resources available *on Earth* currently, and consequently, a general lack of understanding of the

resources available in space (the metallic asteroid Psyche 16 is but a pittance) and the exponential power of future advances in manufacturing, and manufacturing in space.

- ✓ I recall a quote in a hypothetical starship discussion, which I cannot now place, that ‘a starship will only be as big as it needs to be’ on the theory that resources to build are scarce (and no need to create extra maintenance problems either). This must be embedded in sci-fi lore somewhere because I have seen various examples of starships scaled to creatures that are larger than a human or in the case of the First Contact short story “Meteor” (1956) by John Wyndham, much smaller. It *could be* a sign of Cosmic Impracticality (see 3 Entropy, p. 248, *supra*) to build monumental vessels that exceed the size of the species (like the 100 ft. tall Egyptian temple columns), in fact, the Goa’uld ships in Stargate SG-1 are fittingly built like Egyptian temples.

Examples of enormous (by our standards) starships are of course, the moon-sized Death Stars in Star Wars, SDF Macross (more than a kilometer long, but much less than a mile long, more than twice the size of the world’s largest tanker), the Magogg World Ship that consisted of 20 planets joined around an artificial star, armed with swarm ships and a weapon firing mini-black holes,⁹ and also the solar-system-sized ship which Galactus encountered in the last issue of Epic Magazine:¹⁰ Galactus was flying through the interior of the ship at the speed of light or more!¹¹ Like a housefly. And all of them are but a bubble of metal and air in the galactic or cosmic space; if you have ever been out in the middle of the Pacific Ocean on a ship, you will understand.

- ✓ The Space Battleship Yamato in Star Blazers (1979-1984) is exactly the size of a very large WWII era battleship – because it is the resurrected, refitted, refurbished IJN Yamato that was sunk April 1945. Who’d have thunk it? Set in the year 2199, the Yamato has been laying at the bottom of the ocean for 254 years (needs cleaning)... in the animated series I watched as a teen, the oceans have dried up exposing the ship, but the live action movie trailer (2010) shows the ship rising from the deep ocean with massive fighter escorts, and effortlessly making a vertical climb to orbit.¹²
- ✓ Though I cannot remember the sources now, I recall seeing something about a starship constructed from the mass of three galaxies (way beyond the scope of GGDM) and another, probably anime, series featuring ‘system cruisers’ which could hit any planet or ship in a nearby starsystem without moving (the point of this was that extreme long range weaponry changed the military dynamics, balance of power).

Ship sizes may be limited in Star Drive systems that are or require physical jump gates, such as those in the Buck Rogers and Babylon 5 television series. The corny Buck Rogers television series in 1979-1980 used the term ‘stargate’ for their local Earth Federation warp-point, which predates the 1994 movie of the same name. Babylon 5 featured both Jump Gates – technology that the humans got from contact with the Centauri who probably got the technology from elsewhere – and certain very powerful warships that could open their own jump points to and from hyperspace without a Gate. Babylon 5 is perhaps a little inconsistent on this point, but in the Babylon 5 movie, “Thirdspace,” they mention having to “widen the struts” on the Jump Gate to drag an enormous alien artifact through that they found adrift in hyperspace, indicating that there are ship size limits for the Jump Gates.

- ✓ However, stargate size may not limit starship size if it assumed that the ship shrinks or compresses when entering or being accelerated through the gate. This seemed

have been implied in the 2010 German indie sci-fi movie *Nydenion* when the enormous battleship emerged through the stargate. This could be the difference between ships of different Eras using the same Stardrive Patent.

“Beneath all this gaiety and baroque complexity lay the simple and so carefully denied: beyond the thin metal surrounding us was the endless humourless void. Hollow rings the laughter of orphans in the night.”

– Norman Spinrad, *The Void Captain’s Tale* (1982), pp. 167-168, Kindle Ed.

Stardrive Patent: A Stardrive is not a Physical Item Technology (PIT) because it is not a ship or installation, rather it is part of a ship.

- ✓ A Stardrive might in some cases, approach the status of a Technological Device (TD), for example, if some limitation of one Stardrive per system were in place, however, Stardrives (however expensive) are generally meant to be mass manufactured and more common than singular Technological Devices (if there were only one Stardrive in existence, it might be a Technological Device, but in space opera that is not likely).
- ✓ A Stardrive is not an Enhancement Technology, you cannot just strap one on the back of the space shuttle and fly to Alpha Centuri and then discard it.
- ✓ And a Stardrive is not a Continuous Operational Technology, because it is far from a ‘minor’ upgrade to an existing system.

A Stardrive is special, it is the core technology of interstellar culture – a propulsion system capable of moving living creatures and cargo to other stars in an efficient and timely manner (relatively speaking☺) and returning. Therefore, Stardrives are defined in the game by use of a special type of Patent, the Stardrive Patent.¹³

- ✓ The stardrive is the essence of the starship, without it, you have a spaceship (or system boat or maybe ‘fighter’). Stardrive is the *thing* of space-opera fiction. Perhaps it is too much of a metaphorical stretch, but would a Patent on fire have fit any of the Patent types? Fire was the *thing* of ur-civilization; humans made it a god (like a stardrive). The Patent process in GGDM is, of course, deeply flawed when compared to the real world, but it works for the in-game purpose for which it was designed.
- **Exclusion Principle:** While a position or a game may have many different Stardrive types (Stardrive Patents), each ship may have only one type of interstellar propulsion system and must be constructed with that drive system. Additionally, it will generally be prohibited for ships to be refitted with new types of Stardrives (when and if it is allowed, expect the cost to be quite high) and each ship may only have one unit of any type of Stardrive, both for eminently practical economic reasons. The basic assumption then in setting the cost of building any type of ship is that it will have only one Stardrive type and only one Stardrive unit (i.e., no stardrive redundancy), which is an integral and inseparable part of the ship and is built as the core of the ship at the time of construction. Carefully limited, very expensive, exceptions to these rules may be allowed by the Concierge.
 - ✓ “The [Pauli] Exclusion Principle is laid down purely for the benefit of the electrons themselves, who might be corrupted (and become dragons or demons) if allowed to associate too freely.” – Alan Turing (1954).

- And One Moving Violation: Positions are limited to successful prosecution of one Stardrive Patent per Era, except in the 1st Era *if* Generic Stardrive (GSD) was not acquired during the game setup process. Stardrive Patents may only be prosecuted in the current Era Matrix.

The GSD is required (as it is an Existential Patent, see Event Horizon 1 Eras, p. 760, *supra*) to progress to the 2nd Era, but does not exclude prosecution of another Stardrive Patent in the 1st Era. Thus, a 1st Era position could prosecute two Stardrive Patents, if it started the game without GSD, which would be an arduous task in the early game. Only one successful Stardrive Patent is required to advance to the 2nd Era, however. Stardrive Patents are not available as Advanced Patents, see 1 Eras, p. 763, *supra*.

“...it is the duty of the conscientious science fiction writer not to falsify what he believes to be known fact. It is an even more important function for him to suggest new paradigms, by suggesting to the reader, over and over again, that X, Y, and Z are possible. Every time a story appears with a faster-than-light drive, it expresses somebody’s faith – maybe not the writer’s; but certainly many of the readers’ – that such a thing may be accomplishable, and some day will be accomplished. Well, we have a lot of hardware – including, I’m sorry to say, a couple of old beer cans – on the moon right now, to show us what can be done with repeated suggestion. I think it can be done philosophically on a far broader scale than we have ever managed to do before.”

– James Blish, The Tale that Wags the God (1987) (Kindle Loc. 620-626) ¹⁴

Endnotes.

¹ Citation: See full feature quote, 2 The Sidereal Stage, bottom p. 120, *supra*.

² Commentary: The 1970s board game, Starfall, had an interesting FTL system; ships were divided into Pi (π) Ships and Infinity (∞) Ships. Pi Ships were attuned to local space and could move only within their sectors, while Infinity Ships were very expensive but could transit from sector to sector via wormholes (i.e. “starfall”). Exploration in the game was tedious, basically finding a wormhole, seeing where it came out, then mapping the entire sector looking for good planets. The 2011 board game, Eclipse also uses wormholes to connect the sectors, but all ships can travel via wormhole, and the way the sectors are laid out in rings doesn’t give a visual impression of wormhole connection.

³ Citation: In GGDM, this is called Maximum Habitability, see Dayworld, 3 Taxation & Census, p. 315, *supra*.

⁴ Commentary: Many movies that received bad reviews seemed like fine movies to me; many movies that receive awful reviews from the critics are positively received by the audience. Thus it is with Event Horizon (1997), which received awful reviews. There are probably two kinds of audiences, the horror/shock/gore audience and the sci-fi audience. I don’t watch movies to be shocked, scared or grossed out, so as a sci-fi fan, I thought Event Horizon was a good movie, I don’t mind adding a little horror to sci-fi films, but more gore would have made Event Horizon less appealing to me. The 30 minutes of lost footage would not have improved it.

⁵ Commentary: The story is derivative of Alfred Koppel’s “Rebel of Valkyr” (1950), the movie Arrival (2016), the Navigator Guild in Dune (1965), and the Void Pilots in Norman Spinrad’s Second Starfaring Age books (1983-1985). However it weaves the elements together in a convincing way presenting a new whole.

- ✓ *Spoiler alert*, I guess. Exurb1a does however leave an open question at the end: The Lantern admits that the futures he can see are probable, which then rules out pre-destiny – if there is a range of possibilities, there is no pre-destiny, you are on a road instead of a set of rails. Yet, he has gone back in time to recruit his past self to become the Lantern that he is in the future and seems to treat it as pre-destined. If he fails, if his past self chooses the other possible future, a paradox is created. On a personal level, it is non-harmful because it simply means the Lantern was never there to recruit himself – except (possibly) in the memory

of his past self who made a different choice (but if he wasn't ever there, is there a memory of it?). But to the human interstellar civilization, what about the potentially hundreds of transits he piloted that are now changed or un-happened? Which makes the reader wonder why Lanterns are allowed to go back and recruit their past selves? Yet, the Lantern describes it as a ritual of the Lanterns? As if they must finally prove to themselves that they were always going to become Lanterns? Like Mel Gibson going back in time to his own youth to convince himself that he was always going to be Mad Max?

⁶ Commentary & Citation: That is, unless FTL is actually, literally impossible... “But given infinite time, any non-impossible arrangement will happen.” – Matt O’Dowd (City University of New York), “Are You a Boltzmann Brain,” PBS Space-Time Channel, April 26, 2017. But what we understand right now doesn’t make it impossible.

⁷ Citation: A. Frank, W.T. Sullivan III, “A New Empirical Constraint on the Prevalence of Technological Species in the Universe,” *Astrobiology*, Vol. 16, No. 5, May 2016.

⁸ Citation & Commentary: The Chinese, of course, have their own word for ‘tinkering’:

- ✓ “Shanzhaiism (山寨主義) is a philosophical term denoting a Chinese style of innovation with a peasant mind-set. Shanzhaiism has an equivalent English term: tinker.” – from Wikipedia article, “Shanzhai,” January 25, 2019. The idea morphed into the term for counterfeit products: Shanzhai Products. “However, with shanzhaiism in mind, people can produce fake and counterfeit products in a massively organized way.” *Id.*
- ✓ In most civilizations of the past, foreigners were classless outsiders, troublemakers and often in status, lower than the peasants upon which the civilization depended for food, labor and military power. Shanzhai can also mean bandits: “Literally ‘mountain village’ or ‘mountain stronghold,’ the term refers to the mountain stockades of regional warlords or bandits, far away from official control.” *Id.*
- ✓ It is thus not a great extension that in China (e.g., ‘shanzhaiism’), tinkering was something peasants did naturally but the upper classes avoided. This played into their early perception of the “European mania for tinkering” (David Landes excerpt, Eras, *supra*) as the Europeans were outsiders, below peasants in status.
- ✓ Further, the Europeans created strongholds along the coast line of China and other places, and were often thought of as bandits and outside of official control. Thus, the entire early Chinese perception of Europeans possibly can be described in this one term.

⁹ Citation: Andromeda television series, generally.

¹⁰ Citation: Epic Illustrated, #34, February 1986, “The Last Galactus, Chapter 9.”

¹¹ Commentary: Consider that it takes light 8 minutes to reach the Earth from the Sun; Galactus found Nova inside the ship shortly after explosively breaching the hull.

¹² Citation: “Star Blazers The Movie – Teaser Trailer” (1:17) published on YouTube, July 27, 2010, has 1.6M views as of December 2016, including a few from me.☺

¹³ Commentary: Need jumpdrive? Strap a couple of lemmings to your starship... Sorry, you cannot un-read this!☺

¹⁴ Citation: “...here is a rough (and only partial) inventory of the stuff mankind has left on the moon: more than 70 spacecraft, including rovers, modules, and crashed orbiters, 5 American flags, 2 golf balls, 12 pairs of boots, TV cameras, film magazines, 96 bags of urine, feces, and vomit, numerous Hasselbad cameras and accessories, several improvised javelins, various hammers, tongs, rakes, and shovels, backpacks, insulating blankets, utility towels, used wet wipes, personal hygiene kits, empty packages of space food, a photograph of Apollo 16 astronaut Charles Duke’s family, a feather from Baggin, the Air Force Academy’s mascot falcon, used to conduct Apollo 15’s famous ‘hammer-feather drop’ experiment, a small aluminum sculpture, a tribute to the American and Soviet ‘fallen astronauts’ who died in the space race – left by the crew of Apollo 15, a patch from the never-launched Apollo 1 mission, which ended prematurely when flames engulfed the command module during a 1967 training exercise, killing three U.S. astronauts, a small silicon disk bearing goodwill messages from 73 world leaders, and left on the moon by the crew of Apollo 11, a silver pin, left by Apollo 12 astronaut Alan Bean, a medal honoring Soviet cosmonauts Vladimir Komarov and Yuri Gagarin, a cast golden olive branch left by the crew of Apollo 11.... One other earthly object that resides on that landscape is an urn containing the ashes of Eugene Shoemaker, the famed planetary geologist who dreamed, during his life, of going to the moon.” – Megan Garber, “The Trash We’ve Left on the Moon,” *The Atlantic*, December 19, 2012.

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See Appendix EPAT1 – The Existential Patents
See Appendix EPAT2 – Existential Patents Quick Summary
See Appendix TECH – Technology Progress

“One by one, the amber ready points lit up before me as Mori scurried along the bank of monitors rimming the curving front wall of the bridge. As she scrambled back and forth before the chest-high monitors, her eyes fixed on her instruments as she chanted her part in the ritual, I understood for the first time ... that these consoles had been so arranged as a piece of psychic engineering. After all, they could more conveniently have been heaped up around the Man Jack’s chaise; there was no purely functional need to string them out along the curve of the bridge’s ‘bow’ like a retaining wall. Indeed, this was an inefficient arrangement that forced the poor Man Jack to hop about from one to the other like a slavey.

But without this curved retaining wall of instruments, this fence between us and the lip of the abyss, this foredeck railing, if you will, the three of us would have been vertiginously planted on the bridge deck surrounded by a sea of stars with nothing to keep a random breeze or a fumblefooted stumble from spilling us over the edge into the infinite void. Naturellement, in reality the starry sea was but a colour-corrected tele image; we were not on an open deck but in an enclosed capsule, and there were no galactic breezes or waves about to sweep us away. The mind understood this, but now, close on to the first Jump, with no projected manoeuvring grid to fracture the totality of the illusion, the spirit could begin to wonder.”

– Norman Spinrad, *The Void Captain’s Tale* (1982), pp. 59-61

Generic Stardrive (GSD): The Generic Stardrive is the **only** interstellar propulsion system available as an Existential Patent.¹ Positions are not required to purchase the GSD during set up, *unless required by their chosen Primal State*, but in most cases, it would be a very wise choice, not the least, because ships (even Scout Ships) cannot be built without it.

- ✓ “The Centauris didn’t exactly invent jump gate technology either. None of the current races did. They found the gates when they got out into space, took them apart and put them back together again. No one even knows who built the first gate.” – Bill Morishi, *Babylon 5, Thirdspace* (1998).

GGDM assumes generally that all of the Major Races independently invented Stardrive technology, however, since all positions begin with Generic Stardrive Existential Patent, it is possible that all of the Major Races received or found alien technology before the game. This is a possible interesting starting point for a story, a mystery for the game to resolve.

- ✓ See Event Horizon, 1 Eras, p. 760, *supra*, regarding requirements to exit the 1st Era of Technology.
- **Dynamic Interactions:** The choice of Primal State is very strongly related to the GSD. This is a place where the min-max approach of Euro board gaming is most useful in GGDM. Participants can determine how many Inheritance Points (IPs) will be received from their Fundamental Reality choices and then calculate various combinations based on the six Primal States available, taking into account the cost of GSD and other requirements, the Government Titles they have chosen, and their preferred style of play. This is spreadsheet country.
 - ✓ Ship Speed has a dynamic interaction with several other parts of the game, e.g., colonization, defense, commerce, Operational Flight Limitations (OFL) and Operational Supply Limitations (OSL) (see 3 Movement, pp. 855-856, *infra*), and some Conflict

Checks for Government Titles (see Starch & Parchment, 3 Government Titles, p. 613, *supra*). Maybe GSD stands for Game Systems Dynamics?

- Dog Star: The GSD is the prototype Stardrive Patent. The base speed for GSD is a painfully slow two per Regular Turn, with movement distance being calculated as indicated on the Stardrive Patent. This is what is referred to in the game as “ship speed,” the maximum speed at which ships move between coordinates (see FTL Missile, 2 Movement, p. 849, *infra*). The GSD ship speed may be increased in *increments of one* by use of COT (Continuous Operational Technology) Patents based on the GSD Stardrive Patent. A maximum increase of one ship speed is allowed per COT Patent of the GSD.

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Like Stardrive Patent prosecution (*ut infra*²), the COT Patents (and ET Patents) based on the GSD Stardrive Patent do not require the listing of Applications or the establishment of connections on the current Era Matrix, rather, the success of each prosecution of a COT Patent to improve the Ship Speed of the GSD Drive will be determined by a single ten sided die roll, whose result must be *less than or equal to* the absolute value of current Ship Speed minus ten to be successful. A die roll result of ‘0’ is interpreted as 0 and not 10, so that the range of numbers is 0-9.

- ✓ For example, the current Ship Speed for the GSD is 2 per turn, a ten sided die is rolled for a COT Patent to improve Ship Speed. Any result of 8 (2 minus 10 = -8, the absolute value of which is 8) or less will be a successful prosecution of the COT Patent to increase Ship Speed by one increment to 3. Increases in Ship Speed for the GSD Patent will become more difficult as Ship Speed increases, until finally, at Ship Speed 10, it can only be increased on a roll result of 0 (i.e. less than or equal to 0).

The use of absolute value in this equation makes an interesting flip situation when GSD Ship Speed reaches 11, as the absolute value of 11 minus 10 is 1 and each increment thereafter gets easier. But that requires a large number of Power Activations (roughly, I’d estimate about 20-25, late middle to end game) due to the maximum increase of one Ship Speed increment per COT and each increment after 11, even when nearly guaranteed of success, still uses a precious Power Activation each turn. The maximum Ship Speed of GSD is infinite, requiring at some later point, only a Power Activation to increase speed (plus the energy content of an entire universe!), unless the Concierge wants to cap the top speed.

These rules specifically and only apply to increasing Ship Speed of the Generic Stardrive Patent and are a general guideline for other subsequent Stardrive Patents. However, the game is not bound by these rules beyond the GSD and the participants are free to experiment; for example, a new Stardrive might be developed that has a good initial ship speed that can never be increased until late in the 3rd Era. There are many other possibilities.

- ✓ There are many different ways the GSD equation could be formatted that will change the way the game plays (e.g., *greater than or equal to* ten minus the current Ship Speed), making progression harder in the beginning and easier later.
- Spindizzy: While Generic Stardrive is an Existential Patent, the COT to increase Ship Speed is not (extensions of Existential Patents are not Existential Patents), therefore there is no requirement to increase Ship Speed of GSD to progress from the 1st Era.
 - ✓ Positions could continue to use GSD during the entire game, as it satisfies the 1st Era Progression requirement (see 1 Eras, *supra*), as long as they do not desire to progress

to the 3rd Era. GSD COT ship speed Patents could contribute greatly to Advanced Patent prosecution by increasing the number of completed Patents in an Era. Of course, there are tradeoffs to this way.

The underlying assumption in the use of COT to increase Ship Speed for the GSD is that the process of increasing Ship Speed is something like fine tuning (e.g., extending the known value of π into trillions of numbers past the decimal or increasing the efficiency of quantum entanglement transfer in decimals beyond 99% in quantum computers) and/or adding greater energy input/throughput to the drive (or maybe something like the explosive progression of bus and clock speed in PCs). The Concierge is free to require permanent upgrade Enhancement Technology Patents (ETs) or temporary, expendable booster ETs instead to increase Ship Speed and impose a per jump or per increase cost per ship. This would serve to limit the number of ships a position would build knowing that increase in Ship Speed comes at great RP cost across the fleet.

- ✓ “The Dillon-Wagoner Graviton Polarity Generator, known colloquially as the spindizzy, is a fictitious anti-gravity device imagined by James Blish for his series *Cities in Flight*. ... According to the stories, the spindizzy is based on principles contained in an equation coined by P.M.S. Blackett, a British physicist of the mid-20th century. ... Blackett’s original formula was an attempt to correlate the known magnetic fields of large rotating bodies, such as the Sun, Earth, and a star in Cygnus whose field had been measured indirectly. It was unusual in that it brought Isaac Newton’s gravitational constant and Coulomb’s constant together, the one governing forces between masses, the other governing forces between electric charges. ... Blish’s extrapolation was that if rotation combined with mass produces magnetism via gravity, then rotation and magnetism could produce anti-gravity. The field created by a spindizzy is described as altering the magnetic moment of any atom within its influence.” – from Wikipedia article, “Spindizzy,” captured September 20, 2019.
- **Brown Star:** Positions that chose not to, or are unable to acquire the GSD Stardrive Patent during the game set up, have three options: try to develop the GSD Stardrive early in the game, try to develop a new Stardrive Patent, or stay home. In-game prosecution of the GSD Stardrive Patent is processed in the same way as the prosecution of any other Stardrive Patent (*ut infra*). The GSD is only available as an Existential Patent either during set up or in the 1st Era (by operation of the rules for Era progression, see Event Horizon, 1 Eras, p. 760, *supra*).

“‘Please do not be alarmed,’ it said, ‘by anything you see or hear around you... We are now cruising at a level of two to the power of two hundred and seventy-six thousand to one against and falling, and we will be restoring normality just as soon as we are sure what is normal anyway. Thank you...’

Ford was wildly excited. ‘Arthur!’ he said, ‘this is fantastic! We’ve been picked up by a ship powered by the Infinite Improbability Drive!’”

– Douglas Adams, the [Hitchhiker’s Guide to the Galaxy](#) (1979)

Starrider: A Stardrive Patent is constructed differently than a normal Patent; most importantly, a Stardrive Patent does not depend directly upon and does not list specific Applications. However, like other Patents, the Stardrive Patent must contain sufficient information so as to be playable and balanced within the game. A Stardrive Patent must have the following parts:

- What's in a Name: A Stardrive type must have a name (e.g., warp drive, wave engine, shaft drive, put-putt drive, etc.) that is somehow related to or indicative of its operational theory. The GSD ('generic') drive is so named because it lacks an operational principle; it could have been called the Dumb Drive, but GSD sounded better.
 - ✓ "Shaft Drive" is the opening hard-edged electric guitar theme from the sci-fi anime series *Gene Shaft* (2001). Guitar aficionados should treat themselves to this shred feast by Akira Takasaki and Ji-Zo.
- How it Moves: The Stardrive must contain a section with information sufficient for the Concierge to be able to calculate the movement rate (i.e. speed, distance) for ships using the new Stardrive (see *FTL Missile, 2 Movement, p. 849, infra*) Any formulas must be repeatable and understandable by all involved, and may require the functions of a regular calculator.
 - ✓ For example, the Andromeda Wiki article, "Slipstream" gives the following: "Simple formula for slipstream navigation: $i=1-(\Omega^2/r^3)$." That's not simple to me, the math simpleton, and I haven't the slightest idea what it does or means. I also have no idea if it has a connection to the real world or is made up gibberish.
 - ✓ I once played in a free PBEM game called *Darkness of Silverfall* where the entire playing area was being sucked into a black hole; planets and ships would move a certain distance toward the black hole each turn. Some math-smart players had a formula to determine the end X, Y, Z coordinates of any object after pull toward the black hole. I didn't understand the math, but I could work the formula on a calculator and it was demonstratively correct. Stardrive movement formulas are limited by the math understanding and calculators of the participants.

Remember that GGDM does not entertain any specific measure of time or distance in real terms, but that all distance and movement in this game are considered only in three-dimensional coordinates of start and destination stars, and turns required to travel between the stars (i.e. fourth dimension).

Distance is therefore, really time measure; distance in space is both mind-boggling and meaningless at the same instant. Ship speed in GGDM, in which the time represented by a Regular Turn is indeterminate (see *4 The Streams of Time, p. 101, supra*) necessarily includes and assumes time for deceleration and in-system maneuvering – details that the game does not look at – such that the result is a single, simple game number called Ship Speed.

- Blurry Hurry!: Based on the formulas given in the previous section, the Stardrive Patent must establish an initial speed for ships using this Stardrive system. Of course, ship speed may be improved gradually through the use of COT or ET Patents based on the Stardrive Patent. The initial base ship speed should be painfully slow for 1st Era Stardrive Patents, somewhat faster for 2nd Era Stardrive Patents, and perhaps moderate for 3rd Era Stardrive Patents. Unless it would be interesting to do otherwise...

- ✓ Stardrive Patent prosecution in the 2nd and 3rd Eras *may* be able to take advantage of the Uber Alles for those Eras if constructed properly, giving them unimagined powers. See 2 Eras generally, *supra*.
- Operational Characteristics Wanted: This section should contain any additional operational characteristics not found in the previous sections, and especially, those describing limitations on the performance or operation of this particular Stardrive (e.g., “Disturbulence Modifiers,” 2 Movement, p. 846, *infra*). As a matter of balancing principle, a Stardrive Patent will not be allowed that doesn’t describe some reasonable limitations on the operation of the Stardrive and/or some unique characteristics of the Stardrive system. Stardrives should not be allowed which are capable of instant unlimited speeds (unless it would be interesting and costly...).
 - ✓ Google search reveals that the question of continuous or infinite acceleration of spaceships is a common topic of discussion. Newton’s Laws and what we call common sense suggests that there is no limit to acceleration as long as thrust is supplied and nothing impedes it; but then there is Special Relativity and all the modern, complex discussions that suggest a spaceship cannot have infinite acceleration and that it will never reach the speed of light in any case. Well, the necessary assumption of FTL drives has already tossed that latter point aside; who knows what physics rule the Stardrives in GGDM? Thus they can only be described in game operational terms.
- User Manual: Stop me if you’ve read this before.... As with other Patents, there will be a section for the Concierge to insert rulings and operational notes on the Stardrive Patent as the game progresses and those rulings become necessary. As before, rulings will only be made when necessary, leaving all else undefined until a situation arises where the Concierge must decide, and no advance rulings will be given.
- Stimmung: Stimmung is a German word that translates as “mood.”³ The Stardrive Patent should contain a loose statement indicating the spirit and/or worldview symbolizing or identifying with the operational principles of the Stardrive. This is more in the spirit of good science-fiction literature than game requirement, and players should not regard this as an adversarial situation where the Concierge is going to ‘use’ this statement ‘against’ the position. The *stimmung* is also not an official Interpretation and cannot be used for that purpose.

“Yes but we can’t repair the Wave Motion Gun. It was too badly damaged when we rammmed into Desslok’s ship. It will take weeks to get it repaired properly.” – Sandor, Star Blazers (animated series)

“Ready Wave Motion Engines. As soon as we surface – we attack!”

– Derek Wildstar, Star Blazers (animated series)⁴

The Cool Ship: When the Queen of Iscandar provided plans for the Wave Motion Engine so that we could voyage to their planet, they never expected humans to engineer it into a massive beam weapon.

- ✓ **Space-Opera Alert**: Alien interstellar, technological civilization with two biological sexes, fully human appearance, and a *monarch*. See discussions of governments in space opera, see Kings, Queens, and Guillotines, 3 Government Titles, p. 612, *supra*.

This is the only instance I know of *where the operational principles of the stardrive system have been utilized in a weapon*; e.g., the phasers and photon torpedoes of Star Trek do not seem to be and I have never heard that they were, related to the Warp Drive technology; the Warp Drive technology was a completely peaceful invention. Nor are the weapons in Andromeda directly related to Slip Stream, the weapons in Banner of the Stars are not related to Planespace, and the big gun on the Battlestar Pegasus is not seemingly related to whatever it is FTL drive they are using. But why not? Nuclear fission reactors use the same science as the first atomic bombs. It's only a degree of careful control that differentiates peaceful energy from destructive weapons.

- ✓ “The Cool Ship needs an equally cool weapon. If it’s a sufficiently humongous Cool Ship, it will be equipped with a Laser Beam on steroids: the Wave Motion Gun – an enormous Ray Gun that fires a massive energy beam capable of blowing away an enemy ship (in the ‘blow a battleship in half’ sense), sometimes an entire fleet, with one shot, and maybe even blowing up an entire planet. It doesn’t necessarily have to even hit; if you’re too close, the sheer energy bleeding off from the beam can be deadly. And don’t even think about trying to waste your time with puny Deflector Shields — it’ll just punch right through ‘em.” – TV Tropes (tvtropes.org), “Wave Motion Gun,” December 19, 2018 (“If the bad guys have one, it’s a Death Ray. Can lead to Wave Motion Fun [n. you might call that a Wave Motion Pun]”⁵ *Id.*).

Actually the whole thing was silly to start; other than the need to create a premise for the adventures of the Space Battleship Yamato, why couldn’t the Princess deliver the information on the Cosmo DNA at the same time as she delivered the specs for the Wave Motion Engine? The humans, of course, left a path of destruction 148,000 light years long across the galaxy. Because that’s our thing, what we do.

- ✓ The Forest Through the Trees: In an action adventure program aimed at adolescent males, a beautiful princess from a distant planet brings the ‘wave motion’ to a bunch of young male action adventure heroes... who set off across the galaxy to find her mother. Who probably has a Queen-sized water bed with a full wave mattress.
 - “Stacy’s mom has got it goin’ on...” – Fountains of Wayne, “Stacy’s Mom” (2003).

“The Answer to the Great Question... Of Life, the Universe, and Everything... Is... Forty-two, ’ said Deep Thought, with infinite majesty and calm.”

– Douglas Adams, The Hitchhiker’s Guide to the Galaxy (1979)

Stardrive Patent Prosecution: Unlike the other Patents, Stardrive Patent prosecution does not rest upon establishing connections between specific Applications; rather, Stardrive Patents rely upon the overall status of the Applications and Connections on the current Era Matrix at the time of prosecution.

The chance of successful prosecution of the Stardrive Patent is the average of the percentage of Applications complete on the current Era Matrix and the percentage of all possible *connections* completed on the current Era Matrix.

- ✓ For example, in the 1st Era, there are sixteen spaces for Applications and forty-two possible connections (count them!) between Applications. If the position prosecuting

the Stardrive Patent had six Applications (37.5%) and six connections made (14.2%), the chance of successful prosecution of the Stardrive Patent would be 25% (fractions truncated). Successful prosecution of the Stardrive Patent does not – unlike Patents – create any connections between Applications on the current Era Matrix.

Due to Existential Patents purchased during set up, most positions could begin with significant numbers of Applications and some Connections in the 1st Era, so prosecuting the GSD Patent could be accomplished. This could be a strategy, to load up on other Existential Patents during set up and pick up GSD in the first turns of the game. The tradeoff is that you must choose a Primal State that does not require GSD, take many Fundamental Realities (for Inheritance Points), and cannot begin the game with any ships.

- ✓ Finding an alien ship could be helpful... a position could receive a one-time concurrent bonus to prosecuting a new Stardrive if the position also successfully reverse engineers an ‘Alien Stardrive’ (see Flying Saucers, 3 Technology, p. 718, *supra*). All you need to do is get the forward arrow pointing backwards!
- Need for Speed: As with the GSD, COT Patents are used to increase the base speed of an original Stardrive Patent (*ut supra*). ET Patents may be used to give Stardrive Patents other capabilities. Subsequent COT and ET Patents based on the Stardrive Patent are prosecuted in the same way as the original Stardrive Patent.

“‘Pilot’ is an ironic misnomer. Far from the mastery of the ship and vector that the word implies, a Pilot is merely the psycho-organic resistor in the Jump Circuit, a living module of circuitry in a far larger mechanism. The Primer induces a specific configuration of psychosomic orgasm in the nervous system of the Pilot. The vrai Jump Drive, the actual propulsion system, is entirely a mass-energy device, which enmeshes the ship in the psychoelectronic matrix of the Pilot’s psychic reference state, the fields synergized by conventional inorganic circuitry. Once this synergy is achieved, the Jump ‘begins.’ At the other side of quite literally immeasurable temporal discontinuity, the ship ‘comes out’ of the Jump an average of 3.8 light years away and most often roughly along the desired vector.

For what happens within this timeless moment, not for any romance of the spaceways or altruistic desire to serve the species, Pilots surrender all. ...Pilots claim that the interval of the Jump is both timeless and eternal, like the orgasm itself, that all else is shadow, that true union with the Atman is achieved, und so weiter.”

– Norman Spinrad, *The Void Captain’s Tale* (1982) ⁶

Honored Passengers: Behind the grandness of the Second Starfaring Age lies an ugly truth.

The Void Pilots, who would be today’s sex and drug addicts perhaps, are increasingly disheveled pariahs in the polite and high culture of both the Honored Passengers and trans-stellar society as a whole. They are the critical component to the Jump Circuit – unlike most sci-fi tech, the stardrive is not completely mechanical – and they allow themselves to be used and shunned. Each jump is a near-death experience for the Void Pilot, during whence they claim to meet the One and Only and timelessness; back in our world, everything is but a shadow. The time between

jumps is mainly the time for medical recovery of the pilot. After several jumps – many or a few repeated near death experiences, there is no coming back and they die from the physical toll of the Jump Circuit.

✓ *To Jump, someone physically suffers near death or dies.*

The entire Second Starfaring Age resides on this condition of mutual disgust and abuse attainment of the Void Pilots. This is the secret and mask of many societies and civilizations, more or less, which have considered themselves advanced or culturally superior to others or to those that came before; there is always something or someone who pays the price, someone who is expendable and untouchable.

The ‘sin’ of the Void Captain Genro Kane Gupta was being romantically attracted to a Void Pilot as a human; it begins with a casual conversation, to wit:

✓ “...he engaged in an unwholesome exchange of name tales on the sky ferry to the ship with the Void Pilot Dominique Alia Wu. On the day of the first Jump, he conversed with her at unnatural length afterwards. After the third Jump, they performed a sexual act.” – The Void Captain’s Tale, p. 7.

He speaks of himself in the third person, as if he was not there.

“As with all artifice, ‘The Void Captain’s Tale’ depends on the cooperation of the audience for its effects. Norman Spinrad, like his characters, takes great risks; the rewards for readers willing to meet him halfway are commensurate.”

– Gerald Jonas, “Inside Elsewhere,” *New York Times Archives*,
May 22, 1983 ⁷[Full Quote]

Endnotes.

¹ Commentary: The Generic Stardrive (GSD) was originally called the NDSD, “Non-Descript Star Drive” back around 2000. In the final edit process in June 2018, I found one remaining reference to NDSD in 2 Expansion. I do not know when I changed the name of the basic stardrive.

² Commentary: *Ut infra* is always an acknowledgement or confession by the author that information is being presented slightly out of order. The same is not true of *ut supra*.

³ Commentary: In various German phrases, it can mean mood, atmosphere, feeling, spirit, disposition, temper, morale, opinion, vein and humor.

⁴ Commentary & Citation: I fondly remember going to my friend’s house after school in 8th grade to watch the first season of Star Blazers on TV. I later bought the pilot episode on VCR tape in the late 1980s. I have only seen bits of the other animated seasons and of the live action movie on YouTube. My first exposure to *anime* (TV tropes calls it “Heavily Macekred” anime) was Battle of the Planets (aka G-Force) on Saturday morning cartoons in 6th grade.

⁵ Citation: “Puns are little plays on words that a certain breed of person loves to spring on you and then look at you in a certain self-satisfied way to indicate that he thinks that you must think that he is by far the cleverest person on Earth now that Benjamin Franklin is dead, when in fact what you are thinking is that if this person ever ends up in a lifeboat, the other passengers will hurl him overboard by the end of the first day even if they have plenty of food and water.” – Dave Barry (humor columnist, author).

⁶ Commentary: Connecting the dots... Human telepaths served a very similar function in Shadow Ships in Babylon 5, which aired in the mid-1990s. Except that there was no escape from the ship and no ‘honored passengers.’

⁷ **Citation:** “THE title of Norman Spinrad’s latest novel is a tip-off. This is science fiction as self-conscious art – perhaps ‘artifice’ would be a better word. On Mr. Spinrad’s *Void Ships*, interstellar travelers are kept alive by artifice – not just physically by life-support systems but also psychologically. A never-ending round of esthetic, intellectual and sexual divertissements guards both passengers and crew from a mind-shattering encounter with the reality of the Void through which they are passing. Only one person on board actually confronts the Void: the Void Pilot, a woman whose nervous system is plugged directly into the ship’s circuits. Each time the ship jumps instantaneously through light-years of space, the Void Pilot experiences an orgasm beside which normal fleshly delights pale. Like all such pleasures, it ends too soon – but under certain circumstances, so the rumor goes, the Pilot’s orgasm can become literally endless.

The Pilot in ‘The Void Captain’s Tale’ seduces the Captain into betraying his trust with what might be described as the ultimate indecent proposal: pleasure everlasting. Mr. Spinrad does not shrink from the passages of sexual evocation his plot demands. Yet he never descends to the merely pornographic. Having established that his characters speak a futuristic language in which words and concepts from many 20th-century cultures are blended – they say things like ‘Vraiment, meine kleine’ and ‘Racial seppuku may be an aesthetically pleasing fini’ – he has available an erotic vocabulary that is neither too explicit nor too private.

As with all artifice, ‘The Void Captain’s Tale’ depends on the cooperation of the audience for its effects. Norman Spinrad, like his characters, takes great risks; the rewards for readers willing to meet him halfway are commensurate.” – Gerald Jonas, “Inside Elsewhere,” *New York Times*, May 22, 1983 (archives, available free online).

- ✓ GGDM might also be thus described as self-conscious (whether it is art or not is another matter) or extremely meta-conscious, artifice, never quite descending to the merely pornographic (see adult table discussion, *Encounter Suit*, 3 *The Big Bang*, p. 15, *supra*), takes risks and rewards readers who meet the work halfway.
- ✓ The concept of the Existential Void and artifice by which humanity shields itself, discussed throughout GGDM, is not particularly original, but subconsciously, I must have absorbed the idea (as described above) from *The Void Captain’s Tale*, but having internalized it, I believe – perhaps in a way similar to believers of religions and UFO conspiracy theories – that it is true and representative of the relationship of humanity and the universe currently. And perhaps, as G.K. Chesterton suggests (see feature quote, 4 *Government Titles*, p. 634, *supra*), having been completely convinced by it, I have difficulty justifying my belief to others. *Und so weiter.*

Excerpt from Cosmos: A Personal Voyage

Episode 10, The Edge of Forever

By Carl Sagan

[Carl Sagan is seated at a small wooden desk with a lamp, a sheet of paper and various objects]

In discussing the large-scale structure of the cosmos astronomers sometimes say that space is curved or that the universe is finite but unbounded. Whatever are they talking about?

Let's imagine that we are perfectly flat I mean, absolutely flat and that we live, appropriately enough, in Flatland a land designed and named by Edwin Abbott a Shakespearean scholar who lived in Victorian England. [Flatland is represented by a sheet of paper with various cutout shapes on it] Everybody in Flatland is, of course, exceptionally flat. We have squares, circles, triangles and we all scurry about and we can go into our houses and do our flat business.

Now, we have width and length but no height at all. These cutouts have some height, but let's ignore that. Let's imagine that these are absolutely flat.

That being the case, we know, us Flatlanders about left-right and about forward-back but we have never heard of up-down. Let us imagine that into Flatland hovering above it comes a strange three-dimensional creature which, [Sagan holding up an apple] oddly enough, looks like an apple. The three-dimensional creature sees an attractive congenial-looking square watches it enter its house [a square made of lines, with an opening for a door on the surface of the paper] and decides in a gesture of inter-dimensional amity to say hello.

"Hello," says the three-dimensional creature. "How are you? I am a visitor from the third dimension."

Well, the poor square looks around his closed house sees no one there and what's more, has witnessed a greeting coming from his insides: A voice from within. He surely is getting a little worried about his sanity.

The three-dimensional creature is unhappy about being considered a psychological aberration and so he descends to actually enter Flatland. [Sagan holding the apple above the paper] Now, a three-dimensional creature exists in Flatland only partially only a plane, a cross section through him can be seen. So when the three-dimensional creature [the apple] first reaches Flatland only its points of contact can be seen [the bottom of the apple]

And we'll represent that by stamping the apple in this ink pad and placing that image in Flatland. [Sagan stamps the paper with the inked bottom of the apple, leaving 3 or 4 dots]. And as the apple were to descend through slither by Flatland we would progressively see higher and higher slices which we can represent by cutting the apple.

[Sagan cuts the apple in half crossways and stamps it on the ink pad, then makes an impression on the sheet of paper in the same place as the original apple bottom points impression]

So the square, as time goes on sees a set of objects mysteriously appear from nowhere, and inside a closed room and change their shape dramatically. His only conclusion could be that he's gone bonkers.

Well, the apple might be a little annoyed at this conclusion and so not such a friendly gesture from dimension to dimension makes a contact with the square from below and sends our flat

creature fluttering and spinning above Flatland. At first, the square has no idea what's happening. He's terribly confused. This is utterly outside his experience. But after a while, he comes to realize that [looking down from above] he is seeing inside closed rooms in Flatland. He is looking inside his fellow flat creatures: He is seeing Flatland from a perspective no one has ever seen it before, to his knowledge. Getting into another dimension provides, as an incidental benefit a kind of x-ray vision.

Now our flat creature slowly descends to the surface and his friends rush up to see him [Flat creature returns to surface of paper outside his "house"]. From their point of view, he has mysteriously appeared from nowhere. He hasn't walked from somewhere else. He's come from some other place. They say, "For heaven's sake, what's happened to you?" And the poor square has to say: "Well, I was in some other mystic dimension called 'Up.'"

And they will pat him on his side and comfort him or else they'll ask: "Well, show us. Where is that third dimension? Point to it." And the poor square will be unable to comply.

But maybe more interesting is the other direction in dimensionality. What about the fourth dimension? Now, to approach that, let's consider a cube. We can imagine a cube in the following way: Take a line segment and move it at right angles to itself in equal length. That makes a square. Move that square in equal length at right angles to itself and you have a cube.

[Sagan holding a transparent plastic cube up to the light] Now, this cube, we understand casts a shadow. [The cube casts a shadow on flatland] And that shadow we recognize. It's, you know, ordinarily drawn in third-grade classrooms as two squares with their vertices connected. If we look at a three-dimensional object's shadow in two dimensions we see that, in this case, not all the lines appear equal. Not all the angles are right angles.

The 3-D object hasn't been perfectly represented in its projection in two dimensions [i.e. the shadow of the transparent cube on the flat paper surface]. But that's part of the cost of losing a dimension in the projection. Now, let's take this three-dimensional cube and project it, carry it through a fourth physical dimension: Not that way, not that way, not that way [Sagan pointing in the three directions]. But at right angles to those three directions.

I can't show you that direction. But imagine that there is a fourth physical dimension. In that case, we would generate a four-dimensional hyper-cube which is also called a tesseract. I cannot show you a tesseract because I and you are trapped in three dimensions. But what I can show you is the shadow in three dimensions of a four-dimensional hyper-cube or tesseract.

This is it [Sagan holding up a plastic transparent hyper-cube], and you can see its two nested cubes all the vertices connected by lines. And now the real tesseract in four dimensions would have all lines of equal length and all angles right angles. That's not what we see here, but that's the penalty of projection. So you see, while we cannot imagine the world of four dimensions we can certainly think about it perfectly well.

Now, imagine a universe just like Flatland, truly two-dimensional and entirely flat in every direction. But with one exception: Unbeknownst to the inhabitants their two-dimensional universe is curved into a third physical dimension. [Sagan is standing on an imaginary sphere] Maybe into a sphere but at any rate into something entirely outside their experience. Locally, their universe still looks flat enough. But if one of them, much smaller and flatter than me takes a very long walk along what seems to be a straight line he would uncover a great mystery.

Suppose he marked his starting point here [a square on the surface of the sphere is marked with light] and set off to explore his universe. [Sagan begins walking on the surface of the globe] He never turns around and he never reaches an edge. He doesn't know that his apparently flat universe is actually curved into an enormous sphere. He doesn't sense that he's walking around a globe.

Why should his space be curved? Because this universe has so much matter that it gravitationally warps space closing it back on itself into a sphere. But our Flatlander doesn't know this. After a long while, he'll find he somehow returns to his starting point. [Sagan appears on the north polar horizon of the globe as if he has circumambulated the globe] There must be a third dimension. Our Flatlander couldn't imagine a third dimension but he could sure deduce it.

Increase all the dimensions in this story by one and you have something like the situation which many cosmologists think may actually apply to us. We are three-dimensional creatures trapped in three dimensions. We imagine our universe to be flat in three dimensions but maybe it's curved into a fourth.

We can talk about a fourth physical dimension, but we can't experience it. No one can point to the fourth dimension. There's left-right and there's forward-back. There's up-down and there's some other directions simultaneously at right angles to those familiar three dimensions.

Now, imagine this universe is expanding. If we blow it up like a four-dimensional balloon, what happens? An astronomer on a given galaxy thinks all the other galaxies are running away from him. The more distant the galaxy, the faster it seems to be moving. This is just what Humason and Hubble found.

On the surface of this curved universe, there is no boundary or center. The universe can be both finite and unbounded.

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*“Suzdal remained calm. He coded the genetic cats. He loaded them into life bombs. He adjusted the controls of the chronopathic machine **illegally**, so that instead of reaching one second for a ship of 80,000 tons, they reached two million years for a load of less than four kilos. He flung the cats into the nameless moon of Archosia.*

And he flung them back in time.

And he knew he did not have to wait.

He didn't.

The cats came. Their ships glittered in the naked sky above Archosia. Their little combat craft attacked. The cats who had not existed a moment before, but who had then had two million years to follow a destiny printed right into their brains, printed down their spinal cords, etched in the chemistry of their bodies and personalities. The cats had turned into people of a kind, with speech, intelligence, hope and a mission. Their mission was to attach themselves to Suzdal, to rescue him, to obey him, and to damage Arachosia.

The cat ships screamed their battle warnings.

‘This is the day of the year of the promised age. And now come cats!’

The Arachosians had waited for battle for 4,000 years and now they got it. The cats attacked them. Two of the cat craft recognized Suzdal and the cats reported.”

– Cordwainer Smith, “The Crime and Glory of Commander Suzdal” (1964)

New Crimes: Technology often creates new crimes (or really old crimes with new means); technology changes, humans don't. Before the dark web and massive theft of credit card numbers and personal information was the thing, I worked on civil prosecution of “satellite broadcast piracy” cases (what we called them). Similar to the illegal cable television boxes (there were billboards then picturing illegal cable boxes being sold from the trunk of a car), “satellite broadcast piracy” involved circumventing the conditional access controls on early individual receiver units (using emulators, glitchers, dead processor boot boards and unloopers), often using a PC, to get free pay-per-view and extra channels. But instead of selling them from the trunk of a car, these were sold over the internet, via credit card payment or COD and shipped through UPS.

And there were forums such as Pirate Den¹ and DSS Nation where people openly posted and exchanged information on how to steal satellite programming and later, there were hack legal websites that advised how to defend against lawsuits brought by the satellite cable providers! Eventually this process was defeated through various technological measures (e.g., Black Sunday) and improvements, and by a national and international legal effort (e.g., the Canadian Royal Mounted Police seizure of the Pirate Den servers and U.S. Marshals seizure of warehouses and servers by court-issued Writs of Seizure).

Dr. Watchstop: Doctor who??? It may be commonly assumed that the 4th Era of technology would result in the ability to travel time backwards and forwards. Assuredly, however, this assumption must be based on an erroneous pre-1st Era understanding of the universe.

- ✓ **Klaxor:** ... The lost phasinator has been activated near the edge of the spiral galaxy. It's still in input mode. **Alien Elder:** Thank goodness! Well, take it offline and roll back the local effect five minutes. We can't have the simple beings mucking up the time continuum, now can we? [The story ends by cycling back to the first panel.] – Epic Illustrated #34, Dr. Watchstop, “Wasting Time,” February 1986.

- Crossing the Rubicon: Is time relative or objective? Suppose you set your time machine to travel back to January 49 B.C. in northern Italy. And when you arrived, you discovered it was mid-autumn and the farmers were harvesting their crops? Because January 49 B.C., when Julius Caesar crossed the Rubicon River with his legions and became an outlaw was mid-autumn because the Roman calendar was out of step with the seasons due to political abuse by the Pontiffs who were in charge of determining when intercalary months were added to the calendar – originally intended to keep the calendar in synch with the seasons, they were usually added or withheld for political purposes. Such was the situation that Julius Caesar’s third year of consulship was 446 days coinciding with his calendar reform to bring the calendars back into synch with the seasons (and also quite politically convenient for him).

✓ The Romans *didn't know* it was 49 B.C. – *human* calendars are political, subjective.

Most science-fiction stories, especially the cheesy kind produced for television (e.g., *The Time Tunnel* (1964)), tends to just ignore the problem (along with language, culture, causality, history, etc.) and vaguely assumes that time is objective, a matter of simply counting numbers backwards from our presumably correct current date (this would even be problematic as to Greek and Roman dates). But in this example, the time machine somehow ‘knows’ or senses the consciousness of the Roman population and goes to the date as the Romans knew it and not simply counting backwards the days from our time.

- Rubicon the Crossing: Would you, if given the chance, want to travel forward in time? It is usually presented as a given, usually as a necessary plot choice of adventure films, that everyone would like to see the future, beyond the end of their expected lifetime. But I don’t know, I have reservations. Science-fiction imagination has presented many grim futures, and not all of them implausible and many of them increasingly plausible from our current view. It is equally possible, a coin flip, that any future you might travel to is as grim as it is bright, as blighted as it is blithe, as blithe as it is benevolent. There is a lot we would need to understand before departing, for example, is the many or divergent worlds theory correct? Is time unalterable or paradoxical?

“Well, it could be pure coincidence, but Terminus seems to be at the exact centre of the known universe.” – Dr. Who, “Terminus, Part 1” (February, 1983)

Terminus: Alternatively, there is a theory that the current exponential advance of technology cannot go on indefinitely; that at some point, we would completely understand the nature of the universe, that technology would reach a state of engineering perfection, and that civilization would catch up with its technology and culture and technology would co-exist comfortably for eons until we got tired, or we or the universe changed, or we went onto something else. I don’t know when this point would be reached, any more than I can describe the operation principles of 3rd Era technology. However, it may be that there is no 4th Era of technology, or that the 4th Era is the terminal Era. This is a decision for the participants, as part of the story-arc of the game, participants may decide when or if there is a terminal point to technology in this game, or it may occur that the game simply ends before anyone has to reach that question.

- Ancient Interstellar Cultures: We are in the mental habit of dividing things and ranking them; because culture as a concept existed from ancient times, and technology was the seemingly new phenomena (though it really isn’t), technology was regarded as a separate thing, an

outside force exerting a pushing, guiding, warping effect on culture. Thus, the vision evolved, especially in the 20th Century, of a somehow adversarial relationship between culture and technology in civilization, and that technology was advancing much faster than culture could adapt to it (*à la* the Cold War). This worldview is a symptom of the cognitive dissonance of the late 19th and early 20th Century populations caused by rapid technology.

Probably taking a page from *Dune* (1965) which begins in the year 10,191 A.G. and the first year of their calendar begins around 13,000 A.D. on our calendar,² Star Wars' (1977) hyper-space-drive technology appears to be over 25,000 years old and human planetary technological civilization much older.³ Both *Dune* (1965) and *Star Wars* (1975) represent civilizations that have had galactic interstellar travel for far longer than the commonly known history of human civilization on Earth – where were your ancestors 25,000 years (1,250 generations) ago? Where would you go to visit them if you had a time machine?

Generally *Star Wars* technology appears to have reached near stagnation – or at least advances much more slowly than ours in the latter part of the 20th Century – but their culture is far from what anyone would call perfect. *Star Wars* technology has not led to any final galactic utopia, rather, the movies, the entire franchise, is premised on an endless militant space-opera adventure and mythic morality play. In fact, *Star Wars* is a 1960s and 1970s view of our world, tossed into the sky and blown up to epic proportions, as is nearly all space-opera fiction; the flaws of *Star Wars*' galactic civilization, their cognitive dissonance with advanced technology, are the flaws of our world because we can hardly imagine any better of humanity or the universe (echoing Norman Spinrad, Governor Nix in *Tomorrowland* (2015) and maybe a little Pangloss).

Thumbing Our Nose at Einstein: Einstein was a good fellow, don't get me wrong, but ... implicit in any sort of faster-than-light travel or transport system (e.g., FTL, Stardrive, Stargate) is likely some sort of temporal technology to abrogate the time-dilation effect of relativistic travel. Arguably, there may be some means of FTL travel – such as taking a 'shortcut' through an alternate universe – that would not necessitate a temporal abrogation. Most players are not likely to envision that a turn represents generations and centuries of real time, so the admission of Stardrive technology necessitates the admission of some level of temporal knowledge/effect (even if as a side effect of Stardrive), which opens the door to temporal technologies in the game.

“For example, suppose you traveled into the past and somehow or other prevented your own parents from meeting. Why, then you would probably never have been born which is something of a contradiction, isn't it since you are clearly there.” – Carl Sagan, Cosmos, Episode 8

Drop Ship 242: The alien troopers readied as their ship prepared to drop out of hyperspace in the target planet's upper atmosphere. It was necessary to blind drop on the Earth due to its legendary defenses, there would be no time for reconnaissance, drop would be made from 100 miles up at full speed.

The troopers boarded their plungers; at 100 miles above the Earth, three dozen enormous saucers appeared and descended long shadows on the major cities of the Earth, each carrying thousands of planet scrubbers, war machines, and a large fighter complement, along with the massive steri-

lizer weapon in the center bottom facing down. To the alien commander's surprise, no Earth defense forces came up to meet them, and no shots from Orbital Bases hit their top shields. The planetary civilization below appeared to be very primitive, having only reached the atomic-electronics stage. Still, they had a job to do and their programming was 'all in for the job.'

Two years later after the invaders were defeated, perhaps by the primitive native forces, perhaps by running out of supplies, perhaps by the industrial pollution in the atmosphere, perhaps by microbes, 11th Century Earth inherited their technology which was reverse engineered and the sociopolitical and cultural changes wrought by the invasion hardened the Earth's resolve to go out and conquer the stars, to spread such fear, ruthless destruction and terror that no aliens would ever think of invading the Earth again!

Classic Paradox: A classic paradox: If you go back in time to prevent a bad event from happening, and you succeed, then you did not go back in time to prevent a bad event from happening? This instantly unravels 95% of time-travel fiction.

- ✓ The 2016 series *Travelers*, which I have not watched any of, has this very problem from the starting description: If they succeed in preventing the bad future then they did not travel back in time to prevent the bad future. Stop, do not pass GO, do not collect \$200. Go straight to jail.

The science-fiction theme in the *Travelers* series is just a gimmick (a 'tacked on theme'), as is much of television science fiction, very little of it is truly science-fiction literature. A review of the *Travelers* episode summaries shows that the time travel was just a set up for the drama tangle; the episodes summarize who is lying, cheating, backstabbing, blackmailing, or sleeping with whom in each episode. The same plot summary could have been written for any 80s evening soap, *Travelers* is thus an 80s evening soap with time travel and it is not surprising that my friend's wife loved it. *Travelers* was *Quantum Leap* plus *V* plus *Dallas*.

One-way causality is a pain in the nekta, but it is what keeps us sane. Sort of. Less is more, more or less.

- ✓ **Clara:** Time can be rewritten. **Doctor Who:** With precision. With great care. And not today. But you know that of course, otherwise you wouldn't be threatening me... If I change the events that brought you here, you will never come here and ask me to change those events. Paradox loop. The timeline disintegrates. Your timeline. ...
Clara: I have seen you change time, I have seen you break any rule you want. **Dr. Who:** I know when I can, I know when I can't. ... – Dr. Who, "Dark Water" (2014).
- **Ghost in the Daylight:** In *The Time Traveler's Wife* (2009), Henry can never stop his mother from getting into that car (as his father wishes) because that would create a paradox – he survived the car accident when he started time jumping. To go back in time and prevent his mother from getting into the car would mean that he never started time jumping.

At the end of the movie, though, they did allow that he appeared on one of his earlier time jumps in the meadow about five years after he died (sort of 'life after death'), meaning that he travelled forward to a time after his own death (Henry never however, preexists himself, never lands before the first moment he jumped).⁴ Yet he seemed to have understood that he died, as Clara was much older and didn't hide her sorrow much, neither did their daughter, Alba. So was it life after death?

Clare completely outwitted Henry in having a daughter, one could think that with all of his time-jumping experience, he would have anticipated that she could be impregnated by an earlier version of himself before he had the vasectomy. This drives home that the point of the movie was the child, Alba, whose name he obtained from meeting her in the future, so she was already named before she had a name; he did not encounter Alba in a time-jump event until Clare was near full term and they were deciding on the child's name.

Suppose they had decided as an act of rebellion to name the child Michelle or Sonja after he met Alba in the future? What would have happened? Would that have meant that he never met her on the time jump? Was it all pre-destiny? He had knowledge, was he unable to make any other choice in the naming of the child? He could have lied to Clare about the name of their child.⁵

At that future point (the end of the movie), he was effectively a ghost in the daylight, which suggests something interesting about ghosts if they exist. There is no indication whether he appeared after that, but one would assume that eventually his appearances in the future would end, as well as his encounters with his time-jumping daughter, unless she is able to fully control where she goes in time.

- ✓ **TV Show Host:** So, are you saying your subjects are people or ghosts? **Dr. Mieselhoff:** Are you saying there's a difference? – from Einstein's God Model (2016).

“Surely the inventor of a time machine should have a few screws loose, and the glint in his eye should not be from tears.”

– Roger Ebert, review of *The Time Machine* (2002), March 8, 2002

The Door to That When is Closed: Unfortunately, this game is designed by and played by pre-interstellar primitives living before the 1st Era of interstellar technology (i.e. people who can only see the shadow of a hyperbolic cube), and therefore, is severely limited in its possibilities. Generally speaking, this game (and the Concierge) is not capable of handling the complications, alternate universes, and paradoxes, e.g., grandfather paradox, ontological paradox, causal loop, predestination paradox, quantum headache paradox⁶ – I made that last one up, but who's to say I didn't already invent it before I made it up? – that would result from allowing unlimited or largescale temporal technologies. Therefore, any temporal technologies developed in GGDM will be extremely limited (most professional writers and movie directors don't do a good job with temporal technologies either).⁷ The Concierge should not allow any sort of temporal technology that causes the game to collapse into cracked causality chaos.

- ✓ For example, the writers of the original Planet of the Apes Movies (1968-1973) were not careful or cared less about continuity. The first sequel, Beneath the Planet of the Apes and featuring the original characters – thus taking place shortly after the end of the first movie – ended with the original human astronaut, Taylor, destroying the world with a doomsday bomb. Thus, humans were what the ape scrolls said they were and that would seem to be the end of it. But to make a third movie, they had to introduce time travel, sending apes from the future back to the past, back to the world and timeline from which Taylor originated.

By the time of the fifth movie, the narrative frame – an orangutan lawgiver is reading scrolls to a mixed audience of ape and *normal* human children – showed a future set centuries after (but millennia before the first and second movies?) the events of the third, fourth and fifth movies that detailed the ape revolt, which seems to directly break with the first and second movies where humans are devolved to wild beasts (required happy ending retcon?). Then in 2011, a new series of Planet of the Apes movies was added, not a reboot of the original movie, but a seeming reboot of the events of the third movie of the original franchise. So, Planet of the Apes taken on the whole has become a confusing mash of sloppy time-travel, social-messaging sci-fi cinema, Hollywood pressures, partial reboots and/or alternate futures.⁸

Some positions in the game may progress into the 4th Era, sans any automatic assumption that doing so implies or necessitates temporal traverse technology. The acceptance of temporal technology will depend in large part on the cleverness of the players in designing such technologies; the meaning of such within the game and the current game circumstances, and the record that the players proposing such technologies have established with the Concierge.

- ✓ For example, the Krenim temporal weapon ship (featured in the three-part “Year of Hell” (1997) arc in Star Trek: Voyager) that erased entire homeworlds from history, sending out massive temporal alternate history shock waves, in an attempt to restore the Krenim Imperium, is exactly the kind of causality chaos that GGDM is not suited to handle, but the chronitron torpedoes would likely be workable within the GGDM framework. Predictably, each attempt that was not 100% successful in restoring the original Krenim timeline, required another attempt to fix what went wrong in the previous attempt, *ad infinitum*. Annorax then exhibits mythopoeic thinking in explaining his failure by stating that time itself is retaliating against him, preventing him from success, because of his arrogance in manipulating time (that is, that his failure is a personal decision on the part of *time*). Captain Janeway acts the same way toward her ship. The whole mess collapses when Voyager rams the Krenim temporal weapons ship.⁹
- ✓ In George Oliver Smith’s 1947 better-mousetrap short story, “Rat Race,” a government lab has a problem: It is being overrun by rats and can’t get any rat traps because of wartime production priorities. So they make a better mousetrap: A magnetic field, the mice go through and disappear. Problem solved. You may have guessed by the end, that it was sending them back in time. Back in time to the weeks before when the lab was being overrun by rats. And the rats who went back in time had babies, the same rats could go through the mousetrap many times and have parallel existences, having lots of babies. Until the country is being overrun by rats.
- Un-rung: The core issue for the universe stricken with the causality affliction is that the bell cannot be un-rung. Events that have happened cannot be made to un-happen, the dead victims cannot be brought back to life. We are left then with either various attempts to prevent the bell from being rung, or retribution, punishment, and repair after the bell has sounded.
 - ✓ “We can’t know everything. The crooks always lead the cops, be it in drugs, theft or anything else. All we can do is bring the hammer down on the futures of those who get caught.” – Ken Davidoff, “Astros-Patriots cheating comparison adds layer to MLB’s decision,” New York Post, November 16, 2019.

This is the limitation of our justice system and our medicine and our lives. However, I will concede that causality does create meaning that humans crave; how meaningful would events be if they could be undone? Or if they appeared in any random order?

- ✓ When was the last time something stupid, annoying, petty or just plain wrong spontaneously un-happened? Well? I'm waiting. No, that would be called a miracle, and miracles are about as real and probable as unicorns and Super Man movies.
 - This is a funny sentence: "...that the invention of the causality violation device was the cause." – Dexter Palmer, Version Control (2016).
 - See Alternating History, 6 Government Titles, p. 654, *supra*, for full feature quote.
- Four Floors: When a character travels in time, are they simply going backward or forward to a point in time at the same spatial location on the planet surface – ignoring planetary orbital movement and planetary rotation, otherwise the character might find herself in space without a suit – from where they began? Clearly the character in H.G. Wells' Time Machine (1895) simply went forward in time without moving spatially (and didn't end up in space without a suit), and doesn't travel far from the location of the time machine, but has to retrieve it from the Morlocks who hid the time machine a short distance away. Roger Ebert noticed it too:
 - ✓ "The time machine has an uncanny ability to move in perfect synchronization with the Earth, so that it always lands in the same geographical spot, despite the fact that in the future large chunks of the moon (or all of it, according to the future race of Eloi) have fallen to the Earth, which should have had some effect on the orbit. Since it would be inconvenient if a time machine materialized miles in the air or deep underground, this is just as well." – Roger Ebert, review of The Time Machine (2002), March 8, 2002.

On the other end of the British spectrum is the Time and Relative Dimensions in Space – Dr. Who's TARDIS which goes pretty much anywhere and anywhen in this universe and a few other universes. Most other time-travel fiction, from the awful Time Tunnel series (1966-1967) to the edgy, hard-bitten 12 Monkeys movie (1995) are careless or indifferent as to movement in spatial coordinates when travelling in time – James Cole, on his first trip back in time from Philadelphia in 2035, lands naked on the Western Front during WWI (and not in space without a suit)!¹⁰
- Landing Nude: Interesting aspect of the Time Machine story is that he did not travel backwards in time from his starting point, but did travel back to his starting point from the future. H.G. Wells certainly had an interest in history so it is possible that this was a public relations consideration; to have traveled backwards in time (800,000 years) as far as he did forwards in time would have offended the commonly-held (but crumbling) Christian-calculated biblical age of the universe (or at least the Earth, which was the same back then) since creation.
 - ✓ Henry in The Time Traveler's Wife always lands nude in the past or future, like James Cole on the Western Front in WWI, but has no spatial difficulties, in fact, he frequently lands in 'the meadow' behind Clare's parent's house (where she plays as a little girl, *ahem*) as if that place were spatially fixed in another dimension. And the family never moves away.

- ✓ Incidentally, if little Clare happened to see him nude – is he a pervert? He certainly would have been arrested if the cops found him nude. The story skirts the issue because she is his future wife and the mother of his time-travelling daughter. She had sex with him when she was 17, then he stopped appearing in the meadow and they didn't meet until almost ten years later, and he didn't know her, so his jumps back to the meadow...
 - ... well, it's probably like Dr. Who and Riversong.

“The paradoxes resolve themselves, by and large.” – Dr. Who, “Hide” (2013)

Taming Tea-sipping Time Travelers: Some argument was made that with this carefree statement, the series violated its own carefully established rules of writing to avoid paradoxes.

Paradox resolution is not always a nice clean process though! One of the most clever creatures in Dr. Who universe were the Reapers (before the Weeping Angels), temporal predators who swarm like bacteria to the wound in time created by the temporal paradox (“Father’s Day” episode, I particularly noted when the Doctor said this wouldn’t have happened if the Time Lords were still around...). If participants in GGDM decide to play around with time, these guys just might appear! The only safe place is an old building; the older an object is, the more difficult it is for them to pass through it (because of its Temporal Constructural Element ☺).

In the 2014 “Dark Water” episode, they modified the narrative a bit to make less contradictory rules about paradoxes in Dr. Who ... like a News Event in GGDM ...: Now time can be rewritten with great care and precision, even if it causes an obvious great paradox, and he knows when he can and when he can’t! Except that the writers stop short of just saying he can rewrite paradoxes. Moving on to Looper (2012)...

- ✓ “To bring this back to Looper, it seems as if the depiction of time travel in this film is somewhere between Leibniz’s model of God, and some of what was just described in regard to quantum phenomenon, in a way which is more fuzzy than Leibniz imagined, but more like that of quantum physics. *For rather than a God which strives to produce the ‘best possible’ universe, it seems like that Looper aims at something much more realistic, at least in terms of quantum physics, namely, a universe which aims to produce the most consistent possible version of itself, as manifested by a pull of sorts towards consistency.*” – Christopher Vitale, “Collapsing the Fuzzy Wave: Rian Johnson’s ‘Looper’ (2012), Quantum Logics, and the Structures of Time Travel Films,” networkologies (blog), written in 2012, updated and reposted, October 31, 2014 (emphasis added).

Conversely, author Julian May carefully limited the spatial and temporal range of time travel to one point in the Earth’s past, *Pliocene* France, just where the alien Tau and Firvulag had settled.

- ✓ “While the discovery of time travel is a great scientific achievement, its practical application is limited. After the initial discovery, it is soon found that due to its very specific geographic and other requirements, the time gate only works in one location and one point in time in the past. The device can be used to transport people, animals, and objects back in time to the Pliocene era intact, but any attempt to travel forward in time from the Pliocene by the same method ages the traveler or object by six

millions years instantaneously. This effectively makes the portal a one-way trip for any living being, and other organic objects. This limitation also made communication from the time-travelers almost impossible, making it a blind one-way trip.

After the death of the inventor, his widow finds herself inundated with a steady stream of late 21st and early 22nd century misfits/outcasts begging to be allowed to escape the modern world for a chance to start over in the simplicity of the Pliocene. The widow finally gives in and eventually establishes a regular training program for the ‘groups’ making the trip back in time to ensure they have the basics for survival and a trade in the Pliocene era. To prevent any contamination of the past, the Galactic Milieu sterilises all females by salpingectomy before allowing them to go back to the past and does not allow any advanced technology that will not decompose after around a hundred years to be taken. The Milieu also does not allow any operant meta-psychics to go back to the Pliocene.” – from Wikipedia article, “Saga of Pliocene Exile,” (early 1980s series by Julian May), captured October 29, 2018.¹¹

It is as if to suggest a divine plan (i.e. the author’s ☺) is in play allowing these two times to narrowly connect while avoiding temporal paradoxes.

“The fundamental difference between the attitudes of modern and ancient man as regards the surrounding world is this: for modern, scientific man the phenomenal world is primarily an ‘It’; for ancient – and also for primitive – man it is a ‘Thou’” – Henri Frankfort, 1946

“Any phenomenon can surely be experienced as both an It and a Thou: consider, for example, a pet and a patient.” – Robert Segal, 1977

More than a Feeling (can you hear it?): Despite what Hollywood movies show, travelling back to visit a historical era would not likely be much use, for example, speaking to someone from Elizabethan England, even an educated person from that period, would be like speaking to a nine-year-old version of yourself.¹²

I have given considerable thought to how my life might be changed if I travelled back in time. I have come to the conclusion that if I did it all again, I wouldn’t do any better than I did the first time, despite my knowledge of the probable outcome. I don’t have the level of intellect and wisdom to make it ‘come out right.’ If I changed the bad things that happened, other bad things would have happened. There are too many variables and branches for my SQ. Likely, the outcomes would be worse.¹³

- ✓ You are here reading this now. If you could repudiate history, would you go back in time and prevent the invention of gunpowder, would you destroy the draft of Novum Organum (1620), would you prevent either Genghis or Kublai Khan from being born, would you make Buddha a king instead of a sadhu, would you prevent Christ from being crucified or have him crucified upsidedown, would you have Christopher Columbus committed to an insane asylum in 1490? Would you kill Hitler as a baby? Suppose there were a point in history where a race could decide its own history?

For much of my life, I have had a vague but persistent intuition of a parallel between intellectual, cultural, political, and religious development of human civilization globally, and the cognitive developmental stages through which we all pass as children to adolescence and adulthood.¹⁴ For example, “mythopoeic thought” of ancient human civilizations, described by Henri Frankfort, seems to correspond roughly with Jean Piaget’s preoperational stage of cognitive development. This mythopoeic condition existed despite the fact that the majority of the population – as is common in any human population – *was adult*. That is, *adults had mythopoeic thinking as their worldview*, it was not a trivial thing, and it should not be trivialized. Overall, this suggests to me that the general level of abstract thinking that exists in the current population has not always existed (though there were always stand-out groups or individuals who were ‘ahead of the curve’ in their time); others would point to the late advent of empiricism in humanity.

- ✓ When you live with and adore cats and they adore you back, you learn the intelligence and personality of each cat. Many times, they remind us of small children – forever infants they are to us as Roger Caras wrote in 1989 – yet at the same time, they are the *viable adults* of their species capable of survival, fighting for mates and territories, and raising young. With only a couple of ticks difference in SQ and neural mass, we may appear the same to alien intelligences; our lives a brief flicker, our games and machines like cat toys, our attention spans short, our dramas silly play.
- ✓ This long-unspoken dichotomy of adult human populations and the infancy of human civilizations is at the core of nearly every debate about humanity, as it is at the core of our relationship with our pets, and our imagined relationship with a supreme being or creator (in the current version). It is also probably the core problem of any macro-view of humanity, e.g., macro-history and macrosociology.

How old are we now?¹⁵ Development of realism, a cornerstone of modernity, as opposed to medieval and Aristotelian idealism, wishful thinking or magical thinking, seems to correspond to an operational stage of human development. However, attempts to form concrete ideas of this fuzzy parallelism are comparable to the alleged synchronicity of The Wizard of Oz and the Pink Floyd’s Dark Side of the Moon album.

- ✓ Even if I am completely, dead, demonstratively wrong, it’s not a bad image. It offers some larger framework for the lurches, stops and mental chaos of human history, within a very human frame of reference instead of some distant, murky deity or esoteric concepts.
 - ✓ If I am correct in this feeling, however, it provides an inevitable – an 8-year old human cannot refuse to grow up (unless your name is Peter Pan) – but very hazy direction, with no predictive value on how it might play out, to the future development of humanity, barring some enormous disaster.
- **Mythopoeic Thinking:** Mythopoeic means “myth-making” so that mythopoeic thought is a cultural intellectual habit and worldview where myths are constructed to explain observed events, origins, and behaviors.
- ✓ Dr. Stephen Griffith, Lycoming College, during a lecture in Philosophy of the Occult class, offered perhaps an explanation for the beginning of Abrahamic religion, from a mythopoeic perspective of ancient humanity. To the tribesman there were three objects (three is a common special number in the ancient world), the Earth where we stood, the Sun and the Moon that moved across the sky. And so the Sun rose every

day and provided warmth and light, and the Sun went away, and the Moon rose, providing night illumination and a steady progression, and the seasons marched by in order. And that was their world. But on certain occasions, during the day, something big would make the sun go away (i.e. a solar eclipse) and the world would grow dark. So there was a fourth thing out there, something that was more powerful than the Sun – casting aside our modern understanding of orbital mechanics – there was some invisible being that could make the Sun go away. This thing was more powerful than the Sun god and they were very afraid.

- ✓ Carl Sagan cleverly explained in *Cosmos*, Episode 7, that Paleolithic ancients may have thought the stars were the distant campfires of great tribes in the night sky who should be venerated and appeased lest they come down and kick our asses.
 - “One night I thought the stars are flames. They give a little light at night as fire does. Maybe the stars are campfires, which other wanderers light at night. The stars give a much smaller light than campfires, so they must be very far away. I wonder if our campfires look like stars to the people in the sky. But why don’t those campfires and the wanderers who made them fall down at our feet? Why don’t strange tribes drop from the sky? Those beings in the sky must have great powers. I don’t suppose that every hunter-gatherer had such thoughts about the stars. But we know from contemporary hunter-gatherer communities that very imaginative ideas arise.” *Id.*
- ✓ Both Columbus and Tecumseh and his brother used Western knowledge of astronomy to correctly predict the exact timing of local solar eclipses which gave them divine power over frightened mythopoeic tribesmen.

In all myths, the world is personified by human-like gods, spirits, and sapient natural forces, such that each natural event represents a personal choice on the part of a god, spirit or sapient natural force. Mythopoeic thought remains infused into our daily language; it is the origin of anthropomorphic references in our language, for example, ‘it looks like it **wants** to fall over,’ or ‘the wind is **trying** to pick up’ or ‘**she’s** solid steel’ referring to a machine and not a female bodybuilder. We can hardly say anything without an implied anthropomorphic (and even divine) reference, for example, ‘tasks waiting to be done’ implies patience on the part of the tasks; though the term is capable of being used neutrally, it is usually not taken so. Similarly, when something ‘provides an example,’ even though that something is not a person who is intending to do so, it is difficult to mentally separate ‘provides’ from perhaps divine or parental beneficence.

- ✓ In the crowd-funded movie *Fifth Passenger* (2018), the doctor, the navigation officer, and the agricultural technician were discussing the catastrophic environmental events on Earth. The doctor refers to “Mother nature” and the navigator refers to Earth as “her.” The agricultural technician ends saying, “About the only thing we do agree on for sure is that the planet is a woman.”

This is different from modern thought where events and behaviors are all tied to an underlying set of neutral natural laws, forming a consistent pattern, so that we look to formulate laws and math expressions, and to test and adjust them until they predict correct results. It might be argued then, in a very careful and circumspect way, that modern minds display greater abstract intelligence than ancients (however, I still display mythopoeic traits in my absurdism).

Whether this change is a result of cultural intellectual development or whether it is a result of some physiological change in the human brain (e.g., Julian Jaynes' bicameralism) is still debatable – but in evolutionary terms, the odds of a wholesale physiological change in the human brain through the population in just the 2000 years from classical antiquity, is very remote, *but not impossible*.

Viewed in these terms, e.g., Henri Frankfort, *ut supra*, creation science, intelligent design, and theistic evolution are in succession the last bastions of mythopoeic thinking in the West. After the Fundamentalist had screamed themselves into hoarse absurdity in the 1980s (I was there), intelligent design advocates attempted a more nuanced approach (something less than a sledgehammer to crack a walnut), and failed in 2005.

- ✓ “By the mid-1990s, intelligent design had become a separate movement. The creation science movement is distinguished from the intelligent design movement, or neo-creationism, because most advocates of creation science accept scripture as a literal and inerrant historical account, and their primary goal is to corroborate the scriptural account through the use of science. In contrast, as a matter of principle, neo-creationism eschews references to scripture altogether in its polemics and stated goals (see Wedge strategy). By so doing, intelligent design proponents have attempted to succeed where creation science has failed in securing a place in public school science curricula.

Carefully avoiding any reference to the identity of the intelligent designer as God in their public arguments, intelligent design proponents sought to reintroduce the creationist ideas into science classrooms while sidestepping the First Amendment's prohibition against religious infringement. However, the intelligent design curriculum was struck down as a violation of the Establishment Clause in *Kitzmiller v. Dover Area School District*, the judge in the case ruling “that ID is nothing less than the progeny of creationism.” – from Wikipedia article, “Creation Science,” February 5, 2019.

Their last trenchline is theistic evolution which tries to be unobtrusive and inoffensive so that no one notices.

- ✓ See Dating Man discussion, 5 Beginnings, p. 57, *supra*.
- The Fine Print –Isms: Parallelism used here (not to be confused with the theory of the mind concept, psychophysical parallelism) is a fuzzy concept, it is an analogy that works and has intellectual and cognitive value if it is not pushed to definition, details and precision.

Parallelism should not be construed as an absolution of humanity for all of the egregious past wrongs inflicted and committed by every culture, in every time, across all of the regions of the globe. Parallelism is not a moral judgment; it is not to say that all of the things humans did in the past are forgiven as we forgive children for their transgressions due to immature judgment – I am not the Christian God. It is the same as the dichotomy of cats: Though our species was childlike in a mythopoeic sense, the population was made of adults capable of individual reasoning, reproducing, childrearing, and all the things that eventually led to our civilization now (see related discussions in 4 and 5 Taxation & Census generally, *supra*). Rather, parallelism is simply an intuition, perhaps an observation that is pre-theoretical:

- ✓ “The pre-theoretical intuitions are decidedly strong and clear. What is unclear is how the pre-theoretical intuitions are to be accommodated theoretically within the favored

analysis, and it is this that leads reductionist to contend that the intuitions are inconsequential. At the very least, the anti-reductionist is owed an account of why the intuitions arise if they are not accurate.” – John W. Carroll, “Anti-reductionism,” The Oxford Handbook on Causation (Ch. 13, p. 292), Ed. by Helen Beebe; Christopher Hitchcock; Peter Menzies (2009)(text found on Google Books).

Realism is used here in the sense of Merriam-Webster online dictionary, **1**: concern for fact or reality and rejection of the impractical and visionary and **3**: the theory or practice of fidelity in art and literature to nature or to real life and to accurate representation without idealization. GGDM is a thorough work of modernity as it somewhat militantly emphasizes profound realism – as much as can be had in a science-fiction or space-opera setting – as the best and base means of understanding and rarely discusses what might be ideal.

- ✓ Contrary to some arguments, realism does not entirely displace idealism, and they are not exactly as opposite as they seem; rather, they exist side by side in some kind of relationship within our modernity. If you are trying to tell me you have a solution to a social problem, I will inquire about what you believe is the ideal condition to be reached by the solution and on what ideological, religious, intellectual or philosophical theory it is based. After that, I probably won't agree with you or be entirely convinced, but may be thankful for a good discussion.

I would argue that GGDM is more a *post-realism* than realism work. Post-realism occurs when our society realized that reality is not quite what we thought it was; when cracks develop in the concrete floor (upon which the psychology of realism depends) due to the propagation of quantum physics, sub-atomic physics in general, computer animations and virtual realities, advanced filmmaking techniques and special effects, science-fiction imagination becoming science fact, the systemization of public relations, propaganda, and now, social networks, sophisticated foreign trolling, and as Rand Corporation authors put it, “Truth Decay.” We are not yet willing to abandon the building as haunted, but we are not quite as sure of what is real as we once were, and reality has become incredibly complicated, losing much of its initial-seeming clarity, practicality, charm.

- Putting Away Childish Things: “When I was a child, I spake as a child, I understood as a child, I thought as a child: but when I became a man, I put away childish things.” – 1 Corinthians 13:11 (King James Bible).

That I comment throughout GGDM about the Existential Void and Absurdism (and make absurdist points), might lead some to believe that I am pessimistic, nihilistic, and perhaps in need of psychiatric evaluation. They might also, by extension, conclude that reading GGDM is not good for youthful minds. All of the preceding (except possibly the need for a psychiatric evaluation☺) is the opposite of what I consider to be true about GGDM, the opposite of my intent in GGDM. Consistent with my sense of parallelism discussed here, much, if not all, of GGDM is about humanity putting away childish things. So is physical science and empiricism, but in a different way. You can handle it or you wouldn't be this far into the text of GGDM; GGDM is perfect reading for youthful minds, as it is they, not us, who will put away childish things.

- ✓ “I have been thinking about what Christ will mean in the future. We'll need a new form of Christianity in a time when the world has come of age. I think there is only one purpose of religion in the modern world where people must come and share each

other's suffering and share the suffering of God in a godless world. We'll need more than just religion in the former sense. We need faith and Jesus Christ as its center. Real Christianity means sharing each other's pain. It is not for us to prophesy a day when men will once more ask God that the world be changed and renewed. But when that day arrives, there will be a new language, perhaps quite non-religious, but liberating and redeeming as was Jesus' language. It'll shock people. It'll shock them by its power. It'll be the language of a new truth proclaiming God's peace with men." – Dietrich Bonhoeffer's swan song speech in *Bonhoeffer: Agent of Grace* (2000).

But I am not going to turn any pages in history here, with GGDM. Humanity is notoriously slow to understand. Change does not occur unless there are consequences. There are three freight trains coming down the track we are standing on (see *Standing on the Tracks*, 3 Entropy, p. 244, *supra*).

- ✓ GGDM is – if I may flatter myself for a moment – a college course in a simulation game. It is as much a treatment of its chosen subjects as a serious book of equal length. In this, it is no different than *Cosmos*, either the book or the television series, episodes of the latter I have viewed in high school and college courses. And I suppose that there is little difference of intent between Carl Sagan and I in our chosen creative projects.
- Still Gorgias: It is possible that recorded historical experience, education and empiricism have somewhat answered Plato's objections to rhetoric in Gorgias (380 B.C.). It seems likely that in mythopoeic culture, people were more likely to believe things simply because they were said, since their entire world was formed in story. Mythic history instead of empirical history, mythopoeic explanations instead of natural observation, etc. This probably extended also into the realm of politics and human affairs. Fame and sociopolitical position (e.g., *arête*, *gravitas*) of the speaker and subject enhanced this effect.

If in fact people are now less likely to believe what they are told, if they are more likely to think critically or seek other evidence and opinion – then they may be less able to be influenced, misled or to have false knowledge created by a sophistic speaker. But this also has a side effect weighing against it, in that it engenders cynicism, suspicion, and hampers communication and understanding. The last historical example of the stark Platonic disaster was Nazi Germany and certainly the world hoped that time had passed. However, this must remain just a theory for now, as the hysterical (and not very funny) rhetorical disaster that was 2015-2017 (and which no media fact checking and levelheaded criticism could derail) set us back decades and remains the relevant evidence at this moment against my hypothesis.

“It is all a matter of time scale. An event that would be unthinkable in a hundred years may be inevitable in a hundred million.”

– Carl Sagan, Cosmos (1980), p. 73

Tribal Minds: Even the scale and complexity of human history has become incomprehensible in the view of the average human; our personal scale of history rarely extends farther back than the stories we hear from the youth of our grandparents.

I was surprised and delighted as a teen when I met a WWI vet; he and his wife were approaching 90 years old and I delivered their newspaper in the early 1980s, they were both born within a half-decade of Katherine Anne Porter who died in 1980 at age 90 (I vaguely recall they said they were born in 1894 and 1896, which was a year that didn't have a '19' in front of it... all birthdates I knew started with '19').

Thus, when combined with the human concept of forever in *A Dying Age*, 2 Eras, p. 774, *supra*, the personal human time scale of history extends from approximately our grandparent's youth to our grandchildren's children. See also human time scale discussion in *A Story Without Characters* and *A Story in Unreal Time Scale*, 4 The Streams of Time, both p. 102, *supra*.

- ✓ “Ultimately, I have no illusions that I will last beyond the minds of a couple of generations after me, at best.” – Narrator, “Eventually, Everyone We Know Now Won't Be Known By Anyone,” Pursuit of Wonder YouTube Channel, March 4, 2020.

And of the cities of humanity we may encounter, research shows that at any given moment, we retain memory of about 150 people, according to Prof. Robin Dunbar, researcher in evolutionary psychology at Oxford University, which is approximately the size of a clan in hunter-gatherer societies (or a later modest village), and below the level of a tribe. See, Mona Chalabi, “How Many People Can You Remember?” September 23, 2015, FiveThirtyEight.com.

- ✓ It is also possibly why the most basic unit of military maneuver is the company of 100 to 150 soldiers, the military company-sized unit is the most basic level of true unit cohering/cohesion (e.g., the Roman Cohort of 120 men), while larger units, battalions and regiments, mirror approximately the size and cohesion of a tribe as described by Prof. Dunbar, about 500 to 2500 people (or later a town). *Id.* Human military units developed psychologically along clan and tribal lines.

“One small step for Russia, one giant leap for Communism.”

– Yuri Gagarin, Cosmonaut, First Man on the Moon (from *The History of Time Travel* (mockumentary, 2014))

Temporal Patents: The successful prosecution of the Temporal Patent does not depend on any die rolls or Matrix criteria, rather, successful prosecution is solely and arbitrarily at the discretion of the Concierge. In regards to Temporal Patents, the Concierge will err on the side of ultra-cautious preservation of the orderly play of the game without undue delays. The form of the Temporal Patent is not set, however, when submitted to the Concierge, it must contain a careful and detailed description of the game operation of the proposed temporal technology and especially, limitations of the technology and any anticipated problems that might arise during game play of the technology.

- ✓ Thus the Concierge becomes that mythic entity *time itself*, and whether the temporal technology succeeds or not is a personal decision. Role-playing games and fiction writing have strong mythopoeic elements; any game (or creative process) where the game master (or writer), representing the *mythic* universe, has a final say in the game (or work), instead of die roll results as in a straight board game, makes the game master the mythic personification of the universe and any sub-entities, the actions of the game universe are then the personal decisions of the game master (or writer).

“Time travel? Well, all right, let’s play both sides of the street on this one. Supposing general relativity is in fact right, and we all live on the surface of a hypersphere. If you make the slight additional assumption that the hypersphere is rotating in four dimensions, round its unimaginable center from which it is expanding, time travel into the past becomes instantly possible – all you have to do is drag your feet a little. How much energy it would take to drag your feet I am unable to tell you, but this has been seriously proposed. It could be done. Again, nobody knows in the first place whether the universe is a hypersphere or not, let alone whether it’s rotating, so we are in no position to say with great positiveness that time travel is permanently impossible.”

– James Blish, [The Tale that Wags the God](#) (1987) (Kindle Loc. 592-597) ¹⁶

Endnotes.

¹ Commentary: Pirate Den (located in Canada) should not be confused with the infamous Swedish based website, The Pirate Bay, which was raided and its servers seized on orders from a Judge in May 2006.

² Citation: Dune Wiki timeline, May 30, 2018.

³ Citation: Wookipedia canon, various articles on hyperdrive, Coruscant, galactic history, May 30, 2018.

⁴ Commentary & Citation: I thought from the movie poster that *The Time Traveler’s Wife* (2009) might be a mushy romcom or melodrama, and you know how much guys hate that. It does get a bit melo toward the end, but how he gets shot is a surprise – though it should not have been because of the earlier hunting conversation (the old rule: nothing should be on the stage in the first act that is not used by the third act). His daughter (and Clare’s determination to have a child) is the epochal future hope from the film, in fact, it is the whole purpose of everything that happened to them, almost as if planned divinely. As usual, the critics weren’t very kind (these are the guys who send each other last years’ stale fruitcake loaf gifts for the winter Holidays) insisting that the movie stay within their predetermined genre boundaries (they don’t handle fuzzy very well), but I thought that Joshua Starnes of coming-soon.com was spot on in his August 6, 2009 review conclusion:

- ✓ “As it stands, *The Time Traveler’s Wife* is decent evening’s entertainment with an intriguing enough premise and some strong heart tugging to keep the women happy and the men from getting too bored.”

⁵ Commentary: Suppose I had said, screw this, humanity can simply fall into the abyss for all I care and then deleted all of the files of GGDM and abandoned the project (deletion is necessary so that I don’t change my mind and go back). Humanity may still fall into the abyss, regardless. I certainly didn’t ask to be here, it’s not really fair or right in any way that I have to be on this planet or be alive anywhere and I don’t really care much for humanity?

- ✓ “What moral obligation do you have to those who willfully refuse to open their eyes and deem you mad for seeing?” – Norman Spinrad, [The Void Captain’s Tale](#) (1982).

Two things are certain: that you are reading this means that I did have those thoughts and that I did not – for unknown reasons, decide to delete the files. What meaning you wish to make of it, is up to you. Every author has made that choice, few other than John Milton have dared to ask, and none know why.

⁶ Citation: “Why is quantum mechanics like cricket? Because for me, no matter how many times the rules are explained, I can’t seem to get my head around what the game is actually about. Is quantum theory a system of equations? A description of the behavior of invisible particles? A philosophy for the post-post-modern age?” – Kate Becker, “Debating the Meaning of Quantum Mechanics,” NOVA, November 1, 2011.

⁷ Commentary & Citation: Examples of time travel games are the board games *Time Agent* (1992) and *Khronos* (2006), both of which I have played, and *Achron*:

- ✓ “*Achron* is a Real-Time Strategy game, with Time Travel as a major mechanic. It is also known as a Meta-Time Strategy game, due to the importance of Time Travel.... As a Time Travel game, *Achron* features a

completely free-form timeline, which is about 6 minutes long by default. Actions can be performed at any time on the timeline, and are propagated either by the players' observations, or by neutral timewaves. User actions are, however, limited to about 3 minutes in the past (on default settings), but units can be chronoported to the unplayable region, and events can be observed at any point on the timeline." – Achron Wiki, "Introduction to Achron," captured June 27, 2018.

- ✓ "Achron is considered to be the first 'meta-time strategy game' (Real-time strategy with time travel), notable for being the first game with free-form multiplayer time travel and its subtle handling of temporal paradoxes such as the grandfather paradox. Achron was released on August 29, 2011.... The unique aspect of gameplay in Achron is the fact that the game proceeds not only in many instances of space, but also in many instances of time. Players can simultaneously and independently play in the past, present, or future. The player can only travel a certain distance into the past – after a while, the timeline becomes permanent." – Wikipedia article, "Achron," captured June 27, 2018.
- ✓ Science fiction writer Mike Resnick is listed as one of the designers.

⁸ Commentary: Thanks to the half dozen professionally-written, head-scratching 'timeline' and 'chronology' articles on the internet that have tried to piece together the continuity of the three generations of Planet of the Apes movies. I saw all of the original movies about 35 years ago, I cannot say that I remember them in detail.

⁹ Citation: Information was gleaned from review of "Year of Hell" articles Memory Alpha Wiki, May 31, 2018.

¹⁰ Commentary: My top time travel movies are 12 Monkeys (1996), the independent film, Navigator: A Medieval Odyssey (1988), and Frequency (2000). The list probably stretches some technicalities though – I think there is no actual time travel in Navigator and probably not in Frequency, unless you count collapsing timelines. A recent addition to my list of favorite "time movies" is Time Lapse (2014) which is more of a 'time trick' movie (*à la* Frequency). I also found The Time Traveler's Wife (2009) surprisingly good, so that can be added to my slowly growing list. The most recent, late 2019, addition to this list is the faux documentary, The History of Time Travel (2014).

- ✓ I have watched Primer (2004), but I need to watch it again. I have read a plot summary of Looper (2012) and a few other movies that I won't pay Amazon Prime to 'rent' since I already paid a yearly sub fee.

¹¹ Commentary: Julian May's Pliocene Saga addresses the real world 'Messinian salinity crisis' that was debated in the 1960s and 1970s: One of the psychic-powered characters blasted open the Straits of Gibraltar flooding the Tanu cities in revenge. This provides a literary origin for the 'Zanclean flood' at the beginning of the Pliocene era.

¹² Commentary: Dr. Paul T. Mason, Jr., Duquesne University Dept. of History, opined that we would be bowled over by the 17th Century odors as we are now used to living in a world with better standards of cleanliness.

¹³ Commentary: If I were to meet a teenage version of myself, I would tell myself to shut up and listen. I really don't think I could stand my teenaged self now. I feel badly for the adults and teachers who had to bear my youth.

¹⁴ Commentary: Again, this is probably the influence of Carl Sagan in my youth, who spoke about our technological adolescence and advance of civilizations. I am a clueless hack who has no new or original ideas.

¹⁵ Commentary: In the Cosmos series Episode 7, Carl Sagan levels scathing criticism at the Pythagoreans and other ancient Greek philosophers for embracing and promoting mysticism; he goes on to blame the loss of the Ionian books, slavery in Athens, just about all human suffering and the fact that we are not currently on our way to the stars on mysticism and religion (see Sagan quote in Morality, 3 Order, pp. 548-549, and discussion in Dark Ages, 1 Technology, p. 686, *supra*). Many have objected to his characterizations of both mysticism and the Middle Ages. Carl Sagan seems to see mysticism as the natural enemy of empiricism and science, he would, as Douglas Adams commented at Digital Biota 2 (1998), "throw the baby out with the water," see quote in Another Duality, 1 Technology, pp. 693-695, *supra*. When I was younger, I am ashamed to say I would have agreed with Carl Sagan, largely because he was Carl Sagan. But given my intuition of parallelism, I would now – while Sagan does have some good points to make – view the Ionian situation differently.

¹⁶ Commentary: If you cannot say with certainty what is possible then you cannot say what is impossible. It is related to truth, if one color is correct, then 15,999,999 other colors are incorrect. But if you can only say one color is incorrect, then there remains 15,999,997 incorrect colors and one correct color.

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See Appendix EPAT1 – The Existential Patents
See Appendix EPAT2 – Existential Patents Quick Summary

[Looking out at a baked, waterless, irradiated Earth with strange pale daylight]

Clara: *When are we?*

The Doctor: *About six billion years ago. It's a Tuesday, I think.*

Clara: *...Have we just watched the entire life cycle of Earth, birth to death? And you're okay with that?*

The Doctor: *Yes.*

Clara: *How can you be?*

The Doctor: *The TARDIS. She's time. We ... wibbly Vortex. And so on.*

Clara: *That's not what I mean.*

The Doctor: *Okay. Some help. Context. Cheat sheet... something?*

Clara: *I mean one minute you're in 1974 looking for ghosts, but all you have to do is open your eyes and talk to whoever's standing there. To you I haven't been born yet. And to you I've been dead a hundred billion years. Is my body out there somewhere? In the ground?*

The Doctor: *Yes, I suppose it is.*

Clara: *But here we are talking. So I am a ghost. To you, I'm a ghost. We're all ghosts to you. We must be nothing.*

The Doctor: *No. No. You're not that.*

Clara: *Then what are we? What can we possibly be?*

The Doctor: *You are the only mystery worth solving.*

– Dr. Who, “Hide” (2013)

Talking to Ghosts: If you thought you were a time traveler, how would you ever know that you are not just sitting in a room talking to ghosts – imaginary or otherwise – and fully hallucinating the whole experience? H.G. Wells travelled far into the future of English humanity, and never left his seat (at least we think so); his journey was that of his character. What was the difference if it was real or not?

- ✓ What is the difference practically between Dr. Who and being a vampire? His ‘coffin’ is a blue box that flies around to different times (or maybe he is just somewhere dreaming), but everyone is a ghost, a memory. Could you see Peter Capaldi as a vampire? Someone can, because there is an animated video (in a foreign language) on YouTube called “Peter Capaldi Vampire” (I have no idea what it is about since it is language dependent). Or maybe there’s another Peter Capaldi?

Temporal Ship: The following sections detailing the Temporal Ship (hereafter “T-Ship”) are an example of an extremely limited and detailed (if not particularly clever) temporal technology that *might* be acceptable in the game.¹ A sample Temporal Ship Patent is not provided.

Nothing comes from nothing. The origin of the Temporal Ship is simple: I started wondering one day what would be the equivalent of submarine warfare in space? The essence of submarine warfare is the ambush, how do you ambush in space? I am sure that Tom Clancy’s books Red Storm Rising and Hunt for Red October were on my mind. I had probably also been reading “Before the Universe” (1940, and its sequels) by Frederik Pohl and Cyril Kornbluth, there seems to be a connection between the two in my recollection. And of course, I am familiar with WWII:

- ✓ “Postwar analyst agreed, however, that the submarine was the weapon that had done the most to conquer Japan. Americans had become so accustomed to a defensive attitude that they scarcely realized how daring and effective their own undersea raiders were. ‘Dud’ torpedoes had been a handicap during the early months of the war; but once the defects were remedied, the blows to Japanese transportation of raw materials reduced the island empire to sore straights by the early months of 1945.” – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), p. 961.
- **A Moment of Caveat:** Although many of the following concepts and rules, specifically surreptitious entry and ambush combat, were developed specifically for Temporal Ships, those rules exist independently from Temporal Ships and would be applicable (more or less, with necessary modifications) to any similar situation, such as the development of cloaking and/or stealth technologies by positions during the game.
 - ✓ For example, the “stealth Viper,” the Blackbird that disabled the Resurrection Ship’s engines so that it could not escape, while the two Battlestars attacked and kept the Cylons distracted and destroyed the Resurrection Ship. Battlestar Galactica, “Resurrection Ship, Part 2” (2006).

Back in the real world, scientists have had some impressive successes with “metamaterials” made of nano-particles that can make curved surfaces appear flat to electromagnetic waves (which includes light so they look flat when you look at them from above with bare eyes). Many articles exist on the internet discussing cloaking with metamaterials, e.g., H.M. Doss, “Cloaking – Making Something Appear Invisible,” Physics Central or David Calpito, “Invisibility Cloaks Are Real, And The Military Is Interested,” Tech Times, September 22, 2015.

There are physical limitations to this technology – mainly that objects can be hidden only at certain wavelengths and not at all wavelengths – but there are also some intriguing possibilities. There are also severe size limits, see “Researchers determine fundamental limits of invisibility cloaks,” News Release, University of Texas at Austin, July 7, 2016. Objects have also been rendered ‘invisible’ using lenses only, such as the “perfect paraxial cloak” across a range of angles. See, “Cloaking Device Uses Ordinary Lenses to Hide Objects Across a Range of Angles,” News Release, University of Rochester, September 25, 2014 (the hole in the hand photo is a bit creepy).²

“Time keeps on slippin, slippin, into the future...”

– Steve Miller Band, “Fly Like an Eagle” (1976)

Ghost Probabilities: The Republic Ghost Ship slipped into the system quietly. Captain Miniwatt smiled in pride at his new command, the prototype warship of a whole new era. It was too easy, if the enemy used stationary detectors, the Ghost Ship simply blinked in and out of time erratically, making the Comarchy (aka “Archies”) operators think that something was wrong with their sensors. If the enemy used roving sensors, it simply disappeared into time and appeared five minutes into the future when the sensor sweep had passed.

The Archies had this coming for a long time, ever since the slaughter of the innocent populations on Anthony Three. Patch up the diplomatic front, put on a smile, and quietly research new warship technologies. Very quickly, the Ghost Ship saw a spherical Archie Colony Ship, probably

leaving to colonize Anthony Three. From the trajectory, the Ghost Ship calculated where it was five minutes earlier and slipped five minutes back into time, to get behind the local colony defenses, moving to intercept the point of departure from orbit.

Suddenly, the Ghost Ship appeared out of no-when over the colony world, at point blank range of the *just departing* colony ship, if the Ghost Ship had had windows, they could have admired the new paint job on the Archie Colony Ship. The Archie designer paint job was suddenly spoiled by a Ghost Ship that wasn't there five seconds ago, alarms went off all over, but were cut short as the Colony Ship came apart from rapid, close-range conventional weapons blasts.

Captain Miniwatt smiled in a way that no one at home would have appreciated, took his prescription psycho awake meds, as the ghost probabilities of the Colony Ship's trajectory came unraveled; it was there, but it was never there. The Ghost Ship slipped away into the future while colony defenders desperately searched for the attacker and sent out panicked communications.

- ✓ The interstellar belligerents in this story were drawn from an article titled, "Stellar Conquest for Two" in *The Dragon*, Issue 36 (April 1980) accompanying a boxed game release of *Stellar Conquest*. The article, written by Steve Jackson, who the editors incorrectly credited as the designer, describes a two-player variant called the Perseid War, between the Republic of Diphda and the Dubhe Comarchy ("Archies"). Perhaps the story in this section is a future version of a never-ending war between interstellar superpowers? Mr. Jackson worked at Metagaming with Howard Thompson, the founder of Metagaming and designer of *Stellar Conquest*, who was also the first editor of their in-house magazine, *The Space Gamer*.
- ✓ A creepy example of temporal being is the Drakh Emissary in *Babylon 5*, "Lines of Communication" (1997) who appeared displaced because it was constantly nano-shifting in time. Video is available on YouTube. Or maybe it's a quantum wave that does not collapse upon observation? A being that refuses to be an eigenstate. See 'quantum eraser' *ut infra*, top p. 822.
- Shadow Memory: The Ghost Ship created a small localized paradox: If the Ghost ship saw the colony ship, slipped back in time and destroyed the colony ship 5 minutes before first seen ... how could the Ghost ship have seen the colony ship in the first instance since it never arrived at that point? Only the crew onboard will remember having sighted the colony ship, as part of their own personal forward moving timelines, only their autobiographical memories hold the paradox together. Just like only you saw the ghost. Take your psycho meds.
 - ✓ [Interview with fictitious science-fiction writer Kevin Ulrich] "We experience time as we perceive it, and if it was being altered, would we perceive that? Would we? That's the big question. Would we even notice?" – *The History of Time Travel* (mockumentary, 2014).³
 - ✓ "My memory's cloudy. It's a cloud. Cause my memories aren't really memories. They're just one possible eventuality now. And they grow clearer, or cloudier, as they become more or less likely. But then they get to the present moment, and they're instantly clear again. I can remember what you do after you do it. It hurts ... *But this is a precise description of a fuzzy mechanism.* It's messy." – Joe talking to a younger version of himself over dinner, *Looper* (2012) (emphasis added).

[Interview with fictitious science-fiction writer Kevin Ulrich]

“With the time machine, the Soviets could have gone back in time and prevented America from ever existing. But they were smarter than that. They realized the danger that if they altered the past prior to Edward Page inventing the time machine, that he might never invent it at all. Recent history, however, would be up for grabs.”

– The History of Time Travel (mockumentary, 2014)

Tea Time: Unlike the regular Era Warships, the Temporal Ship (hereinafter, ‘T-Ship’) Warship System requires two special technologies. The first technology is the Temporal Sensor which allows the T-Ship to realtime scan a short distance into the future and past, and enables the T-Ship’s tactics but at the same time, allows opponents to defend against the T-Ship if they have Temporal Sensors. The Temporal Sensor is a prerequisite technology to the T-Ship technology, which allows short movements of the T-Ship into the immediate past or present, and spatial movement to points within the range of the Temporal Sensor, while protecting the time sense of the crew onboard. It is all very strange. Don’t close your eyes now.

- **Temporal Sensors:** Like sonar and radar, and any other detection technology, it is capable of being used on the offense and the defense. If a Temporal Ship can use the Temporal Sensor to see a short distance into the future and the past, then the Temporal Ship’s opponents can also use it to defend in the same way. It is suggested then, that Temporal Sensors would become a key component of fleet and colony defense, perhaps in the form of a special Temporal Sensor ship, or as expensive permanent enhancements to warships, or in colony defense, as a Technological Device protecting the system. You only need one at a location.

“In critical moments, men sometimes see exactly what they wish to see.”

– Acting Captain Spock, ST:OS “The Tholian Web” (1968)

How to Make Friends Over Tea: Temporal Ships are warships that have the limited ability to move about in local time, short distances into the future and the past. This gives them a huge tactical advantage over other ships that cannot move about in time and opens whole new areas of combat possibilities. However, T-Ships are very expensive compared to their normal counterparts, and the ability to move about in time takes quite a bit away from their firepower. T-Ships may not be constructed until the Temporal Ship Patent has been successfully completed.

The limitation of localized tactical movement in time is a key component to being an acceptable temporal technology in GGDM; the T-Ship’s time shifting ability is not enough to disrupt the Regular Turn sequence, it cannot undo turns or Power Activations or News Events, it cannot go back to the beginning of the universe. Nor can it erase anything more than five minutes in the past. The entire displacement of the T-ship exists within a single Combat Round.

- **T-Eras:** Theoretically, temporal technology sufficient to make a T-Ship could be available in any Era (after a successful Stardrive Patent), so T-Ships could appear in the 1st, 2nd or 3rd Eras. It must also be assumed that Stardrive does not interfere with Temporal Technology.

- ✓ As noted in Assumptions of Light, 1 Stardrive, p. 781, *supra*, FTL Stardrive (or anything around even half-light speed), implies necessarily some kind of temporal abrogation. The Concierge may also consider 1st Era Warship Existential Patent a predecessor requirement for T-Ship.
- ✓ As discussed in Terminus, 1 Temporal Technology, p. 801, *supra*, the 4th Era does not automatically equate to Temporal Technology, and thus, Temporal Technology is not specifically limited to the 4th Era.

Like Era Warships, Carriers, and Fighters, T-Ships do not receive the benefit of any automatic Era progression, and a new Patent must be designed for each Era of T-Ship. Temporal Ships should be very expensive to construct and strain the limits of most positions.

- T-Bones: T-Ships generally may receive the benefit of all defensive technologies available to their owner, unless they are deemed incompatible with the T-ship technology, for example a cloaking device may require too much power or may interfere with the temporal fields.

Offensively, they receive the benefit of all offensive and weaponry technologies, except that T-Ships may reasonably be prohibited from carrying or using the more potent weapons due to energy or because the weapons malfunction or become unstable in the temporal field; mainly, Temporal Ships will need to use energy conservative and less exotic or field disruptive weapons available in their time.

It's really a question of cost and effectiveness, and how much the T-ship will derail the game. Imagine a T-Ship Death Star? The Death Star is the biggest, baddest, most potent military unit in the Star Wars universe, why would it need to be a T-ship since nothing can stop it from going wherever it wants? But of course, a small T-ship could appear and go right down the uncovered vent with no possible pursuit!

- Dark Tea: Because of the peculiarities of the operation of a T-Ship, T-Ships have one more turn of Operational Flight Limitations (OFL) and Operational Supply Limitations (OSL) than normal ships (see 3 Movement, pp. 855-856, *infra*). However, in order to be resupplied, they must give up their temporal abilities for the Regular Turn or Combat Round of resupply, and become just regular warships, and are thus vulnerable to normal attacks. Unlike normal ships, T-Ships do not automatically reset their Operational Flight and Supply Limitations when they arrive at a supporting colony, thus T-Ships are not automatically revealed.
- T-tection: The presence of T-Ships in a system is never revealed to other positions until they either initiate or join a combat, they are revealed by a Temporal Sensor Array, or if they fail their Surreptitious Entry of the system or took a resupply when others are present.
 - ✓ Most baseball fans wouldn't think about what happens if a player is on base when it is their turn to bat – because it can't happen unless you have less than four kids on each team in backyard baseball. Our backyard games featured lots of 'ghost runners' and were mostly a pitching and hitting exercise with two or three kids on each side and not much room to actually hit the ball. So, I am theoretically standing on second base (in my ghostly image) and at the same time, standing in the batter's box swinging at pitches I can't possibly hit, being thrown from about 30 ft. away. Or maybe it was actually my ghost in the batter's box? Which explains a lot. Someone was supposed to be keeping track of it all, but no one ever really knew the score. There was always a lot of arguing.⁴

*“One particularity of quantum physics, however, is that this smearing, clouding, and rippling doesn’t merely happen over space, but time as well. This can be seen demonstrated in the famous ‘quantum eraser’ experiments, which indicate that quantum particles act as if they go out of their way to avoid paradoxes, in ways which would require they ‘knew’ what happened in the past. There have been countless attempts to explain the strange consistency of quantum phenomenon in these strange examples, but basically, it is as if quantum particles ‘know’ what we are going to do beforehand, and take this into account to make sure they don’t do something which would violate the often already paradoxical seeming, yet nevertheless consistent, laws of quantum mechanics. **In many senses, the paradoxes only arise if we view the quantum world with our everyday, more linearly temporal lenses, similar to the way in which Looper appears inconsistent from a more traditionally linear temporal point of view.**”*

– Christopher Vitale, “Collapsing the Fuzzy Wave: Rian Johnson’s ‘Looper’ (2012), Quantum Logics, and the Structures of Time Travel Films,” networkologies (blog), written in 2012, updated and reposted, October 31, 2014 (emphasis added)

What to do with Paradoxes: Indeed! A ship was destroyed at 11:00 a.m. because it was sighted by a T-Ship at 11:05 a.m. Every time a T-Ship attacks (or even acts) it creates a paradox, even if the target is not destroyed. The sorts of paradoxes created by T-Ships exist in two parts, the T-Ship crew who remembers things that never happened, and the location where the attack occurred. Any time the Concierge detects that a paradox has occurred, it should at least be recorded, in pairs, the location and the actor. If the T-Ship survives the action, it will invariably move away, both spatially and temporally from the site of the act, and eventually leave the system probably. The two points, however, should probably be considered to remain connected.

- ✓ Merriam-Webster online dictionary at *paradox*: **2:a** a statement that is seemingly contradictory or opposed to common sense and yet is perhaps true.

The preceding discussion is one that is seemingly contradictory or opposed to common sense, yet is perhaps true. A temporal paradox is created by causality running against the direction of time. For example, if an enemy ship were spotted at 11:00 a.m. and destroyed at 11:05 a.m., that would be just normal intercept and destroy combat. It is the unidirectional experience of time that creates the paradox; consider then the situation with the Chinese general at the end of the movie *Arrival* (2016)? A pre-cognitive or post-cognitive psychic is a walking temporal paradox.

T-ships are capable of creating paradoxes (and general cosmic havoc) without attacking other ships or anything else. The list of situations is probably endless, but an example might be if the T-Ship were sent to surreptitiously extract an agent from an alien planet. The T-ship spots the agent’s fleeing ship because it is being pursued by enemy patrol ships. The T-Ship slips back in time, and intercepts the agent’s ship before it is spotted by enemy patrol ships, rescues the agent and slips away. Have a nice paradox day.

- ✓ The card game *Chrononauts* features an “Uber-Paradox” in which, if WWII occurs as a result of the Cuban Missile Crisis, all of the subsequent history is wiped out. What makes it a paradox is that all of the player’s agents were born in the subsequent history and thus could not exist, but do. All of the player’s agents, except one, that is: One of the player agents is an intelligent time-travelling cockroach from the future, whose species survived and were raised to intelligence by the nuclear war, so its objective is precisely to cause WWII and erase the other timeline. GGDM is not, of

course, designed for that sort of play, whereas, Chrononauts is... it's like trying to turn a straight head screw with a hex wrench. When I was young, I used to hear frequently that only cockroaches would survive WWII because they are radiation resistant, how many kids know that now?

- Cosmic Conundrum No. i: The Concierge should note all paradoxes, but what happens or doesn't happen as a result is entirely within the purview of the Concierge. We are after all in the outermost limits of science-fiction territory, bordering on the lands of horror, irony, manic, hysterical and mystical. Perhaps there might be an effect on the crew who remembers things that never happened (are they nuts)? Or perhaps it just doesn't bother sapient that much? Most likely, machine intelligences would not handle paradoxes well.
 - ✓ This is the explanation given in the sequel 2010: The Year We Make Contact (in which Kubrick had no interest), for HAL 9000's behavior in 2001: A Space Odyssey – that HAL 9000, who is incapable of error, was ordered to lie – to provide incorrect information – to the crew of the Discovery One about their mission to Jupiter. This causes HAL 9000 to begin making errors and act irrationally; the AI computer has a paranoid mental breakdown.

Perhaps the location of the attack becomes some kind of rift or anomaly in space, does it move and grow, or can it be marked and avoided? If it is a marked place to be avoided, some nutjob will try to go there (like kids who sneak into a haunted house⁵), perhaps looking to change their own past, speak to the dead, or pry a mystical secret from the universe. Does the paradox or multiple paradoxes eventually effect the planet or starsystem? Maybe a temporal paradox is like a rock sticking out of the water interrupting the flow of time on the surface of the hypersphere?

- ✓ “Time travel is damage, it's like a tear in the fabric of reality. That is the scar tissue of my journey through the universe. My path through time and space. From Gallifrey to Trenzalore.” – Dr. Who, “The Name of the Doctor” (2013)⁶

Ha! You thought I was going to tell you what to do about temporal paradoxes in GGDM!⁷

- ✓ Two examples of non-temporal paradoxes are the famous Zeno's Paradox and the Dishonest Person Paradox. The latter shows that when a dishonest person is honest, he does not become an honest person, whereas an honest person who sometimes is dishonest, is labeled as dishonest.
- Cold Case: We all look back on our lives, remembering things that happened a generation ago, or when we were children, or, for some, remembering acts of two generations ago. The television series Cold Case (2003-2010) played to this, Cold Case was about regrets. Obviously in looking back on events, we have a much different view of the events now than we did 10, 20, or more years ago; we see the situation or acts more clearly now. Ours is, according to some interpretations of physics, simply one of many possible time lines, each branching off from each decision (e.g., Many Worlds Theory). Some acts we are proud of, some we regret very much as the years wear on (regardless of our reasons at the time), and some that were good turn to bad, and some that were bad now seem harmless.

Imagine for a moment that the loop could be closed just a bit, that for a moment in the past, we have then the understanding of our acts or situation as in the present, a moment of clarity.

- ✓ “Telling Cid to run into the cane field, Sara stands between Old Joe and her son. Realizing that Sara’s death will turn Cid into the Rainmaker, Young Joe commits suicide, erasing Old Joe’s existence, saving Sara and preventing Cid from becoming the Rainmaker.” – from Wikipedia article, “Looper (film),” captured October 27, 2019.

Of course, if that changes the act in the past, then it changes the future, and that would be a paradox (unless it was all predestined, which is suggested by the heptapod writing in *Arrival* (2016)). But it would also be a step toward perfection in each iteration of the past-future closure. Dr. Who keeps this process compartmentalized by keeping the personal timelines of each successive Doctor separate and suppressing memories of previous Doctors, but that’s kind of a cop out. Perhaps the closure I describe here is the human version of the heptapod continuum-language in *Arrival* (2016)? The trick with *Arrival* is that the viewer thinks they are viewing the movie in normal forward time – that Dr. Banks’ daughter had died before the movie.

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- ✓ “I read in an interview or article, I believe it was Rian Johnson discussing his film *Looper*, that time travel is messy and that no matter how hard you try there are going to be plot holes, loose threads or paradoxes. Time travel by its very nature is not logical, it’s impossible to make something illogical into something logical. So the idea with a time travel story is to make it seem like its logical, at least for the duration of the film’s running time. If I’ve done my job well you will suspend disbelief and just accept the story.” – Rickey Kennedy interview, Dylan Levy, “AFF Interview: Writer/Director Ricky Kennedy, *The History of Time Travel*,” October 20, 2014.
- Wir müssen wissen – wir werden wissen: My thinking about how to define emergences has lead me to the same idea as paradoxes; that they are emergences only when viewed through our limited linear temporal lens (that is, ‘barrier’). It is also the same problem as quantum physics, it is one of framework. If this makes sense, then emergences share some of the same traits as paradoxes. To some people, that makes the problem automatically unsolvable (*Ignoramus et ignorabimus* – Emil du Bois-Reymond) but I think it is worth at least a book length dissertation (that no one will read). What if emergences are the results of paradoxes that we cannot yet comprehend or see? How else would a paradox resolve? Thus, the succession of fracturing of the universe described previously (see *Order of Genesis*, 1 Order, p. 522, *supra*; *Fourth Frame*, 1 Entropy, p. 226, *supra*) is likely ‘baryon-like’ groups of paradoxes, though I am not sure which came first, did the paradoxes cause the fracture (as suggested in *Big Bang Theory*, 1 The Big Bang, p. 2, *supra*) or vice-versa? Perhaps it was a feedback loop?
 - ✓ The 44-minute sci-fi short film, “Destroyer of Worlds” by Samuel Dawes (The CGBrothers, June 30, 2019) presents a very interesting vision of a paradox: The dictatorial time-travelling regime of the future encountered a ‘barrier’ that was ‘rapidly approaching’ from the future, which they could not leap past. They kidnapped the man who invented the equation leading to time travel (and his son as a hostage) to solve the barrier problem. What they did not realize was that the ‘barrier’ was the paradox of their own existence: due to an event in the past which they inadvertently created, their future timeline would terminate at the barrier when it reaches their current time. The barrier idea is nicely intuitive to those of us who experience time in a linear way. I highly recommend the video.⁸

- ✓ I have tended to favor ideas which are illustrative and intuitively grasped, for example, Mr. Case's four orders of natural phenomenon, or the paradox as a time barrier, *ut supra*. In physics, this would be evidence of an ignorant mind, of my childish intelligence, as physics discarded the necessity of intuitive-illustratability at the Bad Nauheim Debate in 1920; illustratability was a barrier (of our limited physical existence) which physics had to leap beyond to become modern physics.⁹ Modern physics is a skyscraper built of mathematical concepts and the debate on that issue is closed in physics, except for science educators (e.g., Kate Becker) who are trying to find a way to explain it to the public and science-fiction authors who are trying to tell a story.

“Maybe you just clean carpets. If you do, you're lucky. You're gonna live a long, happy life. But if you other guys are out there, if you're picking this up, forget about the Army of the Twelve Monkeys. They didn't do it. It was a mistake. Someone else did it. The Army of the Twelve Monkeys is just a bunch of dumb kids playin' revolutionaries. Listen. I've done my job. I did what you wanted. Good luck. I'm not coming back.”

– Cole (Bruce Willis), *Army of the Twelve Monkeys* (1995)

The Cole Loop: Cole knows they are not going to “live a long happy life”; the pandemic is starting. The Cole loop is a classic, the protagonist Cole, as a little boy going through airport security with his parents, saw his future-self killed in the airport terminal. Therefore, he became a fixed point, of sorts, he could not die of the global pandemic that killed his parents and 95% of humanity in a year or two – because he had to survive to be sent back in time and killed in the airport as an adult. But at the same time, he apparently didn't know or remember seeing himself killed, or what happened at the airport, otherwise, his adult self might not have gone to the airport that day.

- ✓ The Army of the Twelve Monkeys didn't do it, but they inadvertently provided the opportunity, they were the agents of chaos, the historical accident that tilted the system.

“If you object to the notion of 14th-century villagers finding a way to travel forward in time 600 years...well, in the present day, we haven't invented time machines either.”

– Gavin Edwards commenting about *Navigator: A Medieval Odyssey* (1988), “Future Tense: The 20 Best Time-Travel Movies,” *Rolling Stone*, May 20, 2014

Endnotes.

¹ Commentary: I believe that I must have designed the Temporal Ship technology sometime in the summer of 2001, as I cannot find any reference to it in the old game files before that time (my current game design files in MS Word only go back to early 1999). I started designing this game in early December 1992 using a program called 1st Word on an Atari 1040ST machine that I had bought in the summer of 1989. I also spent thousands of hours playing Time Bandit on my Atari using keyboard arrows and the space bar as controllers. I had to convert the burgeoning game files to ASCII format and save them to disc in October of 1997 when I moved and left my old computer behind. From the fall of 1997 to approximately June 1999, I designed this game on a Brother notebook, and in June 1999 converted the files again to ASCII format to bring them over to my new generic no-name Windows 95 PC (from a

mail order company in Texas) where they were converted to MS Word documents. The Word documents have progressed continuously through MS Word/Office versions to the current time thanks to backward compatibility.

² Citation: <http://www.rochester.edu/newscenter/watch-rochester-cloak-uses-ordinary-lenses-to-hide-objects-across-continuous-range-of-angles-70592/>.

³ Commentary & Citation: The History of Time Travel (2014, written and directed by Ricky Kennedy) which I found on Amazon Prime by accident is a movie that should have won major awards (it won a few film festival awards), but barely even registers in Google searches, which translates approximately to it was barely noticed (since Google is always geared to what is popular). It received only a 6.7 on IMDB, much less than many other louder dumber big budget movies. It is almost conspiratorial the silence surrounding this faux documentary or mockumentary... As you can guess, I highly recommend seeking out this intelligently-made film and watching it when you are alone and can pay close attention!

- ✓ I added the director's name above because that slightly improves the Google search results. I found a few minor reviews (i.e. no major film critics) and the following interview from the Austin Film Festival 2014: <https://austinfilmfestival.com/news/2014/10/20/aff-interview-writerdirector-ricky-kennedy-the-history-of-time-travel/>. Otherwise, there is no discernable internet discussion (some reviews, no forum discussions) of this clever movie gem five years later, even from the time when it was first released.

⁴ Commentary: The one time I actually was standing on the cardboard piece that was second base, I took a baseball in the eye. The batter got mad at the pitcher and threw the ball as hard as he could back at the pitcher, who ducked out of the way. The batter and pitcher were brothers, and second base, where I stood not paying attention, wasn't far behind where the pitcher stood.

⁵ Commentary: I enjoyed Stephen King's Rose Red miniseries (2002). Also, there is a scene in one of Stephen King's Dark Tower books where Roland, Eddy and company sneak into a haunted house; the haunted house tries to eat them. Yeah. Because, you know, it's a Stephen King book. 😊

⁶ Commentary: More than most Dr. Who episodes – in which the TARDIS is just a transport box to a past or future on Earth, a place or time related to Earth, the present Earth, or to some distant planet at an unknown time – the two-part story told in “The Silence in the Library” and “Forest of the Dead” (2008) is a true time-travel story. Dr. Who meets his future wife, Riversong, daughter of future companions he has not yet met, on the day she ‘dies’ in the library. She knows him, he doesn't know her, having never met her in his personal timeline, and she has his sonic screwdriver from the future, which he does not understand. In the end, to save her essence into the datacore, he must figure out why his future-self gave his future-wife his sonic screwdriver – he never gives anyone his sonic screwdriver (there is probably a ribald joke in there...) – he has to solve a problem that he doesn't even know about yet, but that his future-self solved in hindsight with all the time in the universe to think it.

- ✓ “Everybody knows that everybody dies. But not every day. Not today. ... Some days are special. Some days are so, so blessed. Some days, nobody dies at all. Now and then, every once in a very long while, every day in a million days, when the wind stands fair, and the Doctor comes to call. Everybody lives.” – Riversong end narration, Dr. Who, “Forest of the Dead” (2008).
- ✓ “Everybody Lives” is a reference to the end of the Dr. Who episode, “The Doctor Dances” (2005). It also relates later to Riversong's lecture of Dr. Who at the end of “A Good Man Goes to War” (2011) showing the increasingly hostile arc of the main character from 2005 to 2011. The “Pandorica Opens” (2010) was an earlier warning in the character arc.

⁷ Commentary & Citation: In the B-grade movie The Time Travelers (1964), four people from 1964 are placed via time portal (probably the inspiration for Star Trek's “City on the Edge of Forever” (1967)) 107 years in the future, in the year 2071 where mutants roam a dying planet following catastrophic global thermonuclear war. Notably the time travel did not involve any spatial movement; they landed on the same spot on Earth in the future (ignoring the obvious problem with orbital mechanics). They discover an underground civilization of technologically-advanced normal humans, and about halfway through the movie (which is *twice* as long as it needed to be), it is finally resolved to construct a time portal back to their time and warn the world so that this doesn't happen.

Finally, one of the smarter scientists mentions the obvious paradox. However, such a paradox depends on whether they are successful in preventing the events that caused the bad future. Perhaps they can go back but will be ignored, ridiculed, shunned and the war happens anyway? Maybe the universe changed and they cannot replicate the results of their initial experiment or explain why it worked? The paradox depends on perfect communication and

2 Temporal Technology – Temporal Ship

absolute effectiveness (e.g., as in horse betting results, like in the 2014 movie *Time Lapse*, but this is not quite the same type situation), both of which are non-existent in this universe. Or perhaps they inadvertently cause the war through their radical ineffectiveness at trying to prevent it? Perhaps they are the founders of the group of “far thinking scientists” mentioned in the dialogue (a common idea of the time, e.g., *Ark II* (1976), *Logan’s Run* (1976), *The Morrow Project RPG* (1980), *Jeremiah* (2002)) who established the Colony which will launch the starship in 2071?

- ✓ The movie, the usual preachy mid-60s sci-fi movie (it was either that or creature features), tries too hard to portray the future humans as normal, industrious and likeable (and tries ineptly to inject humor and romance) while ignoring the obvious: Why don’t they use androids to build androids instead of humans doing the job – the movie shows the androids constructing the time portal components later and packing supplies to go on the ship. And how are they going to fit everyone into that small ship – meaning that the majority of the population, the workers building the androids by hand, will be left behind to die or be slaughtered by the mutants and apparently they accept that? The film is ambiguous on that point, understandably. The movie throughout screams of stark Aristotelian class division (see *Echoes of Aristotle*, 2 Colleges, p. 474, *supra*): The cloister of brilliant, educated scientists upon whose future humanity depends naturally rule over everyone else (i.e. the non-scientists workers) who are vaguely bestial, happy-go-lucky, and mindlessly compliant. And they are going to brute force launch a starship from the surface of the Earth to Alpha Centauri? Yay!
- ✓ Of course, the movie never gets to that point – you saw it coming, the mutants break in just as the ship is ready to launch and the portal ready to operate. The android defenders are incredibly impotent and the scientists are inept and uncreative in defending. The special effects of the ship failing to launch and falling over (with people onboard) are underwhelming, either because lack of knowledge (e.g., the Nedelin catastrophe in 1960 and this movie was made before the Soviet N-1 Rocket fell back to the pad on July 4, 1969) or just because they didn’t have the money and technology. The defenders are left with just the time portal to escape the attacking mutant invaders (a slaughter that bears similarity to the later *Beneath the Planet of the Apes* (1970)) – and this is where the movie takes an interesting, unexpected turn!

⁸ Commentary: Most of the intelligent, well-thought-out science-fiction literature comes from outside of Hollywood and is made on relatively low budgets. I especially prefer to watch indie and foreign-made time-travel stories. The economics of Hollywood is the barrier which it has not been able to penetrate – Mad Max director George Miller pointed this out in his 1985 interview with Anne Billson, and 35 years later they still have the same problem, but now, YouTube has given young writers not-of-Hollywood a place to play with ideas on low budgets, in addition to the already growing indie film production companies and the growth of other non-theatre or television video streaming services (e.g., Amazon Prime, HBO, Netflix, Hulu, etc.). This barrier may eventually and currently is, extinguishing Hollywood ‘as we know it’ forcing the market to adapt.

- ✓ I had an executive friend long ago who had an advanced degree in economics; he was also an aspiring board game designer who kept track of the number of hours he spent on his game design projects. One day during a car ride, around perhaps 1993 or early 1994, he asked me how many hours I had spent on my ‘game design’ (which at that point was an ‘advanced Stellar Conquest’ rules set) and I had no idea. And that was over 25 years ago. I always felt the limit with his approach to game design was that he cared about how many hours he worked on it, his problem was overthinking the economics. Had GGDM been made with the same approach (or with the approach of in-house game company ‘works made for hire’ by salaried employees), it would not have ever been finished, there would have been deadlines, time tracking.

⁹ Citation: “I would like to say, that what humans consider as illustrative or not, has changed. The view about illustrativeness is so to speak a function of time. I’m of the opinion, that physics is conceptual, not illustrative. As an example for the changing view about illustrativeness, I remind you of the view on illustrativeness of Galilean mechanics in different periods.” – Albert Einstein at the Bad Nauheim Debate in 1920 (https://en.wikipedia.org/wiki/Translation:The_Bad_Nauheim_Debate).

- ✓ “Thus one cannot use such a changing concept for or against the theory. ... To let decide the ‘common sense’ in this question, is no less problematic as it was before in respect to illustrativeness.” – summary by K. Körner. *Id.*

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“A method for employing sinusoidal oscillations of electrical bombardment on the surface of one Kerr type singularity in close proximity to a second Kerr type singularity in such a method to take advantage of the Lense-Thirring effect, to simulate the effect of two point masses on nearly radial orbits in a 2+1 dimensional anti-de Sitter space resulting in creation of circular timelike geodesics conforming to the van Stockum under the Van Den Broeck modification of the Alcubierre geometry (Van Den Broeck 1999) permitting topology change from one spacelike boundary to the other in accordance with Geroch’s theorem (Geroch 1967) which results in a method for the formation of Godel-type geodesically complete spacetime envelopes complete with closed timelike curves.”

– Abstract, Method of gravity distortion and time displacement, US Patent Publication No 20060073976 A1, retrieved from Google Patents (<https://www.google.com/patents/US20060073976>) on October 20, 2017 ¹

“Violating Laws of Man & Nature”: ←I got that from a Superman movie... *GGDM Patents are different from real world patents:* You must have the patent before you can build it, it is assumed to be useful, and it can violate just about any scientific laws desired, because GGDM is – after all is said – a space-opera setting! Let the tom cats sing!

“As our knowledge expands what was formerly science fact frequently becomes science wrong, sometimes badly wrong. Does that mean that someday perpetual motion will be a reality? Who knows. I am not holding my breath or taking any bets, but there are a lot of highly intelligent people constantly trying to unlock the mysteries of the universe and with so many new discoveries it seems science continues to encroach upon the impossible. Just think about cloaking devices and a transporter a la Star Trek, which are already to some extent realities.”

– Gene Quinn, “The Patent Law of Perpetual Motion,” IP Watchdog, October 11, 2011 ²[Full Quote]

Surreptitious Entry: One of the primary abilities of the T-Ship is its ability to enter an occupied starsystem undetected and wait hidden for the perfect opportunity to attack. Upon arrival of the T-Ship at a destination system the T-Ship must attempt a Surreptitious Entry of the system.

The Surreptitious Entry attempt is made even if the owner of the T-ship does not intend to enter surreptitiously. It is the nature of T-ships. If it is desired to reveal the presence of the T-Ship, the owner can subsequently do something that would reveal its presence in the system. As discussed *ut supra*, T-ships do not automatically resupply when upon arrival at a supporting colony (see Free Resupply, 3 Construction, p. 678, *supra* and Supporting Colony, 1 Movement, p. 840, *infra*), so are not revealed.

- **Riding the T:** The basic chance of a successful Surreptitious Entry is 50%. Ten percent is subtracted from the base chance if the T-Ship by entering the system is also exploring the system for the first time, and the base chance is increased by 20% for a 2nd Era T-Ship and by 40% for a 3rd Era T-Ship.

A separate Surreptitious Entry roll must be made for *each* T-Ship entering the system, *each time* the system is entered surreptitiously. A successful Surreptitious Entry result means that the T-Ship has entered the system without alerting those already in the system (if any), and thus others present will not be informed of the arrival of the T-Ship; failure means that the T-

Ship has been detected and its arrival must be announced to anyone with ships or colonies currently in the system.

- ✓ The detection rules in GGDM are very generous; in reality finding a ship (unless it is planet sized or bigger) in system space is a needle-in-a-haystack endeavor. However, we must assume detection abilities have advanced as much as the rest of technology in the GGDM universe; if we can have FTL speed, then we can have generous system space detection abilities. See also ABBA Arrival, 2 Information, p. 1340, *infra*.
- Twilight Presence: In many cases, a ship with a ‘cloaking device’ can do approximately the same as a T-Ship, but never quite as well. A ship with a cloaking device *may not* Surreptitiously Enter a system, however both T-Ships and ‘cloaked’ ships may remain undetected in a system if they arrived before anyone else currently in the system, *or if the T-Ships were successful in a Surreptitious Entry of the system*, and are currently within their Operational Supply Limitations (OSL). T-Ships and cloaked ships that are beyond their Operational Supply Limitation and who must receive supplies from other ships or colonies may not maintain a surreptitious presence in the system if anyone else is present when they are resupplied, but may remain in the system if they are being supplied and may use Ambush Mode in combats if they are warships (cloaks could also conceivably be used for non-warships).
 - ✓ Cloaking is never as good as time shifting for avoiding detection – because the ship is still there behind the cloak. It might also be assumed that cloaking doesn’t work at FTL speeds (except apparently in Star Trek, see DS9 “The Die is Cast” (1995) information from Memory Alpha wiki), though GGDM does not generally provide for FTL tracking. This is intended to be a rule that must be incorporated into any Patent for a Cloaking Device.
- Trip Wire: A surreptitious presence may not be maintained if anyone attacks any Friendly or Naturalized colony (except Raid or Strike, see World In Flames, 4 Carriers & Fighters, p. 1083, *supra*), the Capital Colony,³ or any Colony Ships or Cargo Ships⁴ owned by the owner of the ships maintaining a surreptitious presence in the system.
 - ✓ If the attacker commenced a Colony Combat against a colony on the belief that there were no warships in the system, and there are warships surreptitiously present in the system, the Colony Combat is cancelled and automatically becomes a Ship Combat between the would-be attackers and the ships whose presence was previously hidden.
 - ✓ If a:
 - 1) Ship Combat is initiated or ongoing in a system, or
 - 2) A Colony Combat is initiated against any colony that is not described above (including non-sovereign colonies), the T-Ships and/or cloaked warships *may join* the Combat at the beginning of any Combat Round.
 - ✓ If the owner of the hidden ships was not already a participant in the ongoing Combat, the Combat Power must be activated to initiate combat as described in Those Who Stand Looking, 3 Combat, p. 973, *infra*. They may also remain out of the Combat indefinitely but may later be automatically forced to intervene as described above.

T-Ships and cloaked ships are particularly effective in combination with the Combat Alert purpose of the Combat Power activation.

- **Crossing the T:** T-Ships or cloaked warships which are in a system surreptitiously or which enter a system surreptitiously may initiate any combat against any other known unit or colony in the system as if they were normal warships. All normal procedures are followed for the combat, however, the attackers may be considered in Ambush Mode (see 7 Combat, p. 1038, *infra*).

“Atom (obsolete): The smallest mediaeval unit of time, equal to fifteen ninety-fourths of a second.” – Wikipedia

Time to Get Medieval: Easter is a solar-lunar holiday in the Julian calendar tradition, and its drift also part of the reason for the Gregorian Calendar, introduced in 1582, the most widely used civil calendar in the world.

- ✓ “The atom was a unit of time referred to in medieval philosophical writings as the smallest possible division of time. The earliest known occurrence in English is in Byrhtferth’s *Enchiridion* (a science text) of 1010–1012, where it was defined as 1/564 of a *momentum* (1½ minutes), and thus equal to 15/94 of a second. It was used in the *computus*, the calculation used to determine the calendar date of Easter.” – Wikipedia (Easter, 2016).

“It’s sort of a funny question isn’t it, asking how we want to be remembered after we are gone. No one knows how they are remembered, nor does anyone ever experience it. Yet for some reason, we still ask ourselves these kinds of questions. It’s a paradox really, to want something after I am dead, but to only be able to really want anything while I am alive. The question is really more about what I want to imagine while I am alive, isn’t it?”

– Narrator, “Eventually, Everyone We Know Now Won’t Be Known By Anyone,” Pursuit of Wonder YouTube Channel, March 4, 2020 ⁵

The Insistence of Memory: The ability to be elsewhere – in memories, or anticipated futures, or literary construction of places and times (and memories of those literary places, people, and times) that have never existed and never will – of suspension of disbelief – is a key element of sapience. One of the primary mental abilities of humans is to be somewhere else, somewhen else without moving – we call it dreaming, foresight, projection.⁶ This is the basis of *Dune*’s (1965) navigator guild, the ultimate form of moving without moving.

- ✓ Since I have observed cats in twitchy REM sleep on my lap, are they also sapient, dreaming of pouncing, chasing, fighting? Sapience then is a gradual fuzzy thing that dawned over life through evolution, through time, not a zero or one, on or off thing.

A friend of mine states that “everyone wants to be remembered.” I disagree. Can anyone make a case for the statement?

Wanting to be remembered should not be confused with the fact that *we will be remembered* (for a short while), by virtue of our existence and causality, whether we want to be or not.⁷ If the argument is being offered that everyone wants to leave a legacy (“to be remembered”), legacies don’t need names.⁸ Does anyone remember who invented bread? Democracy? The sword? No, but it is part of our culture, legacies without a name. We know the names of one millionth of one percent of the billions of Anatomically Modern Humans who have lived. Some, we know only

names from references in ancient manuscripts and not much else. But our civilization is their legacy, without names attached.

- ✓ Prof. Antonio Damasio (Dept. of Neuroscience, University of Southern California), “has suggested that consciousness, whether the primitive ‘core consciousness’ of animals or the ‘extended’ self-conception of humans, requiring autobiographical memory, emerges from emotions and feelings.” (Jason Pontin, “The Importance of Feelings,” MIT Technology Review, June 17, 2014).

Legacy is a product of the *extended self-conception* of human consciousness and *autobiographical memory* (and perhaps sapience), it is the idea of our self beyond our self, and beyond our inevitable death. It is our attempt to leap the barrier of our own mortality. It is through existential vanity (feelings) only that we need to attach our name (which will be meaningless anyway in two generations hence) to our legacy, having our name attached to something extends an illusion of autobiographical memory beyond death. Filmmakers love to use this trick at the end of films where the hero died but his memory lives on in place names (e.g., the Gordon Memorial College and Kitchener School of Medicine in Khartoum).

- ✓ “Perhaps being remembered isn’t that important after all if most people are not remembered for what is important.” – Narrator, “Eventually, Everyone We Know Now Won’t Be Known By Anyone,” Pursuit of Wonder YouTube Channel, March 4, 2020.

Suppose for a moment that my name were attached to this work as the author, and some future historian developed a cockeyed theory that I am not the author of this original work, that I didn’t spend a lifetime writing it, and that some sapient AI wrote it or that I channeled alien or ancient intelligences, or that my cats actually wrote it in quantum time. Does it matter, or do the concepts matter?⁹ Historians spend a lot of time arguing about trivial things and don’t often stop to wonder why it matters this or that, in the age of scientific empiricism, historical accuracy and absolute chronology have become the life of history by themselves.

- ✓ “I may remind you that history is not a branch of literature. The facts of history, like the facts of geology or astronomy, can supply material for literary art; for manifest reasons they lend themselves to artistic representation far more readily than those of the natural sciences; but to clothe the story of human society in a literary dress is no more the part of a historian as a historian, than it is the part of an astronomer as an astronomer to present in an artistic shape the story of the stars.” – J. B. Bury, “The Science of History,” *Selected Essays*, 1930 (text available on Google Books).

My legacy doesn’t need my name attached and thus I do not need to be remembered. Wouldn’t it be interesting if history were taught without names? Professor Moon H. Jo, who taught my Criminology class at Lycoming College, said this to me one day; that I was good at Criminology because I focused on concepts, and not on memorizing names, dates and theories like many other students. If history were taught without names, the focus would have to be on concepts; grade school test questions such as, ‘Who became Emperor of France in 1804?’ would be obsolete.¹⁰

- ✓ We honor our ancestors and the forefathers of the branches of our knowledge for their achievements. So what. They are dead, what does it matter to them? No, these honors, like funerals for loved ones, are for the living, the now, to provide history and context and remembrance, to shield us from glimpses of the Existential Void. They also allegedly inspire youth to excel and change our world, but there we run into a

mire, because at the same moment, intelligence and education are ridiculed, and simple-mindedness, fun, recreational drugs, and ignorance are promoted instead.

However, I do admit that evolution has left us with more than a bit of personal vanity with which we have alternately struggled and indulged, leaving grave markers (some bearing ‘*Eram quod es, eris quod sum*’ inscriptions),¹¹ statues and named buildings and streets. Additionally, being ‘remembered’ is also a necessity, to those who come after, in sovereign situations where legitimacy and authority depend on invoking continuity (e.g., Napoleon III of France),¹² to remind people who has been in charge for generations, or the spiritual authority of war heroes and philosophers, such as in modern religions and war memorials.¹³ But we don’t know those people for who they were, all information about them is bent toward what they did, not what they wanted or felt.

- ✓ I might, for all I know, be related to Attila the Hun, but I would never claim it even if I did know for certain as it would be completely pointless self-puffery.¹⁴ There is a form of mystical genetic legacy claims that drive me nuts. I had a stepfather who claimed to be ‘part Cherokee’ – probably total BS, a common BS line of many men in the 1960s and 1970s – which he apparently felt gave him an edge of intimidation and mystical ability. There was in recent years an advertisement for one of the online ancestry sites where a woman is holding a large portrait of George Washington, and it proudly proclaims that she discovered that she is a descendant of George Washington through the website. *So what.* It makes no difference in who *you* are.

No, the greatest legacy is not in having your name attached or remembered; the greatest legacy is in having the next generation stand on your shoulders (to be stood upon ☺), not ride on your shoulders (though riding on shoulders is ok while their age is still in the single digits). GGDM stands, for better or worse, on the shoulders of nameless multitudes.

- ✓ “To live for or care about being remembered is like planning your own birthday party on a day that you can’t go.” – Narrator, “Eventually, Everyone We Know Now Won’t Be Known By Anyone,” Pursuit of Wonder YouTube Channel, March 4, 2020.
- ✓ Hypatia of Alexandria defeated the ‘Saints’ of her time who would have completely eradicated the works of a pagan female teacher, mathematician and philosopher just for being such; she hid some of her original commentaries in texts she edited and that were published in her father’s name. For all of those millennia, only the concepts were important because no one thought badly of texts edited by her father (or bearing his name anyway), even though he also was also a pagan politician.

“Memory, you’re talking about memories!” – Harrison Ford, Blade Runner (1982) ¹⁵

“It’s a poor sort of memory that only works backwards, the Queen remarked.” – Lewis Carroll, Through the Looking Glass (1871) ¹⁶

“We all have our time machines. Some take us back, they’re called memories. Some take us forward, they’re called dreams.” – Jeremy Irons ¹⁷

Endnotes.

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¹ Citation: If your head hasn't exploded yet just reading the abstract: Continuing previous citation ... "The present invention relates to the use of technical time displacement devices, which operate by the modification of gravitational fields. These drive systems do not depend on the emission of matter to create thrust to take advantage of time dilation, but rather create a change in the curvature of space-time, in accordance with general relativity. This allows travel across topologies by warping space-time, to produce a topology change from one spacelike boundary to the other in accordance with Geroch's theorem (Geroch 1967)."

- ✓ Is this patent describing the Alcubierre warp drive?
- ✓ I assume that the Patent Office employs someone who can understand this?

² Commentary & Citation: "As a result, the district court referred the device for testing by the National Bureau of Standards ('NBS'), which all things being considered was a really good idea. After all, if one is going to say that the first law of thermodynamics is incorrect it might be a good idea to actually test the device and see if the claims and paper proof really add up to a real-life illustration of the faulty nature of the first law of thermodynamics.... What does this all mean? It means that it will be exceptionally difficult to obtain a claim on an invention that purports to produce more energy than it consumes, unless of course you actually have a working prototype that will when tested produce more energy than it consumes. Judge Pauline Newman ... was the Federal Circuit Judge who wrote the opinion in *Newman v. Quigg* and as I read what she wrote I get the sense that she chose her words carefully because she would not want to go down in history as one who wrote that perpetual motion machines are impossible, only years, decades or centuries later to be proven wrong.

The reality is that science fact and science fiction are dictated based on currently accepted understandings, whether they be true or not. As impossible as something sounds, what we understand as science fact is always bounded by our understanding of our surroundings. As our knowledge expands what was formerly science fact frequently becomes science wrong, sometimes badly wrong. Does that mean that someday perpetual motion will be a reality? Who knows. I am not holding my breath or taking any bets, but there are a lot of highly intelligent people constantly trying to unlock the mysteries of the universe and with so many new discoveries it seems science continues to encroach upon the impossible. Just think about cloaking devices and a transporter a la Star Trek, which are already to some extent realities." – Gene Quinn (Patent Attorney), "The Patent Law of Perpetual Motion," October 11, 2011, IP Watchdog.

- ✓ Thus, it would appear that, unless US Patent Publication No 20060073976 A1 violated some scientific law, there could be no impossibility objection. Having an actual working prototype is thus not necessary.
- ✓ Further, as explained in another article by attorney Quinn ("Understanding the Patent Law Utility Requirement," November 7, 2015), "Thus, perpetual motion machines are not patentable because they are not useful because they cannot exist."
- ✓ The utility threshold is otherwise very low and apparently US Patent Publication No 20060073976 A1 also met that burden.

³ Citation: See Capital Colony and Colony Politics, 2 Order, pp. 532, 538 respectively, and, World Powers Fall, 3 Government Titles, p. 617, *supra*.

⁴ Commentary: Obviously, the Archies didn't have any cloaked or T-Ships present, see Ghost Probabilities, 2 Temporal Technology, p. 818, *supra*.

⁵ Commentary: The legacy discussion was a difficult section to frame; it went through many revisions. It is an odd recurring theme that I find material related to my writings, expressions of a like mind, after I have written them; I discovered this Point of Wonder video *after* I had already filed for a copyright on GGDM.

⁶ Commentary: One of the most extraordinary feats of recollection in modern history occurred in the Elizabeth Smart kidnapping case when her younger sister, Mary Katherine was finally, after three months, able to identify the voice she heard while feigning sleeping in their room during the kidnapping as "Emmanuel," the man who worked for a day at the house six months before the kidnapping. "Emmanuel" was Brian David Mitchell.

⁷ Citation: "...OK, let's see... I guess that I'm confused again. Am I here, or am I there? I don't know. Over there, I'm everywhere. I know that. But here is connected to over there. Is that right? But then, where is the real me after all is said and done. Oh! There is no real me. I guess that's it. I only exist inside those people aware of my existence. But what about this me that I can hear talking right here and now? It's me, isn't it?" – Lain, Serial Experiments Lain, Episode 13 (1998).

⁸ Commentary: On the day that the country learned that Ariel Castro had committed suicide in his cell (September 4, 2013), there were many angry and confused articles. A lady columnist, whose article I cannot now locate, summarized his legacy succinctly: 'And no one anywhere, anytime, in any way, will miss him for any reason.' *Non*

homo. Ne hemō. And yet here we are, in a footnote to a legacies discussion, mentioning Ariel Castro. No one celebrated or mourned his death on the fifth anniversary. He probably didn't give much thought to his legacy. But he is in my memory, the memory of tens of thousands, millions, in the archive of human misery for anyone who looks.

- ✓ However, were Ariel Castro in the late Roman Empire, he might actually be deified, as was Commodus in 195 A.D. See discussion, Terminal Patients, 3 Disruption, p. 289, *supra*. This observation is offered, tongue-in-cheek, of course.

⁹ Commentary & Citation: Steve Jackson was allegedly fired from Metagaming for taking too long to design The Fantasy Trip RPG and because the final game was too complicated. In view of my Asperger's-like obsession with and the complexity of GGDM, that is richly amusing. Obviously, I am not applying for any game designer jobs. In 2017, he reclaimed ownership of the title through a provision of copyright law that allows authors to reclaim rights to their works after 35 years.

- ✓ “And the best thing, the very best thing of all, is there's time now... there's all the time I need and all the time I want. Time, time, time. There's time enough at last.” – Henry Bemis, Twilight Zone, “Time Enough at Last” (November 20, 1959).

¹⁰ Commentary: For an amusing example regarding names and legacies, look into the historical identity controversy of the 1920s novelist known as B. Traven, whose 1927 novel, The Treasure of the Sierra Madre, was made into a film in 1948 starring Humphrey Bogart.

¹¹ Commentary: Mary Ann Evans (d. 1880) is buried in a cemetery reserved for social outcasts. It was effectively, the Anglican Church saying, we hold the keys to heaven (I passed a local St. Peter's church recently whose sign in fact prominently displays images of two antique keys as if to suggest...), and if you won't conform to social pressures in your lifetime, we will have the last laugh and decide where you will be buried. It used to work apparently, but now no one is listening. Fortunately, in the time and place where I live, cemeteries are secular and commercial, very few churches are now in the cemetery business and thus, cannot decide where you will be buried or not. Mary Ann Evans, however, I suspect would be pleased by her post-mortem company, as she is buried next to George Henry Lewes (her lover), and near Karl Marx and the evolutionary biologist and political liberal Herbert Spencer (her friend). Birds of a feather are buried together, and chirp for eternity; the last laugh is only momentary.

- ✓ There is a large cemetery up the road from my house which sign proclaims it a “Roman Catholic” cemetery – internment in which I would assume is still controlled by the local Church; upon seeing the sign, I could not help but to think of a scene from Robert Heinlein's Job: A Comedy of Justice (1984) when the main character arrives at the heavenly gates for processing after the Rapture and is asked to which religion he belongs?
- ✓ Graves last as long as anyone cares, as long as the civilization remembers and thinks them important, after that, they must wait for an archeologist in 10,000 years. “[Prof. Tony] Walter says that typically a grave would be visited for about 10 years and after that a spouse has died and children moved away. ‘In Britain, America and in Canada, they came up with this idea of building large out-of-town cemeteries where people will be buried in perpetuity. And that's what's created the problem.’” – Julian Uzielli and Lara O'Brien, “What happens when cemetery space runs out?” CBC Radio, December 12, 2016.
- ✓ “As enemies of the state they are not entitled to a burial. They will be cremated in 7 to 10 days.” – morgue worker, The Man in the High Castle, “The Illustrated Woman” (2015).

¹² Commentary: Assuming for the sake of argument that the story that Edmund Ironside, who was King of England for about eight months in 1016, was assassinated in the privy by being impaled from below or assassinated in the privy by being stabbed or shot by a crossbow (there are several versions) – *is a fabrication*, what would be the reason? Edmund had lost most of England in a hard-fought campaign (in which he was wounded in battle) against Cnut the Great of Denmark, though he still retained the crown of Wessex where his family originated. The reason for the story most likely was to *degrade the memory and lineage* of Edmund Ironside, upon whom claims of his two sons or any pretenders might depend. Cnut was determined to eliminate all remaining rivals (including the king-maker traitor who helped his victory) even though a peace had been declared, and adding urgency to this was the agreement that if either Edmund or Cnut died, the other would be king of a reunited England and their sons would be heirs. Edmund Ironside died first, thus implicitly disinheriting his sons from the throne of England, and Cnut shipped his sons off to Scandinavia to be forgotten and where they would be no threat to him.

But, as history takes strange turns and roundabout routes, Edmund Ironside's sons went first to Kiev where they finished growing up in the court of the Grand Princess Ingegerd, daughter of the King of Sweden, then to Hungary where they fought in wars (one died there), and eventually the remaining son, Edward the Exile returned to England and died within a few days in 1057. But his son Edgar, grandson of Edmund Ironside, was king for a few days after Harold Godwinson was killed at the Battle of Hastings (1066). The family dispossessed of the crown again, Edgar

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fought in a revolt against the Norman king of England, then adventured and fought his way across Europe to Sicily then joined the First Crusade in Palestine (1096, capture of Jerusalem in 1099), while Edward the Exile's daughter, Edmund Ironside's granddaughter, Saint Margaret of Scotland, married Malcom III, King of Scotland, and became the ancestor of many Scottish monarchs, and later all English monarchs to the present day, the line merging with the descendants of William the Conqueror through a tangled dynastic bramble.

- ✓ “On hearing that Edward [the Exile] was alive, Edward the Confessor recalled him to England in 1056 and made him his heir. Edward the Ætheling [the Exile] offered the last chance of an undisputed succession within the Saxon royal house. News of Edward's existence came at a time when the old Anglo-Saxon monarchy, restored after a long period of Danish domination, was heading for catastrophe. The Confessor, personally devout but politically weak and childless, was unable to make an effective stand against the steady advance of the powerful and ambitious sons of Godwin, Earl of Wessex. From across the Channel William, Duke of Normandy also had an eye on the succession. Edward the Exile appeared at just the right time. Approved both by the king and by the Witan, the Council of the Realm, he offered a way out of the impasse, a counter both to the Godwinsons and to William, and one with a legitimacy that could not be readily challenged.” – from Wikipedia article, “Edward the Exile,” captured April 25, 2020.

¹³ Citation & Commentary: **Missy**: You know the key strategic weakness of the human race? The dead outnumber the living. – Dr. Who, “Dark Water” (2014).

- ✓ Since the population of the world has doubled from 3.5 billion to 7 billion in my lifetime (50 years), that is a really interesting question. A moment of thought about it spins off into definitions, starting dates, and best guesses, but since we have added 3.5 billion people in the last 50 years, the statement becomes much less probable. Of course, for every birth, there is a death... all those living now, will be dead in the blink of a galactic eye in cosmic time. But this could be an interesting ontological measuring stick for a species, obviously it is not supposed to be true of Time Lords from Gallifrey, but at what point does this become true of a species in the universe, and could this be an epochal dividing line as a species swings back and forth over that line? The universe is very old... This could be an interesting in-game measure for species.

¹⁴ Commentary: For the record, the gravesite of Attila the Hun is lost, no one knows where he was buried. We know surprisingly little about Attila the Hun, we do not know with any certainty his appearance, ethnicity, or language. Without either a body or certifiable relatives, it would be impossible to trace his genetic/familial descendants (anyone claiming to be a descendent of Attila the Hun is full of sh*t). This is not uncommon, the physical remains, burial sites, and descendants of most famous ancients, even Biblical figures, are lost. It has been common throughout history for rulers and elites to questionably claim descent from ancient famous people (for mystical reasons), without proof and with the impossibility of ever definitively disproving the claim. Genealogies were sometimes altered to make the appearance of descent from famous ancestors.

¹⁵ Citation & Commentary: When I was young, we used to watch the TV show, CHiPs. I remember eagerly turning on the TV or sitting down in the living room to watch CHiPs after a day of school and play. In 2016, I located some CHiPs clips on YouTube, they were short and there were only a few. When I watched them I was appalled at how bad the show was, I couldn't believe we used to watch this and think it was great television! Sometimes the memory of things is better left to nostalgia and not disturbed.

- ✓ Similarly, there were games I played long ago that were fun, but that feel the same way now as watching old CHiPs clips on YouTube, a few years ago, I played the Buck Rogers in the XXVth Century board game, a fun-times game from my youth which I hadn't played in nearly 20 years, and realized how bad it was; likewise, I am not eager to play again the great ancestor of GGDM, the Stellar Conquest board game, which would now be unbearably flat (and not just because of the game board). GGDM fits the gaming itch of those who have put away their youthful games and do not wish to return.

¹⁶ Commentary: The 1976 song, “Blinded by the Light” made famous by Manfred Mann's Earth Band is the Jabberwocky of rock n' roll.

¹⁷ Citation: “While most of these films make use of science fiction devices, however, travelling in time isn't merely something which happens in the domain of speculative fiction, for in a sense, memory and fantasy are always a form of interior time travel. From such a perspective, films which explore the depths of interior time, such as David Lynch's *Muholland Drive* (2001), or David Cronenberg's *Spider* (1999) can be thought of as films which use psychosis as the method to present time in the form of a shattered crystal, in which it is possible for people to encounter copies of themselves, sometimes exact and sometimes divergent, so many virtual avatars walking around within our heads.” – Christopher Vitale, “Collapsing the Fuzzy Wave: Rian Johnson's ‘Looper’ (2012), Quantum Logics, and the Structures of Time Travel Films,” networkologies (blog), 2012, updated and reposted, October 31, 2014.

SHARD: V. Cave Paintings

The Trumpeter Taken Prisoner

A TRUMPETER, bravely leading on the soldiers, was captured by the enemy. He cried out to his captors, “Pray spare me, and do not take my life without cause or without inquiry. I have not slain a single man of your troop. I have no arms, and carry nothing but this one brass trumpet.” “That is the very reason for which you should be put to death,” they said; “for, while you do not fight yourself, your trumpet stirs all the others to battle.”

Translated by George Fyler Townsend. Aesop's Fables (p. 69). Amazon Digital Services, Inc.

Maybe the Firvulag did it?
(conspiracy theories anyone?)

Excerpts from Eva Botkin-Kowacki, “Mysterious cave edifice suggests Neanderthals were complex cavemen,” Christian Science Monitor, May 25, 2016

Bruniquel Cave is pitch-black, pools of water cover the floor, and stalactites hang down from the ceiling.

None of these features are surprising to find in an active subterranean cave in southern France. But right in the middle of the cavern floor lies something strange.

Someone has uprooted stalagmites and used them to build something.

Over 1,000 feet from the current entrance to the cave, more than 400 of the oblong rocks are stacked in various structures. Two constructions form short walls as if to enclose a space. The larger one forms a space of more than 220 square feet.

But here’s the catch: The cave has been sealed off and inaccessible to humans for tens of thousands of years.

So who broke off and wrestled about 2.4 tons of rock into neat stacks?

The key lies in when these cave builders worked. A new study published Wednesday in the journal *Nature* finds that these mysterious stacks were built 176,500 years ago, give or take a couple thousand years.

Homo sapiens had yet to migrate out of Africa at the time, and the structures are too complex and large for cave-dwelling bears to have built them. Who does that leave?

Neanderthals were the only human species in the region at that time.

“It adds to the ongoing idea that Neanderthal was more modern than generally thought before,” study co-lead author Sophie Verheyden, a geologist at the Royal Belgian Institute of Natural Sciences, tells *The Christian Science Monitor* in an e-mail. “We never thought he would go so far underground, something that is generally attributed to the modern human” much later.

No sunlight streams this deep into the ground. And there weren’t flashlights 176,500 years ago. So Neanderthals that ventured into this cave would have needed some other light source.

Apparently they had already learned how to control fire by this point. Some of the stacked stalagmites have burn marks on them and some of the structures appear to be hearths of some sort.

“It’s the first really good evidence that we have that Neanderthals penetrated very deep into caves and did something extremely unusual,” Michael Bisson, an associate professor of anthropology at McGill University who was not part of the study, tells the *Monitor* in a phone interview. And, he says, “it’s one of the earliest bits of evidence for the structured use of space in the European archeological record.”

This suggests that early Neanderthal society was remarkably complex and cooperative, compared to previous assumptions.

“This kind of structures requires the mobilization of people who choose, who lead, who advise,” and manufacture things, study co-lead author Jacques Jaubert, a professor of prehistory at the

University of Bordeaux, France, tells the Monitor in an e-mail. And they did it all over 1,000 feet from any source of natural light.

“All this indicates a structured society,” Dr. Jaubert says.

How would Neanderthals use these structures?

“We really don’t know at this stage,” Dr. Verheyden says. The scientists don’t think these people were living in the cave. “We tend to think easily of some kind of ritual or cultural structure but I must say that there is no evidence for it up to now.”

Excerpts from Christopher Joyce, “Mysterious Cave Rings Show Neanderthals Liked To Build,” National Public Radio (NPR), May 26, 2016

It was in 1990 when a French archaeologist first ventured deep into Bruniquel Cave in southwestern France. Spelunkers had just broken through the entrance, which apparently had been obstructed for millennia. The archaeologist traveled deep into the cave, over 1,000 feet. There he discovered something strange — someone had broken stalagmites from the floor and arranged them in two large ovals. But he died before he could fully explore the site.

Twenty-three years later, in 2013, a crew of scientists managed to get back to the site. Geologist Dominique Genty with France’s National Center for Scientific Research (CNRS) was there.

“It was very strange,” he says, “it was kind of obvious that it was not natural.”

The team found the circles of stone spikes, almost like 2-foot-high fences. But they found more than the original discoverer. There were more stone fragments lying in piles nearby. It was like a huge Lego set, a Neanderthal Lego set, because all of this calcite stone dated back 176,000 years — long before modern humans arrived in Europe.

Writing in the journal *Nature*, the team says it’s the most complex Neanderthal structure ever found. “We know now,” says Genty, “that they were able to make a sort of elaborate construction,” more elaborate than anything Neanderthals had been known to make.

Why did they build it?

There are only clues. For example, the stalagmite pieces all showed signs of being burned. Was it a ritual? Or perhaps it was a sort of fireplace, to warm them or maybe to repel cave bears. Genty says no one knows.

Then there’s the location, more than 1,000 feet from the cave entrance. Archaeologist Marie Soressi with Leiden University in the Netherlands is a Neanderthal expert and says that’s astonishing.

“What is most surprising for me is that this discovery is showing that Neanderthals ventured underground and far away from any source of natural light,” says Soressi. While Neanderthals no doubt took shelter in caves, they were never known to go that deep, so far from light.

The scientists found pieces of burned animal bone at the site, which they think could have been used as torches because the fatty interior of bone burns.

Soressi points out that recent discoveries keep stoking the argument that Neanderthals were in fact not dumb throwbacks compared to modern humans. “I think ... we have by now many different lines of evidence to show that Neanderthals, and even Neanderthals 200,000 years ago, had cognitive abilities not so different from our direct ancestors.”

Excerpts from “It’s Official: NASA’s Peer-Reviewed EM Drive Paper Has Finally Been Published”

By Fiona McDonald, Science Alert, November 19, 2016

It works.

After months of speculation and leaked documents, NASA’s long-awaited EM Drive paper has *finally* been peer-reviewed and published. And it shows that the ‘impossible’ propulsion system really does appear to work.

The NASA Eagleworks Laboratory team even put forward a hypothesis for how the EM Drive could produce thrust – something that seems impossible according to our current understanding of the laws of physics.

In case you’ve missed the hype, the EM Drive, or Electromagnetic Drive, is a propulsion system first proposed by British inventor Roger Shawyer back in 1999.

Instead of using heavy, inefficient rocket fuel, it bounces microwaves back and forth inside a cone-shaped metal cavity to generate thrust.

But, there’s a not-small problem with the system. It defies Newton’s third law, which states that everything must have an equal and opposite reaction.

According to the law, for a system to produce thrust, it has to push something out the other way. The EM Drive doesn’t do this.

Yet in test after test it continues to work. Last year, NASA’s Eagleworks Laboratory team got their hands on an EM Drive to try to figure out once and for all what was going on.

The new peer-reviewed paper is titled “Measurement of Impulsive Thrust from a Closed Radio-Frequency Cavity in Vacuum,” and has been published online as an open access ‘article in advance’ in the American Institute of Aeronautics and Astronautics (AIAA)’s *Journal of Propulsion and Power*. It’ll appear in the December print edition.

It’s very similar to the paper that was leaked online earlier this month and, most notably, shows that the drive does indeed produce 1.2 millinewtons per kilowatt of thrust in a vacuum:

“Thrust data from forward, reverse, and null suggested that the system was consistently performing at 1.2 ± 0.1 mN/kW, which was very close to the average impulsive performance measured in air. A number of error sources were considered and discussed.”

To put that into perspective, the super-powerful Hall thruster generates force of 60 millinewtons per kilowatt, an order of magnitude more than the EM Drive.

But the Hall thruster requires propellants, and that extra weight could offset the higher thrust, the team concludes.

Light sails on the other hand, which are currently the most popular form of zero-propellant propulsion, only generate force up to 6.67 micronewtons per kilowatt – two orders of magnitude less than NASA’s EM Drive, says the paper.

But the team makes it clear that they also weren't attempting to optimise performance in these tests – all they were doing was trying to prove whether or not the drive really works. So it's likely that the EM Drive could get a lot more efficient still.

When it comes to *how* the drive actually works without messing up the laws of physics, that's a little less clear.

It's not the focus of this paper, but the team does offer a hypothesis:

“[The] supporting physics model used to derive a force based on operating conditions in the test article can be categorised as a nonlocal hidden-variable theory, or pilot-wave theory for short.”

Pilot-wave theory is a slightly controversial interpretation of quantum mechanics.

It's pretty complicated stuff, but basically the currently accepted Copenhagen interpretation of quantum mechanics states that particles do not have defined locations until they are observed.

Pilot-wave theory, on the other hand, suggests that particles do have precise positions at all times, but in order for this to be the case, the world must also be strange in other ways – which is why many physicists have dismissed the idea.

But in recent years, the pilot-wave theory has been increasing in popularity, and the NASA team suggests that it could help explain how the EM Drive produces thrust without appearing to propel anything in the other direction.

“If a medium is capable of supporting acoustic oscillations, this means that the internal constituents were capable of interacting and exchanging momentum,” the team writes.

“If the vacuum is indeed mutable and degradable as was explored, then it might be possible to do/extract work on/from the vacuum, and thereby be possible to push off of the quantum vacuum and preserve the laws of conservation of energy and conservation of momentum.”

The scientific community is also notoriously unconvinced about the propulsion system – just yesterday a Motherboard article on the EM Drive was deleted by the moderators of the popular subreddit r/Physics because they “consider the EM Drive to be unscientific.”

But is the first peer-reviewed research ever published on the EM Drive, which firmly takes it out of the realm of pseudoscience into a technology that's worth taking skeptically, but seriously. The next step for the EM Drive is for it to be tested in space, which is scheduled to happen in the coming months, with plans to launch the first EM Drive having been made back in September.

If it produces thrust there, the scientific community will need to sit up and take note.

Alcubierre Warp Drive

Excerpt from Wikipedia Article, “Alcubierre drive,” September 23, 2018

The Alcubierre drive or Alcubierre warp drive (or Alcubierre metric, referring to metric tensor) is a speculative idea based on a solution of Einstein's field equations in general relativity as proposed by theoretical physicist Miguel Alcubierre, by which a spacecraft could achieve apparent faster-than-light travel if a configurable energy-density field lower than that of vacuum (that is, negative mass) could be created.

Rather than exceeding the speed of light within a local reference frame, a spacecraft would traverse distances by contracting space in front of it and expanding space behind it, resulting in effective faster-than-light travel. Objects cannot accelerate to the speed of light within normal spacetime; instead, the Alcubierre drive shifts space around an object so that the object would arrive at its destination faster than light would in normal space without breaking any physical laws.

Although the metric proposed by Alcubierre is consistent with the Einstein field equations, it may not be physically meaningful, in which case a drive will not be possible. Even if it is physically meaningful, its possibility would not necessarily mean that a drive can be constructed. The proposed mechanism of the Alcubierre drive implies a negative energy density and therefore requires exotic matter. So if exotic matter with the correct properties cannot exist, then the drive could not be constructed. However, at the close of his original article Alcubierre argued (following an argument developed by physicists analyzing traversable wormholes) that the Casimir vacuum between parallel plates could fulfill the negative-energy requirement for the Alcubierre drive.

Another possible issue is that, although the Alcubierre metric is consistent with Einstein's equations, general relativity does not incorporate quantum mechanics. Some physicists have presented arguments to suggest that a theory of quantum gravity (which would incorporate both theories) would eliminate those solutions in general relativity that allow for backwards time travel (see the chronology protection conjecture) and thus make the Alcubierre drive invalid.¹

¹ Commentary & Citation: A 2020 update: The Wikipedia article on “Interstellar travel” continues to state that the EM Drive (“RF resonate cavity thruster”) did not work when tested by NASA and that any appearance of thrust generated was a non-repeatable anomaly:

- ✓ “A radio frequency (RF) resonant cavity thruster is a device that is claimed to be a spacecraft thruster. In 2016, the Advanced Propulsion Physics Laboratory at NASA reported observing a small apparent thrust from one such test, a result not since replicated. One of the designs is called EMDrive. In December 2002, Satellite Propulsion Research Ltd described a working prototype with an alleged total thrust of about 0.02 newtons powered by an 850 W cavity magnetron. The device could operate for only a few dozen seconds before the magnetron failed, due to overheating. The latest test on the EMDrive concluded that it does not work.” Id., May 15, 2020.

On October 16, 2019, Anton Petrov posted an 11-minute video “NASA Engineer Designs a Near Light Speed Engine But Does It Work?” to his channel discussing the Helical Engine proposed by NASA scientist Dr. David Burns in 2019 (which is also mentioned in the Wikipedia article, *Id.*). While he was critical of the concept, he also noted with disapproval, the vicious and mean-spirited attacks on the idea from the scientific community.

So highly educated scientists continue to propose novel interstellar travel propulsion systems, and get dogpiled by jealous colleagues for daring to step outside the bounds of current science. *Und so weiter.*

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“Think of the Milky Way – or search for pictures of it online – and you’ll see images of a standard spiral galaxy viewed face-on, a sprawling pinwheel of starlight and dust containing hundreds of billions of stars. These images, however, are mostly make-believe.

We know the Milky Way is a star-filled spiral galaxy in excess of 100,000 light-years wide, and we know our solar system drifts between two spiral arms at its outskirts, some 27,000 light-years from its center. But much beyond that, our knowledge fades. No space probe or telescope built by humans has ever escaped the Milky Way to turn back and take a portrait; because we are embedded in our galaxy’s disk, we can only see it as a bright band of stars across the sky. For astronomers trying to map it, the effort is a bit like learning the anatomy of a human body from the perspective of a single skin cell somewhere on a forearm. How many spiral arms does the Milky Way have, and how do those spiral arms branch and curl around the galaxy? How many stars does the Milky Way really contain? How much does it weigh? What does our cosmic home actually look like, viewed from another nearby galaxy? Ask an astronomer – and if he or she is being perfectly honest, you will learn that we do not fully know.

Among the biggest obstacles to our knowledge is the disk of the galaxy itself, particularly its center, which is thick with starlight-absorbing dust and rife with energetic astrophysical outbursts that can ruin delicate observations. This means we know very little about the other side of the galaxy.”

– Lee Billings, “Astronomers are finally mapping the Dark Side of the Milky Way,” Scientific American, October 13, 2017

Colonizing Andromeda Galaxy: It may deeply alarm you to know that the Milky Way Galaxy will collide with the Andromeda Galaxy ... in a few billion years. On the bright side however, if we wait long enough, it will become much easier to colonize the Andromeda Galaxy.

- ✓ See, Geraint Lewis and Prajwal Kafle, “Andromeda Galaxy brought down to size for head-to-head collision with Milky Way,” repub. in Newsweek, February 15, 2018.

FTL x 10,000 LY: Imagine for a moment that Faster-than-Light (FTL) travel was available at speeds up to 10,000 Light Years – that is, the ship would travel the same distance as light does in 10,000 years, in one year. Imagine also a Galactic Empire or other centralized galactic civilization existed – actually spanning the galaxy and not just a handful of local stars – and that the speed of ships was the fastest form of communication available.

The Milky Way Galaxy is approximately 100,000 LY across. Such a situation would mean that it would require 10 years (at best speeds, not counting any necessary stops or detours around the massive black hole in the center of the galaxy) for news, goods, and government actions or directives, to cross the Galactic Empire from one side of the Milky Way to another, going across the center. Any deviation in the route of the ships only adds more light years to the communication.

- ✓ See previous discussion of FTL communications in Communications Breakdown, 1 The Streams of Time, p. 76, *supra*.

By contrast, on Earth, because of the current technology, the communication lag is almost negligible for news and directives transmitted electronically, and only a matter of days for the normal movement of goods and services even for the largest developed nations. The time-zone differences cause more delay – due to the human need for sleep – than any distance consideration. In

the 19th Century, the delays could be weeks or even up to three months, but with less population density and lower overall complexity, central governance was possible.

In terms of the universe, 10 years is a millisecond of a millisecond of a nanosecond; but for human lives, and human governance, that's an incredible amount of time to wait for anything.¹ My ship of the imagination has crossed the Milky Way twice, out and back, and is on its way out-bound again, approaching the center of the galaxy, since the day I started this project.

✓ Read it on a t-shirt: “Come over to the Dark Side. We have cookies.”

- Transatlantic Communications: GGDM is now out in the marketplace of ideas. Most ideas end up in the ‘wastebasket of history’ (Montross). For example, one of the proposed solutions to the transatlantic communications problem was to create a line of anchored signal barges, manned by one sailor each, to relay signals by lamp or flags across the Atlantic. I am sure that the person who seriously suggested this was not volunteering for barge duty! The solution was the investor-funded transatlantic telegraph cable in 1858, which reduced England to Canada communication time from 10 days to hours – it worked for 3 weeks then failed, but two new cables were working by September 1866; in the early 20th Century, transatlantic telephone by radio was established (by which Churchill spoke to Roosevelt).

Through undersea cables, the entire British Commonwealth was eventually connected around the globe, this network made *the capture of London* (more precisely, Porthcurno Cable Station in Cornwall) desirable to the Germans in WWII – this issue is never discussed in WWII histories as a strategic objective. The HyperPulse Generator arrays in BattleTech serve a similar role and may have been inspired by the transatlantic cable and radio telephone.²

- Let's Do Some Calculations: The Milky Way Galaxy – probably just an average galaxy – has *about* 100 billion solar masses, translating to 100 to 400 billion stars (depending on what is the average solar mass per star other than our own).³ And there are *two trillion galaxies* according to a 3D model recently created from Hubble Telescope observations.⁴ Carl Sagan, in Episode 1 of *Cosmos* (filmed 1978-1979, aired 1980), opined, “There are a hundred billion galaxies and a billion trillion stars.” Thus our estimation of the size of the universe has increased by 20 times in about 40 years. We have become 20 times more *insignificant* since the height of the Cold War.

✓ Yes, this is a glass half empty or glass half full of water/air moment. Someone from the Sagan camp will surely say that makes us 20 times more significant and the Earth and humanity more precious not more insignificant. But let's just say that we've gone from a being a pixel on an 8mm film to being a pixel on a 4K screen. Math doesn't lie so they say, the weight of the negative analogies always exceeds the positive and the spiritual.

This issue brings back to the fore a problem called Heinrich Olber's “dark sky paradox,” which asked, based on the number of stars in the sky, even though they are all very distant, considering the age of the universe, why isn't it light at night?⁵ A little humility would go a long way in space.

A recent study by UCI and LIGO (observatory) published in August 2017 suggests that there are upwards to 100 *million* black holes in the Milky Way Galaxy.⁶ That seems like a lot, it seems like if we turn around, a black hole might be sneaking up behind us! But considering the scale of the Milky Way Galaxy – at least 100 *billion* stars, the black hole problem isn't

really a problem, as there would be just one black hole for every 100 to 400 stars in the Galaxy. But it might make for a very interesting transit system...

The International Space Station (ISS) orbits at **250 miles** above the Earth (low Earth orbit), that's about the distance of a daily commute from Pittsburgh to Philadelphia, except, of course, the problem is that it's straight up (more or less). The equatorial circumference of the Earth is **24,901 miles**. The Moon – good 'ol Luna – is just about **238,900 miles** away, about 9.59 times the equatorial circumference of the Earth – most of the lunatics are much closer, unfortunately. It would take *about* 33 years to walk to the Moon (at a rate of 20 miles per day, 7,300 miles per year, with a few days off to watch the World Series or World Cup), or more accurately, to walk to the spot in space where the moon will be in 32.726 years. Mars is **39 million miles** away at its closest (remember your orbital mechanics); we have a lot of work to do to put a person on Mars. Asteroid Florence, just 3 miles wide, will pass by the Earth at a very close range of 4.4 million miles in September 2017.⁷

*“There was a young lady named Bright
Whose speed was much faster than light
She set out one day
In a relative way
And returned the previous night.”⁸*

Engage!: Interstellar movement requires a starship, there is no technology which allows movement of *anything* in the 1st Era (at the least) without a starship (or System Boat if in-system movement). All interstellar movements that are not initiated by activation of the Expansion Power, Combat Power or Commerce Power, require the activation of the Movement Power.

Specifically:

- 1) Any ship **that is not carrying population** (e.g., not Colony Ships, Troop Transports),
- 2) That is departing from **any** origin system,
- 3) To any destination system that is currently colonized by the ship's owner (other than by ownership of Conquered Colonies, see Supporting Colony, next page, *ut infra*),
 - In this context, “colonized” means having a colony in the system, regardless of colony political status (except Conquered Colonies) or native population type.
- 4) Where the departing ships are either unable to or do not intend to initiate combat upon arrival,
- 5) Requires an activation of the Movement Power.

These conditions precedent must exist *only at the moment of departure*.

A specific set of conditions precedent exists – detailed appropriately in each rules section – for each of the four Power Activations that can initiate interstellar movement. The Movement Power is activated for initiation of movement that does not fit the conditions precedent for initiating interstellar movement under the Expansion, Combat, or Commerce Power, *ut infra*.

- **Ad Astra:** All ship movement occurs in the Galactic Space. Activation of the Movement Power allows as many eligible ships as desired to *depart one starsystem to any number of*

destination starsystems. One Act and one Scene *on the star of the origin starsystem* is required to activate the Movement Power for all ships in a system that are departing in the same turn. All types of ships may use the Movement Power activation to move, including warships; warships do not automatically require an activation of the Combat Power to move.

- ✓ Despite the fact that ships appear on the Public Space – that is, they are within the consciousness of civilization – they do not move on the Public Space and the Public Space has no effect on their movement (other than the Scene requirement). See also Buzzing Lightyears discussion in 4 The Streams of Time, p. 101, *supra*.
- Flying Dutchman: Because of the uncertain time periods represented by a Regular Turn, it is not prohibited for a ship to perform interstellar ‘short’ movement to more than one destination star in a Regular Turn (or more than one action per turn) by appropriate multiple Power Activations and if Scenes have been previously placed. See Space Hop, 2 Movement, p. 850.
- Engines Offline: Each ship that is ordered to move by activation of the Movement Power must be checked to see if it fails to obey the Power Activation due to inactive Constructural Elements on the ship (see Power Off, 2 Constructural Elements, p. 193, *supra*). A ship that fails to obey the Power Activation does not move, even if other ships at the same location depart due to obeying the Power Activation. If the ship that fails to obey the Power Activation is located at a Supporting Colony system, a **second check** is made using the Supporting Colony’s Constructural Elements and if successful, the delinquent ship obeys the Movement Power Activation and departs as normal. An attempt may be made for each Supporting Colony in the system. This applies only to *failed* Power Activations related to ship movement.⁹
 - ✓ For example, a warship and a Log Ship are ordered to Move from Colony A to Colony B (both owned by their position) by activation of the Movement Power at Colony A. The warship obeys the Power Activation but the Log Ship does not (*sound of FTL engines cycling down*). No Enlightenment was dedicated for the Power Activation. A second check is made using Colony A’s current Constructural Elements (Colony A has only one inactive Constructural Element so only a 15% chance of failure) and the colony passed, so the Log Ship departs as it should have (e.g., the captain was arrested by the *chekist* First Officer on the bridge and handed over to the colony for ‘reeducation,’ order was restored by ship security, there were a few casualties).

“A ship in the harbor is safe, but that’s not what ships are built for” – Old maritime saying

UniSIM: Although many units will begin movements by the activation of other Powers, all ship movement follows the Standard Interstellar Movement (SIM) rules and the movement formula and current Ship Speed of the Stardrive Patent they are using. Movement by activation of the Expansion Power or the Combat Power are merely representative of extra preparation and intent in beginning of movement to expand or to go into a potential combat situation, otherwise, movement follows standard rules from the time they depart the origin until they reach the destination. The Movement Power is only activated when ships are departing from a supporting colony system to a destination where there is also a supporting colony.

- Supporting Colony: The term “supporting colony” refers to any Friendly, Converted, or Naturalized Colony, including Low Population Colonies (see 4 Taxation & Census, p. 326, *supra*) which is owned by the owner of the ships in question (at the time of departure), that will

automatically resupply the fleets on arrival (see Free Resupply, 3 Construction, p. 678, *supra*, and Operational Supply Limitation, 3 Movement, p. 856 *infra*). A Conquered Colony is not a supporting colony until it is Converted (see Conquered Colony, 2 Order, p. 539, *supra*).

- ✓ A Besieged Colony (see 3 The Sidereal Stage, p. 124, *supra*) or colony currently involved in Colony Combat at the time that the Regular Turn is processed cannot act as a supporting colony. This could be catastrophic as discussed in The Cold Equations, 3 Movement, p. 864, *infra*; ships arriving at the colony may be forced to run the blockade (see Blockade Running, 4 Commerce, p. 1233, *infra*).
 - ✓ As noted in 3 Construction, p. 678, *supra*, the ‘free resupply’ at Supporting Colonies does not require a Power Activation, and thus cannot be affected by Constructural Elements status on either the colony or ship.
 - ✓ As noted in Dark Tea, 2 Temporal Technology, p. 821, Surreptitious Entry, 3 Temporal Technology, p. 828, *supra*, T-Ships (Temporal Ships) do not automatically resupply at a friendly colony unless they reveal their presence. T-Ships must always attempt surreptitious entry when arriving at the destination system.
 - ✓ Supporting Colonies also often provide a second/back up check when starships initiating interstellar movement fail to obey the Power Activation, as described above and in Canned Food, 3 Expansion, pp. 913-914, Move Out!, 1 Combat, p. 942, Before You Go, 1 Commerce, p. 1189, and Blockade Running, 4 Commerce, p. 1233, *infra*.
- History Again: Supporting colonies are historically analogous to the 19th Century naval need for coaling stations, and before that, in the Age of Sail, the need for ports to obtain fresh water and food, and repairs. There is a reason why sailors were notorious for alcohol consumption and for ‘spending like a sailor’! Thus, the need for ports drove colonial expansion, trading strategies, diplomacy, and shipbuilding, over the course of several centuries. One of the factors behind the Commodore Perry Expedition to Japan, 1852-1854, was the U.S. concern that the European powers had already monopolized the coaling locations across the Pacific, giving them an advantage in war and trade. *The opening of Japan to the West never was about Japan’s wellbeing from the view of the Western colonial powers*; no one asked how this would affect Japan’s economy, culture, or political environment. And Japan got a cholera epidemic from it as well. Conversely, the European powers were very concerned that the U.S. would obtain exclusive trading rights in Japan and soon forced themselves upon Japan’s tottering government as well, extracting treaties and concessions.
- Interstellar Chess: Strategy is in large part, but not exclusively, about position, Chess is a game of position, business people talk about market positioning of their products and services, baseball managers use ‘defensive shifting.’ I backed the board game Blueshift on Kickstarter, and in May 2019, finally was able to play two games at the game club.¹⁰
- ✓ The first game was a terrible experience where I was completely out of position at the end of the game, unable to do anything at all. I ended the game turtling in the corner just to make sure the two big players had to fight each other to win instead of one of them winning by knocking me out.
 - ✓ The second game, I was able to place units and time my attack toward the center of the board late in the game, first defeating a player who was in the space I attacked, and then I turned and attacked from the space I had won into a space owned by a second player who was poised to win the game on his next turn. It was small consolation

to the player I had to victimize initially (and who had no chance of winning), but had I not been in that position (space), I would not have been able to take a shot at stopping the guy who was about to win the game. I did win the second battle as well, but the other players on their turns were unable or unwilling to do anything effective and I finished in close second, first loser, position in the second game. Of course, my war wasn't their war, my success would have only prolonged the game which they had no chance to win and little to gain, so it was my battle and up to me to succeed or fail.

For whatever a position needs or thinks they want to do in GGDM, the position's ships will need to be in the right place (spatially), at the right time, with sufficient support, whether it is technology, material enhancements or logistics. Ship, asset, and colony placement for the future should always be a consideration in Power Activations throughout the entire game; it is a sad game of catch-up if Power Activations are being used to scramble in reaction to a sudden emergency.

- ✓ **John Connor:** We're playing that most American of games. **Web Smith:** Which is what? **John Connor:** Catch up. – Rising Sun (1993).

“Any belief that puts itself beyond doubt nurtures its own collapse.”

– Stephen R. Donaldson, [Reave the Just and Other Tales](#) (2000)

Gap Info: And then there is that ‘leap of faith,’ a most curious human term. Consider this usage note from Merriam-Webster online dictionary at *faith*: “Belief, faith, credence, credit mean assent to the truth of something offered for acceptance. Belief may or may not imply certitude in the believer. Faith almost always implies certitude even where there is no evidence or proof. Credence suggests intellectual assent without implying anything about grounds for assent. Credit may imply assent on grounds other than direct proof.”

- ✓ I was talking with a Traveller RPG aficionado at the game club in July 2019. I was discussing the Sandcaster Turret defense system on ships; it is one of those sci-fi ideas that seems good at first glance but is less and less practical the more you think it through. The conversant pointed out that it remains in the current game (40 years later) because it is the only defense system for ships against laser turret weapons in Traveller, then surprised me somewhat by adding that we just have to have faith in the game system and accept that it is something that works!

I have argued throughout GGDM (e.g., see Assumptions of Light, 1 Stardrive, p. 781, *supra*) about having to accept certain future technologies (and conditions) as *necessary premises* or assumptions of the game setting (e.g., faster-than-light travel, drive to colonization, Government Titles) and that they must be accepted hypothetically on the basis that we cannot possibly predict the long-term course of future technology, its capabilities, and social effects because they are non-linear (see Uber Alles, 2 Eras, pp. 767-768, *supra*), that is, *emergent* (a view also held by Vernor Vinge, who invented the ‘technological singularity’ term, see feature quote, 2 Technology, p. 705, *supra*). *Necessary premise* is a major resident of science-fiction stories, which it probably inherited from fantasy – any story involving gods, evil, and magic must have them as a necessary premise or the story is nonsense – which fantasy probably learned from religion – all religions (and love) are castles in the sky *built on the clouds of a necessary premise*.

However, ‘faith’ is never a word that entered my thoughts in accepting the seemingly implausible future technologies of GGDM or of any other space-opera game or interstellar setting; what I have described is not the normal use of faith, it is necessary premise or background assumption, more similar to how Merriam Webster described ‘credence’ or ‘credit’ (*ut supra*). Perhaps that is a window to my current concept of faith? Perhaps my concept of faith is a bit narrower, a bit scrambled vis-à-vis others? Or perhaps what he meant was that we must accept Sandcaster defense as a necessary premise in a game that features starship combat with lasers? Ok, but I have never seen Sandcaster defense anywhere but Traveller (because it is operationally problematic), but I have seen lots of laser starship battles in movies, sometimes with convenient (and very questionable) ‘force fields’ for defense and sometimes with no apparent defense except ship hull armor, speed, and maneuver.

- ✓ “Force fields or screens? Well, again, they climb in the face of the electromagnetic theory. You can’t make the expanding wavefronts of a wavefront stop expanding. No.” – James Blish, *The Tale that Wags the God* (1987), Kindle Locations 598-599.¹¹

But then a few days later, I read an article from the MIT Technology Review wherein the author made the following Asimovian statement:

- ✓ “This raises mind-boggling questions. As the technology advances, we might soon cross some threshold beyond which using AI requires a leap of faith. Sure, we humans can’t always truly explain our thought processes either – but we find ways to intuitively trust and gauge people. Will that also be possible with machines that think and make decisions differently from the way a human would?” – Will Knight, “The Dark Secret at the Heart of AI,” MIT Technology Review, April 11, 2017.

Now, this is a different meaning of faith, closer to what is meant by religion, as is indicated by the next sentence. Can we make the ‘leap of faith’ into something built by us – in whom we have little faith, despite our ability to “intuitively trust and gauge people” – into ‘Deep Learning’ AI that is opaque to us, and that may be better or smarter than we are? That is the technological singularity problem. Will it see the existential void as we do, or laugh at us as pets, children?¹²

“Astronomers have discovered the oldest supermassive black hole ever found – a behemoth that grew to 800 million times the mass of the sun when the universe was just 5 percent of its current age, a new study finds. This newfound giant black hole, which formed just 690 million years after the Big Bang, could one day help shed light on a number of cosmic mysteries, such as how black holes could have reached gargantuan sizes quickly after the Big Bang and how the universe got cleared of the murky fog that once filled the entire cosmos, the researchers said in the new study. Supermassive black holes with masses millions to billions of times that of the sun are thought to lurk at the hearts of most, if not all, galaxies. Previous research suggested these giants release extraordinarily large amounts of light when they rip apart stars and devour matter, and likely are the driving force behind quasars, which are among the brightest objects in the universe.”

– Charles Q. Choi, “Oldest Monster Black Hole Ever Found Is 800 Million Times More Massive Than the Sun,” Space.com, December 6, 2017

Endnotes.

¹ Citation: "...you know there is a ten year delay in the Soviet Union for the delivery of an automobile. And only one out of seven families in the Soviet Union own automobiles. There is a 10 year wait, and you go through quite a process when you are ready to buy, and then you put up the money in advance. This man laid down the money, and the fellow in charge said to him: Come back in 10 years and get your car. The man answered: Morning or afternoon? And the fellow behind the counter said: Ten years from now, what difference does it make? And he said: Well, the plumber is coming in the morning." – Pres. Ronald Reagan (video available on YouTube), "Ronald Reagan tells Communist Jokes," Popular Science, December 3, 2012.

² Citation: "A 2018 study in the American Economic Review found that the transatlantic telegraph substantially increased trade over the Atlantic and reduced prices. The study estimates that 'the efficiency gains of the telegraph to be equivalent to 8 percent of export value.'" – from Wikipedia article, "Transatlantic Cable," April 25, 2020.

- ✓ This is a historical example to consider when thinking about the possible economic impact of industry and communications technology development in GGDM, or even FTL Communications or lack of as discussed in 1 The Streams of Time, *supra*.

³ Citation: Elizabeth Howell, "How Many Stars Are in the Milky Way Galaxy," Space.com, May 21, 2014.

⁴ Citation: Andrew Griffin, "Universe is far bigger and more stuffed with galaxies than previously thought, scientists reveal," Independent UK, October 14, 2016.

⁵ Citation & Commentary: Ian Johnson, "Astronomers prove 200-year-old theory about why it gets dark at night," Independent UK, October 14, 2016. Remember that a paradox is "a statement that is seemingly contradictory or opposed to common sense and yet is perhaps true" (from Merriam-Webster online dictionary).

- ✓ A curious side case is a sub-giant metal-poor star labeled HD 140283 located 190 LY from Earth, which has consistently been dated as being older than the universe. How can that be? Should theists celebrate? The problem with the problem is that dating both has been a moving target, both the age of the star and the age of the universe have been shifted a few hundred million years this way and that during the time we have tried to figure out the star's age. It is certain that we have got something wrong in our methods, but that doesn't automatically mean that the star is not older than the universe....

⁶ Citation: University of California, Irvine, "UCI Census indicates that black holes pervade the universe," published in phys.org, August 8, 2017.

⁷ Citation: Ryan F. Mandelbaum, "Closest approach ever by a large asteroid won't end life on Earth, but probably should," Gizmodo, August 18, 2017.

⁸ Citation: Anonymous limerick of unknown interstellar origin. Probably written by a bored physics undergrad on Sol Three.

- ✓ The limerick appears on the bottom of Page 31 of the May 24, 1963 issue of Life Magazine (of which I have a collector's copy) where it is challenged as being untrue (Albert Rosenfeld, "A 3,000,000-year Trip in Only 55 Years," pp. 28-34). This provides a historical date of usage.

⁹ Commentary: The Royal Navy mutinies of 1797 at Spithead and The Nore are the *essence* of inactive Constructural Elements causing Power Activation failure on ships. And the *example* of a Supporting Colony second check. Compare this to the results of the famous Mutiny on the Bounty (1789) or the Batavia Mutiny (1629) far from port.

¹⁰ Commentary: The boardgame Blue Shift (2017) is an interesting and well-play-tested game. Unfortunately, the rules could have been better written and edited. The young man who wrote the game rules has not learned to edit; editing requires stepping outside of yourself: It doesn't matter what is in your head, it is what is on the page that counts in game rules or legislation (readers of GGDM might think I took that rather to an extreme). He obviously knew things about the game that he failed to make clear in the rules (in addition to the obvious typos, and other editing issues), but eventually, we figured it out.

¹¹ Commentary: The implication of force fields and screens, as James Blish expressed it, is some kind of time stop technology or temporal stasis at work – that is the only way to make expanding wavefronts stop expanding in space – short of striking something else – is a temporal effect.

- ✓ As has been noted previously (see Assumptions of Light, 1 Stardrive, p. 781, and Thumbing Our Nose at Einstein, 1 Temporal Technology, p. 802, *supra*), in order to have FTL without time-dilation effect, one must assume that they have developed some primitive level of temporal technology.

¹² Citation: See The AI Problem excerpts, Corporations, *infra*. See also Dave Nilsen "Duck Test" excerpt, *Id*.

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“For one thing, there was a convention among the authors of those days that since the solar system lies approximately in a flat plane (the plane of the ecliptic), the only way you could get from one planet to another was by traveling along that plane. This meant that if you were attempting to go any distance beyond the orbit of Mars, you were involved in an awful lot of banging and clashing about among the asteroids. My favorite example of this comes from a somewhat later period – a story by Sam Moskowitz in which the hero, in order to reach Saturn, finds himself necessarily banging and clashing his way through the planet’s rings.

Now, if there is a more avoidable astronomical object in the solar system than the rings of Saturn, I do not know what it is! But there was this flat plane convention; and we were stuck with it. It took me a long time to learn from science fiction that space happens to be three-dimensional, and that in order to avoid the asteroid belt all you need is a slight expenditure of fuel and you can go over it!”

– James Blish, *The Tale that Wags the God* (1987) (Kindle Loc. 492-500)

Interplanetary Movement: Interplanetary Movement occurs when the origin and destination stars are the same, that is, between planets orbiting the same star, and does not require the activation of any Powers, thus it *occurs before any Action that requires the activation of a Power*. See Clockwork Universe, 3 The Streams of Time, p. 90, *supra*, regarding normal order of Regular Turn actions processing. It is assumed that all positions have accomplished efficient interplanetary travel before the start of the game. Movement of ships, boats, and fighters between system space and planets in the same system is *instantaneous*, and will be executed secretly unless another position’s colony or ships are present. Interplanetary Movement may not occur between planets owned by the same position if any of the colonies in the system owned by that position are besieged (see Blockade Running, 4 Commerce, p. 1233, *infra*).

- ✓ Thus Homeworld and Lost Colonist positions may automatically colonize all available planets in their systems before the game begins.

Activation of the Expansion Power for the purpose of Transporting Populations (see Colonization, 1 Expansion, p. 876, *infra*) is only necessary for *interstellar movement* of colony ships (i.e. to another starsystem). Loading and Unloading or Landing colonist after *interplanetary movement* will still require Expansion Power activations regardless of distance moved.

- **Gray Space:** There is some possible gray area here; the Interplanetary Movement rule was written assuming the usual (in our provincial view) single star with a host of planets, rocks, Tesla Roadsters and comets orbiting. If binary systems are specifically introduced into the game, especially those that have separate planetary systems, it may require a ruling as to whether the stars are within interplanetary movement distance.
 - ✓ For example, Alpha Centauri A and B are binary stars that orbit around a common center point every 79 years; the distance between the two stars is interplanetary (that is, within the distances between the Sun, Saturn, and Pluto). Alpha Centauri C (also called *Proxima Centauri*) is a red dwarf, orbiting Alpha Centauri AB at .21 LY distance. Interplanetary movement range in GGDM or FTL?

Would movement from a planet in Alpha Centauri AB to Alpha Centauri C be interplanetary movement (possibly with a one turn delay) or would it require stardrive? (Information was gathered from Wikipedia articles, “Alpha Centauri” and “Binary Star,” June 10, 2018.) This is important not only for Power Activations but for system boats. GGDM is over-simplistic, its star and world generation rules are set at the lowest common denominator of space-opera sci-fi writing and fandom, systems such as Alpha Centauri (our closest neighbor) show levels of detail that can be added to the game terrain of Galactic Space if desired.

- **Ships in Port:** Normally, it is not important which planet ships in a system are located at; it is assumed that ships which are on a star occupy all of the system’s space as their ‘zone of control.’ Thus ships in a starsystem are never assigned a planet at which they are located, unless they have specifically moved there or taken shelter at the planet (e.g., retreats from Ship Combat, see *The Better Part of Valor*, 3 Combat, p. 981, *infra*, and *Blockade Running*, 4 Commerce, p. 1233, *infra*) but are instead placed on the system’s star in the Public Space for as long as they remain in the system.
 - ✓ Zone of Control (ZOC) is a 1960s wargaming term that means the unit’s ability to project military power and movement control into adjacent spaces on a flat hex map to hinder the enemy’s ability to use that space. In GGDM, it is congruent with the assumed ability to be anywhere in system space effectively ‘instantaneously’ within the time frame of a GGDM turn; that is, it may take days, weeks or months in real time.

Conversely, in the DUST sci-fi short, “FTL” on YouTube (written & directed by Adam Stern, 2017), the experimental FTL ship moved from Earth to Mars in about 3 minutes, and somehow was able to just stop instantly (*à la* Star Trek warp drive) without ill effect on the pilot, e.g., being thrown through the cockpit glass at FTL speeds. Not to mention being squashed into subatomic particles by the initial FTL acceleration. And there was no time dilation either. But this technology may also be assumed in GGDM.

Einstein: *There is no coordinate system that is principally preferred by its simplicity; thus there is no method to distinguish between ‘real’ and ‘non-real’ gravitational fields.*

Palagyi: *The discussion between Einstein and Lenard has made a deep impression upon me. One encounters here again the old historic opposition between experimental and mathematical physics, as it already existed between, for example, Faraday and Maxwell. Mr. Einstein says that there is no preferred coordinate system. But there is one. Let me think biologically, then any man carries his coordinate system within himself. In the course of this thought, a refutation of the theory of relativity is contained.*

Mie: *I never understood, that the view in which the aether was essentially the same as seizable matter, should have been only discovered by the theory of relativity. This was already done long before by Lorentz in his book ‘electrical and optical phenomena in moving bodies.’ Also Abraham in his textbook, in the time when he was still in opposition to the theory of relativity, said: ‘The aether is empty space.’ I’m of the opinion, that even by approving Einstein’s gravitational theory, one has to distinguish between mere fictitious gravitational fields, that one introduces into the world by the choice of coordinate system, and the real gravitational fields that are given by objective facts. I have*

recently shown a way, how one arrives at a ‘preferred’ coordinate system, in which all fields that are only fictitious are excluded from the outset.

Einstein: *I cannot see, why such a preferred coordinate system should exist. At most one could think to prefer such coordinate systems, in relation to which the Minkowskian expression for ds^2 is approximately true. But neglecting the fact, that such systems do not exist for extended spaces, such coordinate system are surely not exact, but can only be defined approximately.*

– from *Allgemeine Diskussion über die Relativitätstheorie (1920)*, *Physikalische Zeitschrift*, 21, pp. 666-668, English translation on Wikisource at “The Bad Nauheim Debate”

Cubed Space: The concepts for understanding the position of the stars, calculating movement distance and time, and understanding the Starlog are singular for the game. All positions use the same system of Galactic Space coordinates.

That is, while the Public Space is subjective, Galactic Space is objective, necessarily universal. *Sort of* like the debate above between fictitious and objective gravitational fields in relation to coordinate systems.

➤ **Positional Value:** The initial playing area is a cubic section of Galactic Space and the Positional Value of each star, found on the Starlog next to the star’s name, is that star’s physical location within the playing area. In order to simulate the three-dimensional aspects of the playing area, each star’s Positional Value is expressed as a set of numbers labeled X, Y, and Z. Positional Values are used to calculate the movement distance between stars. The method of calculating distance between the origin and destination stars is expressed in the Movement Formula section of the Stardrive Patent whose stardrive system the starship is using.

✓ See How it Moves and Blurry Hurry!, 2 Stardrive, both p. 794, *supra*, regarding movement formula requirement of Stardrive Patents.

➤ **Real Space:** Positional Value is the location of the star system in ‘real space’ aka the Galactic Space in GGDM. The arrangement and relationship of the planets and stars in the Public Space bears no relation at all to the actual positions of the stars and planets in the Galactic Space and are not used in calculation of movement distances. Ships may move, using non-Movement Power Activations, to stars that are not currently in the Public Space; *ships cannot move to* star locations that are not in Galactic Space (i.e. not on the current Starlog).

Because of the conditions precedent to initiate interstellar movement via the Movement Power Activation, ships *may not move to* stars using a Movement Power Activation that are not also currently on the Public Space of the position. While it might be tempting to read meaning into this, it is generally just a consequence of the game mechanics, and does not create any correspondence relationship between the Public Space and Galactic Space.

➤ **Disturbulence:** There may be space-time Disturbulence around each star; this Disturbulence is expressed as a Disturbulence Modifier which forms a kind of terrain in Galactic Space. The Disturbulence Modifier of each star is particular to each Stardrive Patent and is unknown until a ship with that type of stardrive enters the starsystem for the first time (making Scouts very expendable—err, valuable).

Turbulence occurs in the atmosphere of a planet, or on a body of liquid, Disturbulence occurs in space-time. Because space is so...‘thin’ only ships travelling at FTL speed encounter ‘Disturbulence’ when approaching a star’s gravity well. Possibly, FTL travel wounds or damages the universe, FTL drives put forth a tremendous amount of power bending space. True sub-light drives probably don’t encounter disturbance. Anyway, that’s the game mechanical excuse for this rule...

- ✓ Homeworld systems will never have a Disturbance modifier for the very first Stardrive Patent obtained by that position as it is assumed that the scientists would have developed and tuned their first stardrive based on the properties of the system space around them. Homeworlds are only special to their starting position and may have Disturbance Modifiers for other position’s Stardrives.

The Concierge determines the Disturbance Modifier for each star at the moment that a ship of that stardrive type attempts to enter the star for the first time. The Disturbance Modifier for each star will be expressed in either *extra turns of movement required to enter the star*, or *extra movement distance*, or both. In short, Disturbance modifiers cause ships to not arrive when expected, at least for the first ships going to that system, but can be accounted for later.

- ✓ **Temporal Disturbance** (extra turns) is very difficult to overcome, however spatial Disturbance (extra movement) may be overcome by increasing Ship Speed through continuing research (see Dog Star and Spindizzy, 2 Stardrive, both p. 792, *supra*).
- ✓ Temporal Disturbance Modifiers are usually assumed to add extra turns, but it’s not impossible that they may rarely make movement to a starsystem faster by subtracting a turn from the flight; that is, the star system seems to reach out and pull the ship through a ‘barrier,’ (mythopoeicly speaking?) skipping it ahead in time.

Disturbance Modifiers are one of the major tools to shape the Operational Characteristics of the Stardrive Patent (see 2 Stardrive, p. 795, *supra*); it is suggested that the Stardrive Patent establish standard die roll ranges for the Disturbance Modifiers.

- ✓ For example, some stellar classes (see Stellar Classes, 2 Expansion, p. 898, *infra*) might be more difficult to approach than others with a particular Stardrive (for reasons unknown, unknowable based on our current understanding, but probably related somehow to the color dots in the Merchant of Venus (1988) board game)?

Again, it bears repeating that balance does not mean no advantage gained, but rather that the advantage gained from the effort of making a new Stardrive Patent should be commensurate with the effort required and should not wreck the game by being overpowered; lastly, the stage of the game should be considered.

- **Starlogs:** Each position will have its own running Starlog. All position Starlogs will contain the same coordinates, star colors and other basic *universal information* as well as links to the display for each star. Upon determining the Disturbance modifier for each starsystem, the Concierge will record it permanently on the position’s Starlog. Once recorded, the Disturbance modifier for each star for each stardrive, probably won’t change. You cannot change space or time, you can only change your stardrive, by either improving it, or abandoning it. Subsequent movement to the star will take into account the known Disturbance Modifiers.

“Spacetime tells matter how to move; matter tells spacetime how to curve.”
 – John Archibald Wheeler, Geons, Black Holes, and Quantum Foam (1998),
 p. 235

Standard Interstellar Movement (SIM): Apparently the universe is a twisted place.

Humans, tiny minds living on our tiny primal planet, have no real concept of how big space is (we don't *grok* it); we just don't have a common *non-scientific language* which conveys the emotional, cognitive distances of space, not only between the stars, but even within our own system space. The truth is that distance really doesn't matter in space (and is not determined with any degree of precision in this game); all that matters is speed and time and how to live long enough to arrive at the destination. Time is more important than distance in interstellar space (and our lives) and humans don't live long enough to truly appreciate it.

➤ **Groundhogs:** Most of our interstellar science-fiction settings continue to reflect our provincial 'groundhog'-view of interstellar space. This is necessary, perhaps, for the audience and to keep the story humanly manageable. It's like explaining to a landlubber the vastness of the Pacific Ocean; you just cannot imagine how vast is the Pacific Ocean until you have been on it onboard ship, flying over it doesn't do it justice, you have to *feel* the vastness; similarly, the Midwest and Great Plains in the United States are called 'fly over country' because that is what most people do, flying from city to city, coast to coast. Dr. Paul Mason of Duquesne University suggested to the class that the current concept of divinity did not develop until Europeans began sailing the deep oceans. FTL transit as usually portrayed, would not allow us to feel the vastness of space (sunlight takes 8 minutes 20 seconds to reach the earth, *five hours to reach Pluto*), rather, it is movement from point to point, star to star:

- ✓ “That would be because of warp speed, which for present purposes consists of looking through an unnecessary window at bright lights zapping past. This method of transportation *prevents any sense of wonder at the immensity of outer space* and is a convenience not only for the starship but also for the screenwriters, who can push a button and zap to the next scene. The concept of using warp speed to escape the clutches of a black hole seems like a recycling of the ancient dilemma of the rock and the hard place. ... Lots of verbal commands seem implausibly slow. Consider, at light warp speeds, how imprecise it would be to say ‘At my command ... 3 ... 2 ... 1 ...’ Between ‘2’ and ‘1,’ you could jump a million galaxies.” – Roger Ebert review of *Star Trek* 2009, May 6, 2009 (emphasis added).¹

Consider this casual gripe between friends: “I spent three hours driving in a hot car with three amped-up kids, get to the show and found it was canceled, then had to drive back home.” The typical response is likely a commiserate, “Ugh!” How many times do we casually substitute time for distance?

- ✓ “Time is perhaps our prime yardstick. The distance to a friend's home is generally calculated by how long it takes to get there rather than by the number of actual miles it is, for time is the reality given varying road, traffic and weather conditions, and alternate routes, and distance isn't, not really.... we surround ourselves with realities that depend on one other dominant reality, the inexorable passage of time, a precisely measurable phenomenon.” – Roger Caras, A Cat is Watching (1989), p. 194.

How much of our appreciation of distance and work is expressed emotionally rather than with Lockean precision?

- **Time & Space:** Standard interstellar movement is simply the amount of time, in Regular Turns, that is required for starships leaving the origin star to arrive at the destination star, taking into account Disturbance Modifiers. Disturbance Modifiers are only *applied when entering the star*, not when leaving it, entirely for sake of convenience in play. Time of movement is calculated as the movement distance (calculated as described on the ship's Stardrive Patent) divided by the speed of the ship. Movement of the ship is then tracked solely in terms of the number of turns elapsed between the time it left the origin and until it arrives at the destination; the Concierge does not keep or record the current X, Y, and Z coordinates of any ship in interstellar space as they are irrelevant to the game (unless it is important to a story event).
- **The FTL Missile:** A starship leaving on an interstellar voyage becomes, in effect, a missile traveling between stars at, presumably, faster than light speed. Thus, it is always assumed that starships depart at the maximum Ship Speed allowed by the current Stardrive Patent for that ship's Stardrive type, and that they travel in a straight, uninterrupted line toward the destination at a constant speed (constant speed is assumed for game convenience).
 - ✓ Starships in interstellar flight will not obey new Power Activations until they arrive and do not require additional Power Activations to continue moving each turn.
 - ✓ Starships *en-route* to a destination star may not change destinations or ship speed, stop, alter course, or interact with or engage other starships in FTL combat in interstellar space. A ship also *cannot avoid* entering/arriving at the destination starsystem.
 - ✓ Improvements in ship speed will not affect the travel time of a ship which is *en route* to a destination star at the time of the improvement.
 - ✓ It is possible to design Stardrives which do not travel at a constant speed (for example, starts slow, gains speed), and this will be allowed by the Concierge only if it is fitting, useful, and/or interesting for the particular game or helps to balance the operational characteristics of the Stardrive Patent. It is also possible to design Stardrives which allow ships to depart at less than maximum Ship Speed (but why?).
 - ✓ Since the coordinates of ships are not recorded when they are between stars, there will be a *very strong presumption of un-playability* against any attempt by positions to create technologies or Stardrives that allow ships to change destinations or ship speed, stop, alter course, or interact with or engage other starships in FTL (or hyper-space or whatever) combat.

It is not impossible to imagine an FTL movement system that requires complete stops in deep interstellar space. For example, the Jump Circuit in Norman Spinrad's *The Void Captain's Tale* (1982) implies that the ship is stopped in interstellar space for a time after each jump:

- ✓ “At the other side of quite literally immeasurable temporal discontinuity, the ship ‘comes out’ of the Jump an average of 3.8 light years away and most often roughly along the desired vector.” (see full feature quote 2 Stardrive, p. 797 *supra*).

Thus a Spinrad trip may involve a sequence of jumps, separated by days of non-movement, the time it takes the Pilot to sufficiently recover from the near-death trauma and be medically

cleared for the next jump. At the end of the story, on the ninth jump, the Pilot died (well, that is not entirely accurate) due to an act of omission by the Captain, leaving the ship stranded Pilotless between stars. The Void Captain's Tale (1982) is the Captain's recorded confession of criminal negligence and fall from social grace.

- Departure: Every ship which begins interstellar movement must have a destination star assigned and travel time calculated before it leaves the origin. From the coordinates of the origin and destination stars, the movement distance is calculated (including Disturbulence Modifiers) and when the movement distance is divided by the departure speed, the travel time, in Regular Turns, is determined (fractions are rounded up).
 - ✓ Ships may not plot destination stars that are beyond the range of the ship's current Operational Flight Limitation (OFL) (see 3 Movement, p. 855, *infra*); Scouts have extended OFL. See Imperial Interstellar Scout Service, 3 Movement, p. 855, *infra*.
 - ✓ When a starship departs the origin system, it is removed from the Public Space (that is removed from the origin star, it is 'removed from the universe') and the destination and travel time are calculated and recorded.
 - ✓ A Power Activation is only required for the departure of the ship – like sending off a paper airplane – additional Power Activations are not required for the continuous progress of the ship toward the destination star.
 - ✓ The ship's progress toward the destination will be updated each time Actions for the position are processed, or, if no Actions are submitted, the ship's progress will be updated at the end of the position's time period for submitting Actions. Ships *en route* to a destination star will not stop traveling because the owning position did not submit Actions! Arrival cannot be avoided by not submitting Regular Turn Actions.
- Space Hop: Short Movement, a 'space hop,' occurs when a starship is able to move between two stars in one Regular Turn. Short Movement is accomplished in less than one Regular Turn if the current Ship Speed is equal to or greater than the movement distance between the origin and destination stars, including any applicable Disturbulence Modifiers (*ut supra*).
 - ✓ Short Movement must overpower all Disturbulence Modifiers in order to be considered short movement. Temporal Disturbulence Modifiers will usually wreck short movement (*ut supra*, p. 847) and sometimes, may make it possible when not possible.

When a Short Movement is accomplished, the ships arrive at the destination **at the end** of the same Regular Turn that they departed the origin and are available for Power Activations and supply functions at the destination at the beginning of the next Regular Turn.

The turn of departure counts as one turn of movement before the beginning of the next turn. This should be true of all interstellar movements. This is a concession to playability, to make the game move along, and a necessary acknowledgement of uncertainty of how much time is represented by a Regular Turn.

- ✓ "Get in the fast lane, grandma! The bingo game is ready to roll!" – Mike Lange, Pittsburgh Penguins legendary broadcaster (one of his famous Langisms).
- Heroic Movement: GGDM does not prohibit a ship from moving more than once in a Regular Turn, due to the variable and unknown time periods represented by a turn. This implies that it is possible to plot movement of ships from origin stars at which they are not currently

located; thus, a position could accomplish *heroic* movement by stringing together a number of Short Movements in one Regular Turn through a ‘fast lane’ of close stars that have Scenes, using multiple Power Activations for the same ship(s). However, the cost is that fast movement may consume most or all of the actions in a turn and a lot of Scenes.

‘Leftover movement’ upon arrival at each destination star via Short Movement is lost because the ship must pass through the starsystem. Thus, it cannot be added to any continued movement beyond the initial destination star. A movement is complete upon arrival at the destination star, farther movement requires another Power Activation.

- ✓ **CASE:** Endurance rotation is 67, 68 RPM. **Cooper:** CASE, get ready to match our spin with the retro thrusters. **CASE:** It’s not possible. **Cooper:** No. It’s necessary. – Interstellar (2014).
 - This is the point in the movie when Cooper transcended. You never see how they matched the rotation. It was impossible. The computer was not wrong, empirically speaking. Yet they did. It was necessary.²
- **Long Jump:** Long Movement, the ‘long jump,’ occurs when the moving starship is not able to complete the movement distance in one Regular Turn. No one can physically bar a ship from entering any starsystem, even if it is currently colonized or occupied. Starships engaged in Long Movement arrive *before* the first Power Activation on the Regular Turn of their arrival. Compare this to Short Movement in which ships arrive at the end of the Regular Turn in which they departed. Ships arriving via Long Movement are not in the same system as other ships and colonies at the *beginning* of the Regular Turn for whatever function that might require that as a condition precedent.

“Many men – risking indictment as warlocks or sorcerers – had tried to probe the secrets of the Great Destroyer and compute the speed of these mighty spacecraft of antiquity. Some had even claimed a speed of 100,000 miles per hour for them. But since the starships made the voyage from Earth to the agricultural worlds of Proxima Centauri in slightly less than twenty-eight hours, such calculations would place the nearest starsystem an astounding two million eight hundred thousand miles from Earth – a figure that was as absurd to all Navigators as it was inconceivable to laymen”

– Alfred Coppel, “The Rebel of Valkyr” (1950)

Mushrooms from Alpha Centauri: They must be farming mushrooms as Proxima Centauri is a dim red dwarf star. Proxima Centauri is 4.243 light years from Earth, that is, light from Proxima Centauri requires over 4 years to reach Earth (and over two months to reach Alpha Centauri AB, which is .21 LY away).

- ✓ Light from the sun requires five hours to reach Pluto.
- ✓ At 56,000 km/h, Deep Space 1 probe would take over 81,000 years to reach Proxima Centauri.
- ✓ At 28 hours to reach Proxima Centauri from Earth, the “mighty spacecraft of antiquity” are travelling at 1,327.45 times the speed of light.

This is somewhere around Star Trek Warp 9, according to one table (where Warp 1 = c) in the Memory Alpha article, “Warp Factor” (however, the article clearly demonstrates that the writers have been very inconsistent on Warp speeds, probably from too many ‘shrooms on their pizza).

In the Star Trek TNG Season 1 Episode “Where No One Has Gone Before,” the Enterprise is thrown 2.7 million light years from our galaxy (allegedly they passed the M33 Galaxy) and Picard states that at maximum warp, the Enterprise would return to Earth in 300 years (there is an amusingly similar scene in Stargate SG-1 season 4 cliffhanger “Exodus” (2001)). That nice round figure equates to maximum warp being 9,000 times the speed of light, that is, the Enterprise would travel 9,000 times the distance of light per year at Warp 9. There is no indication whether the ship gains speed over time, but Warp Drive has always been visually presented as instant, inertia-free, time-dilation free, FTL acceleration and stopping, with constant speed.

What Warp Drive actually is, is whatever ‘magic transport’ is necessary for each story. See Roger Ebert comments on Star Trek 2009, *ut supra*, p. 848.³

“Before Game of Thrones, George R. R. Martin wrote Tuf Voyaging, the darkly comic tale of a solo space traveler zipping from planet to planet with his own unique brand of problem solving. His magic weapon? Mushrooms. As far-fetched as it sounds, fungi are the perfect long-distance travel companion. In the right environment, spores keep indefinitely and are small enough that you could pack an entire farm on a postage stamp. Looking toward to the future and our inevitable trek to the outer reaches of space, mushrooms might just be the ticket we need to get off the planet....

And psychedelic fungi could do more than help pass the time on these long voyages. ...

These substances might even help us stay young or slow the aging process... The mushroom’s ability to cope with space’s weird atmosphere, their positive effect on our health and wellness, ease of growth and never-ending appetite make them the ideal candidate to join our race to outer space. Perhaps someday our great grandkids will be sitting on a seat made of mycelium fibers, munching a mushroom ‘pepperoni’ pizza, hurtling through space on a high-octane fuel of ‘shroom juice.’”

– Ryan Herron, “Spores in Space: These Mushroom Trips Last Light-Years,” Dope Magazine, August 11, 2017 ⁴

Endnotes.

¹ Commentary: Being on the deep ocean on a safe US Navy transport ship for a time gives only a hint of the vastness of outer space, the mental/emotional impact of a desert of water. Outer space is an order of magnitude more than being on the ocean, the ocean at least has a shore all around it, and air, sunshine, and life. And there is no zapping from one scene to another, instead, we spent days stretched out on and around the sundrenched helo-pad, as we were merely cargo. I remember that I quietly read John Gibbin’s In Search of Schrödinger’s Cat: Quantum Physics and Reality (1984) on deck, on the voyage to Subic Bay. Whether I *grokked* what I was reading is another matter entirely, but I thought I did then. A couple of days on the waves gives some small appreciation of those who fought in the island-hopping campaign in the Pacific Ocean theatre of WWII, the wonder and the terror.

² Citation & Commentary: [In a Soyuz Capsule docked to the disabled Salyut 7 Space Station] **Viktor**: You are a crazy psycho. **Vladimir**: But we docked. **Viktor**: I refuse to continue this mission with you. **Vladimir**: Viktor, do you have a choice? – from *Salyut 7* (2017, Russian language with English subtitles).

- ✓ This is not completely analogous to the Cooper situation in *Interstellar* (2014) because it was not literally impossible, but it was very, very difficult and the people on the ground *had concluded that it was impossible* and the risk of total loss at that speed was too great and were about to call off the mission.

³ Commentary: This is exactly what drives me bonkers about the internet: A movie like *The Conclave* (2006) – factual, absorbing and historical – is hardly mentioned or looked at by critics and review sites, while *Star Trek 2009* – unfaithful to the franchise whose legacy it bears with characters in name only – is almost universally praised (except by Roger Ebert) for being loud, dumb, and colorful and oh-so-franchise familiar.

- ✓ The same is true of GGDM vs. any regularly overhyped tabletop or video game release.

⁴ Commentary: No, I didn't make this up. It's not a misprint or editing mistake. You can find it online. You can stop spacing now. ☺

On the serious side, there are a decent number of articles online about experiments with mushrooms in space and it is a topic of interest to science. In “Why fungi adapt so well to life in space” (ScienceLine, March 7, 2018), Matthew Phelan tells the story of astronaut David Wolfe discovering an infestation of fungi behind a panel on the Russian Space Station Mir in 1997. He continues:

- ✓ “Fungi nearly wrecked Mir on multiple occasions. For example, fungus found on one of Mir’s Soyuz transports, the variety of spacecraft used to ferry personnel to and from the orbital platform, was once caught eating away at the hardened quartz glass of the vessel’s viewports. It etched webs of cracks and corroded the rubber seals connecting the windows to their titanium frames. Mold (a variety of fungus) became so widespread that cosmonauts and their international colleagues would return to Mir to discover that the whole place smelled like a basement full of rotten apples, as noted in the January 2016 issue of the Russian edition of *Popular Mechanics*.” *Id.*

Tristen Wang in the Harvard Science Review article, “Astromycology: The ‘Fungal’ Frontier” (June 2, 2015):

- ✓ “The discipline of astrobiology attempts to answer the larger mysteries about life: its origin, necessities for survival, and presence in other worlds. But astrobiology also has practical applications in considering how biological organisms may travel through space. In particular, human space travel would greatly benefit from studying a branch of fungal biology known as astromycology: the study of earth-derived fungi in space. Fungi offer both an opportunity and threat to human space travel. Problems arising from fungal intruders are both wide and relevant, ranging from providing food and decomposing biological material to breaking down spacecrafts. Interactions of intense radiation and lack of gravity with fungal growth underlie the opportunities and threats that fungi pose to human space travel.” *Id.*

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See Appendix EPAT1 – The Existential Patents
See Appendix EPAT2 – Existential Patents Quick Summary

“At an intersection of pathways in slipstream space, both paths manifest the potentiality of being correct and incorrect. It’s only when the pilot chooses a specific direction that this potentiality collapses and one path becomes right, and the other wrong. For reasons still not completely understood, organic beings tend to choose the correct paths, or more precisely, the very act of choosing makes the path they have chosen the correct one.”

– The Andromeda Wiki article, “Slipstream,” captured May 28, 2018 ¹

Ship Systems: Ship Systems is an Existential Patent that represents the life support, crew accommodations, and general logistical aspects of interstellar flight. The practical limitations of interstellar flight are how much supplies the ship can carry, how quickly they are consumed, and the extent to which the ship systems can recycle supplies in interstellar flight and/or replace them from raw materials when they arrive in a system which does not have a supporting colony. Some items, such as high-end manufactured or refined items, especially those required for the operation of the Stardrive, will be impossible to replace without a supporting colony; the Stardrive is the single most complicated and finely-tuned device ever manufactured, and a piece of duct tape just won’t fix it. Without this patent, a ship has no turns of OFL/OSL (*ut infra*), cannot move away from a Supporting Colony and, *except for Scout Ships*, cannot even be constructed (because it’s system integral).

- ✓ GGDM *does not* begin with the assumption of any Star Trek like ‘replicator’ technology and even in Star Trek there are limits (e.g., see Star Trek: Voyager), especially if the ship is damaged, and even in Star Trek, there are damage levels that cannot be repaired without putting into a space station or orbital shipyard.
- ✓ There is a maxim which is old because it is worth repeating each generation: ‘Amateurs talk about tactics, professionals talk logistics.’² One of the endless litany of historical examples supporting the adage is the 12th SS Panzer Division’s operations in Normandy in 1944: Their battalion of Panther tanks ran out of fuel before reaching the battlefield due to sloppy staff work (see Moltke discussion, 5 Combat, p. 1008, *infra*) and logistic failure. The late-war 12th SS Panzer never cohered well.³
- **Life Support:** The Ship Systems Existential Patent is required for interstellar flight. The Ship Systems Existential Patent governs both Operational Flight Limitation (OFL or “offal”) and Operational Supply Limitation (OSL or “ossal”⁴), detailed in the following sections. The Patent contains turn limits for each individually, beginning at two Regular Turns each. The individual limitations may each be improved by means of a Continuous Operational Technology or Enhancement Technology Patents, with each improvement being no more than one turn for either the OFL or OSL, per COT or ET Patent.
 - ✓ The one Regular Turn per step improvement scheme is similar to improvement of Ship Speed (see Dog Star, 2 Stardrive, p. 792, *supra*). Each improvement of Operational Flight Limitation extends the range of ships by the current maximum Ship Speed at time of departure.

- Imperial Interstellar Scout Service: Scout Ships are *non-warships* with big sensors and small highly specialized crews that are designed to go anywhere, seeking out new life and new civilizations ... well, you know the official party line propaganda already ... but really they are more interested in claiming resources, powerful alien artifacts, rhinestone shades and cheap sunglasses, easy Earth girls, and living space first. See Scout's Honor, 1 Expansion, p. 879, *infra*, for full discussion of Scout Ships. With a small crew and a big/small self-sufficient ship, the supplies can last a long time. Scouts are the only ships that may be constructed without a Ship Systems Existential Patent. *With a Ship System Existential Patent*, Scouts have *two extra turns* of Operational Flight or Supply Limitations (OFL/OSL), and may depart for any destination system, without it, they have two turns of OFL/OSL.
 - ✓ There is also a distinct possibility that Scouts are drones or Von Neumann machines. But this then dives into arguments about sapient understanding and decision making vs. AI and whether the potential for First Contact should be handled by an AI Scout or a biological sapient. This is a finer issue for the participants, the game will only look at the issue when necessary. I recommend reading Fred Saberhagen's "Ber-serker" stories. See previous discussion in relation to Faculties use, Web of Night, 2 Colleges, pp. 477-478, *supra*. See also the AI Problem excerpts, Corporations, *infra*.
 - ✓ On the level of game design discussion, the rare position that does not begin the game with the Ship Systems Existential Patent, can at least vigorously Scout the local stars while getting the necessary Patent. But to do this, they must begin with the Generic Stardrive Existential Patent as no ships can be constructed without it. Scout Ships do not require an Orbital Shipyard to build.
- Operational Flight Limitation (OFL): Operational Flight Limitation (OFL) is the number of Regular Turns of interstellar flight that a ship can travel when making a Long Movement ***beginning from a system where there is a supporting colony***, regardless of whether there is a supporting colony at the destination. The basic Operational Flight Limitation is two Regular Turns. Operational Flight Limitation generally becomes less of an issue as ship speed improves, because the range of the ship is however far it can travel at full speed in the time allowed by the current OFL.

With higher ship speed, the frontiers open up impressively (however, note again that temporal Disturbance Modifiers are particularly troublesome to the OFL by adding turns to the flight). Because it is usually irrelevant whether the destination has a supporting colony, OFL applies to the conditions precedent of all Power Activations that initiate interstellar flight, not just activation of the Movement Power. Cargo Ships, which must have a supporting colony at the destination as condition precedent to moving, may use an **alien colony** for OFL if trading with the **alien colony** (see Cold Lunch, 1 Commerce, p. 1189, *infra*). COT Patent improvements in OFL technology will not affect ships *en route* at the time of the improvement.

- ✓ It is *imperative* that the initial Starlog contain 2-4 stars within two turns' movement of each starting position based on the movement formula and starting ship speed of the Generic Stardrive Existential Patent. Other stars should be reachable from there.
- ✓ The stark contrast between U.S. Navy submarines and Japanese Imperial Navy submarines in WWII demonstrates the long effect of Operational *anything* Duration. U.S. submarines had greater operational range and duration than cramped, smaller Japanese submarines, and were also more numerous, and once the problems with U.S.

torpedoes were fixed by reverse-engineering of Japanese torpedoes, U.S. submarines were operationally superior. Added to that was the fact that U.S. codebreakers had deciphered the Japanese communication codes (unknown to the Japanese) and a rapid increase in proficiency and improved tactics (e.g., Colleges in GGDM), tilted the underwater war against the Japanese, who took unsustainable losses to their vital merchant marine.⁵ Modern nuclear submarines can stay submerged for 3 months.

- Operational Supply Limitation (OSL): Upon arrival in a system with a supporting colony, the ship is automatically fully resupplied and may depart again with a fresh Operational Flight Limitation (OFL) or remain indefinitely in the system (this is an assumption purely for game purposes and may not accurately reflect the apparent facts).⁶ If the destination system does not have a supporting colony, then Operational Supply Limitation, *the amount of time a ship can operate without a supporting colony in the absence of supply from a Log Ship (ut infra)* – including subsequent interstellar flight to a system where there is a supporting colony – begins to run. While it is certain that the ship could replace some of its supplies from raw materials in the system, as outlined above, eventually there will be some problems. Log Ships are not themselves exempt from Operational Supply Limitations.

- ✓ OFL ends upon arrival in the destination star system, regardless of whether there is or is not a supporting colony. Unused turns of OFL *do not* convert to extra turns of OSL or toll OSL from running. OSL should always be equal to or greater than OFL in operational turns, so that the ship arriving in a system without a supporting colony can immediately retrace its route back to a supporting colony (running on OSL time). If a non-Scout Ship is going to a system without a supporting colony, *the owner should be prepared to drop a Scene there after arrival*. For each turn that OSL is greater than OFL, the ship might spend those extra turns in the unsupported system doing whatever it came to do (e.g., kidnapping Elvis) before being required to return to a supporting colony or leave on a longer trip. Planning is key.

It is thus possible to abuse OSL slightly to allow ships that arrive in an unsupported star system to make a second flight that is longer than would have been allowed by the OFL (for example, ‘bridging’ long distances between colonies by passing through an unsupported star system). OFL + OSL effectively makes the combined flight time of a ship to and from or through an unsupported star system. The OFL is still the limitation on the first leg of the journey, and the second leg *must go* to a destination with a supporting colony, not off into the night.

- Death Ship: Does it need to be said? Absent creative Concierge Intervention (did the term “divine intervention” jump to mind?), a ship which has exhausted its Operational Flight and/or Operational Supply Limitations and/or has not arrived at a supporting colony or has failed its Supply Roll (*ut infra*), will perish and may be removed from the universe (if in interstellar space), or left there to be rediscovered later as a floating derelict. Maybe the elderly remaining crew or their bones will be found by beacon on a local planet or moon?
 - ✓ “Death Ship” is the name of a Season 4 episode of the original Twilight Zone, starring Jack Klugman and Ross Martin that is memorably peculiar even by that show’s standards. Seasons 4 and 5 featured three classic spaceship crash episodes, “Death Ship,” “On Thursday We Leave for Home,” and “Probe 7, Over and Out.”

“Unobtainium is engineering jargon for, ‘a material that would be perfect for our purposes, if we could get it, which we can’t.’ Sometimes an object that actually exists, or existed at one time, becomes unobtainium because it’s unavailable now. When used in the realm of fiction, Unobtainium is usually the exotic material that is needed to make the Applied Phlebotinum of a given story work. Without it, all your nifty machines and plot-enabling gadgets quit functioning.

Some forms of unobtainium are based on real physics, but beyond the current scope of human engineering, such as room-temperature superconductors; they would revolutionize just about every form of technology, but they are not in and of themselves dangerous or based on some exotic physics-bending principle.” – from TVTropes.com, “Unobtainium”

Unobtainium: Meanwhile, back at the space station...

- ✓ “Phlebotinum is the versatile substance that may be rubbed on anything to cause an effect needed by a plot. Examples include but are not limited to: nanotechnology, magic crystal emanations, pixie dust, and Green Rocks. In essence, it is *plot fuel*.” – from TV Tropes.com, “Applied Phlebotinum” (emphasis added).
 - See full quote, Assumptions of Light, 1 Stardrive, p. 781, *supra*.

Although fuel might more properly be a consideration of the Stardrive Patent, it is assumed under the OFL/OSL of the Ship Systems Existential Patent. The game makes no separate or specific accounting for fuel other than OFL/OSL. In most cases, it is assumed that the Stardrive is also the power plant providing energy to the rest of the ship for all other systems. If participants want, they can track fuel separately and this could add another layer to the game as not all colonies will have available refined fuel for Starships, fuel would need depots.

- ✓ See Large Convenient Energy Source (LCES) feature quote (“Abusing the Kardashev Scale”), Research Areas, 2 Technology, p. 701, *supra*.

Thus, if participants want to guarantee that wars will occur in their game, they could possibly do no better than to introduce scarce fuels into the game that are vital to interstellar movement, creating the feedback loop:

- ✓ A 15-minute movie criticism video published in April 2016 by Media Zealot titled “6 Advanced Sci-fi Civilisations Too Stupid To Really Exist (Part 1)” makes this same point with regard to the humans in Avatar, which the video criticizes as too stupid to have advanced to interstellar civilization. The video points out that the humans are in a feedback loop; they must expend fuel and resources to find more fuel, and choose to go to war with the indigenous natives on Pandora, ignoring and destroying countless scientific wonders and potential advances, to get fuel – instead of finding sources located on uninhabited planets. Humanity in the movie is cognitively one-dimensional, they see only profits. The other civilizations roundly criticized are the Engineers from the Alien franchise and the alien invaders in Battle: Los Angeles (movie, 2011).

This also assumes that such fuel is naturally occurring throughout the universe and no one has devised a way to manufacture it; e.g., like crude oil on Earth in the 20th Century. Manufacture of

any such fuel would require more energy input – since the fuel is simply an energy storage device – than could be obtained from the fuel when used (unless extradimensional). Thus, manufacture of advanced fuels, other than those that can be produced biologically, has eluded us.

➤ No Blood for Uranium: Oil is the “Applied Phlebotinum” of modernity, *it is the plot fuel of the 20th Century*. Imagine warfare with coal-fired, steam-driven Panzers in 1939?

- ✓ “In the spring of that year Guderian had his first experience of commanding a panzer force during the annexation of Austria. The mobilization was chaotic, tanks ran out of fuel or broke down, and the combat value of the formation was non-existent. Had there been any real fighting Guderian would certainly have lost. He stood beside the Führer in Linz as Hitler addressed Germany and Austria in celebration. Afterwards, he set about remedying the problems that the panzer force had encountered.” – from Wikipedia article, “Heinz Guderian,” captured November 19, 2019.

Some in this oil-driven, oil-crazy world might consider it a serious design flaw in the game to have excluded fuel tracking from the calculations.

- ✓ “Despite the effort put into developing a fleet capability to execute the drive across the Pacific called for in War Plan Orange, the first major large-scale assault conducted across an ocean without a forward operating base occurred in the European theater – Operation Torch, the invasion of North Africa. More than 100 ships were refueled by five oil tankers and four *Sangamon*-class escort carriers that were converted *Cimarron*-class oilers.” – Commander John A. Lukacs IV, USN, “A Century of Replenishment at Sea,” CNO Naval History Essay Contest 2017, pub. August 8, 2018 on www.history.navy.mil.

In 1961, the USS Enterprise (CVN-65), the first nuclear-powered aircraft carrier was launched, and the USS Nautilus (SSN-571), the first nuclear-powered submarine, had been launched in 1954. Nuclear powered ships could run for 20-30 years on the initial fuel (the former was decommissioned in 2017 and was last refueled in 1994, the latter was decommissioned in 1980), thus effectively putting off to the next generation, the problem of refueling these ships when it may have been assumed that they would either be obsolete or that technology would have advanced such that the process would be less difficult. This provides a frame of reference for the amount of energy contained in a tiny bit of uranium. Thus, the problem is one of scarcity and consumption rate; I have not yet seen any protestor signs that say “No blood for uranium!” though it may be coming.

➤ Scooping: Science-fiction writing has been very inconsistent on the issue of starship fueling.

- ✓ In the Traveller RPG and in the movie *Magellan* (2017) starships can get fuel from gas giants (skimming/scooping) or from water worlds, or in the case of the movie *Magellan* (2017), a fuel line was run to a frozen hydrogen-nitrogen ocean. In Traveller RPG, massive battle fleets would refuel at local gas giant planets and I wondered if eventually a gas-giant planet in a busy system might have all of its atmosphere taken by starships? In the series *Stargate Universe*, the ancient alien ship *Destiny* scooped from the surface of a star. Incidentally, in *Songs of Distant Earth* (1986) by Arthur C. Clark, the space-ark ship *Magellan* wasn’t stopping at the colony for fuel, but for water to make ice to rebuild its forward shield against interstellar dust and rocks.

- ✓ In Battlestar Galactica, the fuel used is a very rare metallic ore Tylium (Battlestar Galactica Wiki); one must assume that the Twelve Colonies had a supply source somewhere (according to BattlestarWikiClone, it was not native to the Twelve Colonies), but it makes starship operation very expensive. In the original series, I do not believe the fleet ever ran out of Tylium (the wiki said it was hardly mentioned in the original series), but in the reimaged series, the writers couldn't resist the easy 'plot fuel' temptation (arguably, FTL must be a massive energy drain thus it takes time to recharge the FTL), so the Colonials had to attack the Cylons in the "Hand of God" (2005) to obtain Tylium from an asteroid.
- ✓ Conversely, in other science-fiction settings, such as Star Trek, the ships were powered by matter/anti-matter reactions (Deuterium/anti-Deuterium). The particulars of anti-matter (anti-Deuterium) generation were never discussed (since anti-matter theoretically cannot exist – BOOM!) except to say the obvious, that there would always be more matter than anti-matter. The flow reactions were controlled by fictional dilithium crystals (not to be confused with the real dilithium) which was a component as critical to the system as anti-matter to prevent the ship from exploding, thus two of the three items needed for Warp Drive were *unobtainium*. This was plot fuel for a few episodes that were *parodies* of Cold War oil tensions. Notably, Star Trek limited dilithium crystals to starship propulsion and didn't make it into Applied Phlebotinum.
- ✓ However, in the Stargate universe, a magic-everything mineral called Naquadah, "a rare, super-dense mineral," which is also a superconductor, is used for every possible purpose: explosives, fusion reactors to power ships, small generators, as armor, as a blood supplement, can be liquefied to work in small handheld weapons, to make star-gates, ship hulls, and as currency in interstellar exchange (from Stargate wiki). Naquadah is the combined Unobtainium and Applied Phlebotinum of Stargate.

Arguments that fuel consumption should be included in GGDM logistics are really arguments for the introduction of 'plot fuel' to the game, if the participants do not already have enough to drive the story. Even when couched in 'realistic' terms, as a necessary realism to make the GGDM (or any sci-fi) setting credible, what is actually meant, is that the game needs 20th Century plot fuel. TV series writers, still living in the 20th century and not yet comprehending the consequences of nuclear-powered submarines and carriers, cannot resist adding 20th Century plot fuel.

Yes, there are two paths you can go by (snorting dilithium crystals or drinking liquid naquadah), but once a game of GGDM is started, it will be difficult to change the road you are on. For design simplicity and from the comprehensive view, GGDM chose not to track fuel. But participants can add it if they wish another layer of complexity.

"In late 1944, Admiral Raymond Spruance had begun preparing to bomb the Japanese Home Islands to eliminate the air threat to the planned invasions of Iwo Jima and Okinawa. He realized that the primary hurdle to keeping his 12 aircraft carriers and associated escorts on station would not be fuel but rather ammunition. It would take only three days for the ships to expend their ordnance, after which they would have to make a 2,000-nm, 12-day sail to Ulithi Atoll and back – meaning only six days of bombing could occur per month.

Admiral Spruance directed the development of a method for transferring ordnance and stores at sea, ultimately approving the Burton Method (named for the development team's leader, Captain Burton Biggs), an adaptation of the pier-side process that used existing cargo winches on both the delivery ship and aircraft carrier. On 23 February 1945, the USS Shasta (AE-6) conducted the first underway ammunition replenishment, by breaking ammunition out on deck by hand – including rolling bombs across the deck – and then levering it to the USS Bennington (CV-20)."

– Commander John A. Lukacs IV, USN, "A Century of Replenishment at Sea," CNO Naval History Essay Contest 2017, pub. August 8, 2018 on www.history.navy.mil ⁷

Logistical Support Ships: Ships which are in a system without a supporting colony may be supplied from Log Ships if they are carrying *Supplies*. "Log Ship" is short for Logistical Support Ship, and Log Ships may only be constructed after successfully acquiring or prosecuting the Logistical Support Ship Existential Patent. Log Ships cost 15 RPs each to build, Orbital Shipyard required; they are constructed in the same way as any other starship.

- ✓ Log Ships may never use anything they are carrying except *Supplies*. Log Ships are never required to use *Supplies* to extend their own OSL.
- **Sutlers not Settlers:** The Logistical Ship rules are written on the assumption generally that they are owned by the government and are part of a regular, controlled supply system of a modern naval force or army. See Nationalist Armies discussion, 4 Colleges p. 502, *supra*. For most of history, however, soldiers were often required to supply their own kit and bring or purchase their own provisions; sutlers were merchants who followed the army and sold provisions to the soldiers (just as legend has it that "hooker" as a name for a prostitute came from those who followed General Hooker's army in the American Civil War, and who is to say there wouldn't be a class of professional ship prostitutes?⁸). However, should Logistical Ships and/or supply become the operation of a Corporation (see Corporation Games, 1 Corporations, p. 1243, *infra*), they might be considered sutlers in GGDM. On the other hand, positions in GGDM represent the government and Native Population Type nearly inseparably, so anything built or owned by the position *might be said to be owned both by the government and the civilization*.
 - ✓ If players believe and treat GGDM Regular Turns as representing multi-generational periods, Combat Rounds may represent a generation and each warship and Log Ship may be also a seed ship, familial generation ship of sorts, hatchery, or regeneration chamber. Luckily, Supplies do not 'age-out.'
- **Take Your Protein Pills:** Log Ships may carry four types of items: *Supplies*, Fighters, expendable Enhancements, and Ship Missiles. *Supplies* is a generic term that is used to abstractly represent all of the types of items that a starship needs (including replacement crew), except replacement Fighters and Missiles, and expendable Enhancements.

The capacity of a Log Ship to carry Supplies, Fighters, Missiles and Enhancements is measured in the RP value of what it can carry, and their initial capacity is detailed on the Logistical Support Ship Existential Patent. Like other PIT Patents, the 20 RPs capacity of 1st Era Log Ships are capable of being improved by use of COT and ET Patents and it is also possible to create specialized classes of Log Ships that carry only one type of resupply item and/or

possibly perform additional services. Log Ships may not load or transport RPs, those may only be transported by Cargo Ships,⁹ nor may they be used to transport population.

- ✓ Log System Boats and Log Tenders are possible, see System Boats, 3 Construction, p. 677, *supra*. Their practicality may be circumstantial.

- Empty Cans: Log Ships *may not be used* to supply Colony Transports or any sort of Colony Ship or ship carrying population (other than Ground Units, see Beans, Bullets & Bandages, 4 Combat, p. 988, *infra*); it is just beyond their capacity to provide that much supply. Non-supply of Colony Ships is a rule for game convenience and to keep the logistics somewhat realistic.¹⁰ Beyond this is a maze of ambiguities about the time length represented by Regular Turns, how much a population factor represents, and the technologies and capabilities involved in Colony Ships (e.g., are they in stasis? are they eggs?), OFL/OSL and Log Ships. Though it might be possible to eventually allow Log Ships to supply Colony Ships, this ability should be developed at great cost and consideration.

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The primary purpose of Log Ships is to supply warships in systems without a supporting colony; *they are the symbol of the financial cost of power projection in GGDM*. OFL represents the operational range of warships and colony ships not going to destinations with a supporting colony. Warships can remain indefinitely in a system as long as Log Ships provide *Supplies*.¹¹ However, Log Ships also carry and deliver enhancements (from Enhancement Technology Patents, e.g., Fighters, Missiles) to any eligible ship, base, colony or installation.

- ✓ If nobody builds warships, nobody needs to build Log Ships. Right?

Colonies are assumed in GGDM to be self-sufficient, so whether a Log Ship can supply a colony is a moot question and no rules are provided for it. However, should the drama of the story unfold so that a colony needs to be supplied (*à la* the Berlin Airlift), Log Ships might keep a small colony supplied below domestic subsistence levels for a short while, and the participants will need to wing it on the rules for this.

- ✓ My mother used to call empty jugs and large bottles, “dead soldiers” when I was young. She is the only one I have ever heard use that term. But if you Google “dead soldiers definition,” the result comes up in Wiktionary and a half-dozen non-mainstream dictionary sites.

- Running Outatime: Transferring *anything* from Log Ships may only occur if both the Log Ship and the other ship or colony are in the same system *at the beginning of the Regular Turn*. Recall that ships conducting Short Movement (or ‘heroic movement’) arrive in the destination system on the same Regular Turn they departed the origin, that is, before the beginning of the next turn. So they could begin the Regular Turn in the same system as the target ship or colony.

Ships making Long Movements arrive before the first Power Activation of the turn, but would not be in the same system as the target ship or colony *at the beginning of the turn* of their arrival. See Long Jump, 2 Movement, p. 851, *supra*. However, arrival before the first Power Activation still allows Log Ships to receive Supplies and Enhancements from colonies using the Construction Power Activation (see Costly Resupply and Transfers, 3 Construction, pp. 679-680, *supra*) or perform other tasks.

- ✓ Hugh de Cressingham, a French-speaking knight serving as the King’s Treasurer in Scotland, accompanied the English army commanded by the Earl of Surrey in 1297 to

put down the Scottish revolt led by Wallace and Moray. Hugh was hated by the Scots and not liked by the English.¹² One of the stories surrounding the English defeat at the Battle of Stirling Bridge, is that Sir Hugh was impatient with the *cost per day* of keeping the English army (plus Scottish defectors) in the field, and he convinced the Earl to make an ill-advised, tactically disadvantageous attack across the wooden bridge against Scottish infantry on the heights on the other side of the river. Hugh was upset with the Earl's delays and wanted the matter concluded quickly; he was killed and his body mutilated while leading the attack across the bridge while the Earl remained with about half of the English force on the other side of the bridge. As the Earl retreated south after the battle, many of the Scottish defectors reverted to the Scottish side and attacked the English supply train at The Pows marsh.

Time is important not only in timing, but in cost per Regular Turn to keep ships, boats, and Ground Units supplied. It is probable that most situations will be decided by supply and cost considerations in equal or greater measure than other factors of the moment, combats will be short and brutal, colony sieges will be expensive and time consuming.

- Running on Empty: The transfer of anything from a Log Ship never occurs automatically in a non-combat situation (thus, the position that fails to submit Actions may lose ships), and it occurs before the first Power Activation of the Regular Turn, and should be included in the position's Regular Turn Actions when submitted to the Concierge.
 - ✓ Transferring anything *from* a Log Ship does not require a Power Activation.
 - ✓ Transferring anything *to* a Log Ship *from another ship* does not require a Power Activation.
 - ✓ Transferring anything *to* a Log Ship (or any other ship) *from a colony* requires an activation of the Construction Power for the purposes of Ship Supply (see 3 Construction, Costly Resupply and Transfer, pp. 679-680, *supra*).
 - ✓ Ships receiving Supplies from Log Ships do not have to make a Supply Roll if they have exceeded their OSL on the Regular Turn they receive Supplies (*ut infra*).
 - ✓ Log Ships will automatically consume their own Supplies to avoid Supply Rolls if they have exceeded their own OSL unless otherwise indicated, and all Supply Rolls are made after Supplies are distributed to other ships, so Log Ships could be forced to make Supply Rolls to keep other units supplied.
 - Taking job applications for Log Ship crew positions...

If a Log Ship can give up all of its *Supplies* to prevent three other ships from making Supply Rolls for a Regular Turn, but the Log Ship then has to make a Supply Roll that might not be a bad bargain.

- ✓ “Underway replenishment was the U.S. Navy’s secret weapon of World War II.” – Fleet Admiral Chester Nimitz, U.S. Navy.
- Limping Home: Nothing can be transferred or supplied to other ships while in interstellar flight, transfers may only be accomplished when the ships are in a starsystem together. However, Supplies may be transferred at any time before Operational Supply Limitation expires and the early transfer and consumption of supplies *tolls the running* of the OSL limit for the supplied ship for that turn (that is, the turn in which the supplies are transferred to the other

ship does not count against the OSL), such that it becomes possible for the ship(s) to make it back to a supporting colony before their OSL expires. In short, Supplies buy extra OSL. A Log Ship may only transfer one turn of supplies to each ship each Regular Turn and cannot leave supplies (or anything) in cold, irradiated system space to be picked up; a Log Ship cannot dump and run; however, this is an area that might be improved by Colleges or Patents.

A ship in an unsupported system that has expired OFL and OSL can be kept alive indefinitely turn by turn by being supplied by Log Ships. Supplies are transferred at the beginning of the turn, so the ship would need to be able to reach a supporting colony in one Regular Turn of movement (a Short Movement) before having to make Supply Rolls in flight. Log Ships cannot transfer Supplies by accompanying the ship during movement. At some point, a ship with expired OFL/OSL will either need to be abandoned, or a colony established in the system, or it will need to take chances on Supply Rolls to reach a supporting colony.

➤ A Hot Dinner: No ship may transfer remaining Regular Turns of OSL (or OFL) to any other ship, and only Log Ships may transfer *Supplies*. Cargo Ships cannot transfer RPs to other ships (or System Boat) to be used as *Supplies* (or for any other use). The RP cost of supplying a ship for one *Regular Turn* is 10% of the base construction cost of the ship plus the *current* RP value of any Fighter Complement (or System Boats). Transfer of Supplies *are never required or allowed* during Combat Rounds; this should not be confused with Combat Re-supply of Fighters, Ship Missiles and Enhancements described in 4 Movement, p. 868, *infra*.

- ✓ A 1st Era Log ship fully loaded with *Supplies* (20 RPs) can support 200 RPs of ships, boats and fighters for a Regular Turn beyond their OSL.
- ✓ This is a completely arbitrary value and not based on any real world data, though it would be interesting to see, for example, how much it costs the U.S. Navy per year to operate the USS Little Rock II as compared to its \$440 million USD construction cost. That said, GGDM is rather fuzzy in many areas – such as actual time – and is a science-fiction setting, many things are assumed to occur for accounting purposes, without cost, so the 10% of value is not a huge stretch and should not be reduced quickly or easily by Patents or other means.

System Boats on Tender Ships could be treated as Fighter Complements for this purpose; that is, while the Tender is within its OSL, the System Boats are assumed to be supplied by the Tender, but if being supported by Log Ships, the System Boats are supported at their base construction cost in RPs (and System Boats are a lot cheaper than starships so this is an interesting option in logistics). System Boats whose supporting colonies have been destroyed or captured require supply from a Log Ship or they will perish, as they have no inherent OSL. See System Boats, 3 Construction, p. 677, *supra*.

- ✓ A Log Ship that, at the *beginning* of the Regular Turn, supplies units in any ongoing combat, except Ground Combat, will automatically join the combat, see Victuals & Vitals, 3 Combat, p. 975, *supra*, unless it initiates interstellar movement on the same Regular Turn (possible when arriving by Short ‘heroic’ Movement – arrive end of previous turn, supply, jump out).

The supplies are subtracted from the Log Ship at the beginning of the Regular Turn. An empty Log Ship still has its own OSL, and does not need to make Supply Rolls until its OSL expires, but cannot transfer its remaining turns of OSL to any other ship.

- The Cold Equations: The Concierge will (attempt to) keep track of the Operational Supply Limitations of ships; player assistance and honesty would be appreciated if the Concierge misses any detail (likely, this bookkeeping can be better performed by a computer assistant).

Since a ship (theoretically) may never leave for a destination star whose travel time in Regular Turns exceeds its Operational Flight Limitations (and there is no FTL resupply) including known Temporal Disturbance modifiers, there is no need to track the OFL of a ship.

Scouts should be used for exploration (having two extra turns of OFL), but it is possible that sometimes a non-Scout ship may run out of OFL and perish going to an unexplored system that has a Temporal Disturbance Modifier.

- ✓ Any ship which has exceeded its Operational Supply Limitation (*including* during interstellar flight to a supported system) must make a Supply Roll on one ten-sided die prior to the first Power Activation of each Regular Turn, if the die roll result is less than or equal to the total number of rounds the ship has been out of supply plus 2, it is destroyed instantly for lack of supply. Note that an unlucky ship can be destroyed on the first Supply Roll if the result is ‘1,’ ‘2’ or ‘3.’
- ✓ Any ship, except Scouts, which departs from a system without a supporting colony may only have a destination system assigned which has a known supporting colony.
- ✓ If all supporting colonies in the destination system are eliminated or captured prior to the arrival of the ships *en route* from an unsupported system, those ships must make Supply Rolls on subsequent turns if they have exceeded their OSL and are not supplied by Log Ships. The ships may automatically initiate combat (at the discretion of the Concierge, based on the situation) without the need for a Combat Power Activation, if the ships (or System Boats) are capable of combat, to try to liberate the supporting colony (if it still exists).

There is a dynamic between OSL and Log Ships; the longer the OSL, the less need there is for Log Ships. Exceptional OSL capabilities later may render early game Log Ships obsolete. On the other hand, some positions may determine that it is cheaper or better to build new ships than to keep supplying unsupported ships, or that they will take their chances on Supply Rolls each turn. Log Ships cannot help or extend OFL but benefit from it.

- ✓ “The Cold Equations” is the title of a classic brutal two-people-in-a-room sci-fi short story by Tom Godwin,¹³ published in *Astounding Magazine* in 1954. It was made into a not-well-received TV movie in 1996, from a 1989 *Twilight Zone* episode that was based on the short story (neither of which I have seen). I found the complete short story available free on the internet in PDF or in webpage format, on several sites in June 2018. I read it an anthology long ago and recommend reading it.
- Hollow Logs: You never know what you will find inside a hollow log, but the list of things you won’t find is fairly short and to the point. Empty Log Ships may be refilled at any eligible colony by activation of the Construction Power at that colony for the purpose of Ship Supply during any turn which the Log Ship began the turn in the colony’s starsystem.¹⁴

“Long ago, the peaceful population of the planet of Krikkit, unaware of the rest of the Universe due to a dust cloud that surrounded its solar system, were surprised to find the wreckage of a spacecraft on their planet. Reverse engineering the vessel, they explored past the dust cloud and saw the rest of the Universe, immediately taking a disliking to it and determining it must go. They built a fleet of ships and robots to attack the rest of the Universe in a brutal onslaught known as the Krikkit Wars, but were eventually defeated. Realizing that the Krikkit population would not be satisfied alongside the existence of the rest of the Universe, it was decided to envelop the system in a Slo-Time envelope, allowing Krikkit to survive long after the rest of the universe has ended; the Wikkit Gate was the key to the envelope.”

– from Wikipedia article, “Life, The Universe, and Everything,” captured August 15, 2019¹⁵

Blinded by the Light: Creatures evolved in the eternal brightness of the center of the galaxy would not – from our perspective, know darkness (unless they went underground). They would not be able to make out much of the other stars around them and would not be able to see beyond the glow of the galactic core; they would for the most part, be ignorant of the existence of other galaxies, the Big Bang, and the vastness of the cosmos. Science-fiction literature has not much discussed species evolved in the center of the galaxy – and the question of whether or not anything is even remotely possible has never been explored in any story (TTBOMK); instead, space-opera fiction assumes creatures like ourselves who evolved in the spiral arms of the galaxy. Likewise, galactic empire science-fiction trope dances around the core of the galaxy; it is never quite clear whether or to what extent the supposed galactic empire includes the core of the galaxy. Galactic Empires in fiction (including GGDM) can be largely assumed to exist around the rim, spiral arms of the Milky Way Galaxy.¹⁶

“Light thinks it travels faster than anything, but it is wrong. No matter how fast light travels, it finds that darkness has got there first, and is waiting for it.” – Terry Pratchett

Endnotes.

¹ Citation: See wave function collapse discussion, Peek-a-Boo, 2 Expansion, p. 893, *infra*.

² Commentary: There is a saying commonly attributed to Sun Tzu that circulates freely around the internet: “*The line between disorder and order lies in logistics.*” I thought it was odd when I read it because while they must certainly have had an idea of supply sources and supply lines, I doubted that a concept comparable to modern logistics (similar to retroactively applying technology to prehistoric times) existed. I thought at the most, he might have said supplies and someone adulterated the phrase by putting in ‘logistics.’ It turns out he didn’t say either one:

- ✓ The quote in question appears to originate from a loose translation of a phrase from Chapter 5 Verse 4 of Sun Tzu’s book, which deals with coordination. Specifically, the relevant verse reads:

*‘Amidst the chaos of a sea of flags in the battlefield, order must be maintained. Even when the view is unclear, adherence to an army’s formation will ensure it cannot be defeated. Yet, **disorder can arise from order**, fear from bravery and weakness from strength. **Orderliness can be fostered (or instilled) via coordination**, bravery via the impetus of a situation and strength via training. A commander may stir an enemy (i.e. disrupt its formation) by misleading it with an enticement of a false advantage, from which point the enemy can be defeated by troops lying in wait.’*

Hence, the specific phrase that deals with order/disorder is in reality linked to the notion of coordination among the various combat units of an army, rather than the notion of logistics.” – S.H.G. (a logistics professional), “‘The line between disorder and order lies in logistics.’ Did Sun Tzu really say that?” LinkedIn Pulse, December 28, 2018 (italics and bold in original).

³ Citation: Information from Wikipedia article, “12th SS Panzer Division Hitlerjugend,” October 5, 2018, citing to opinion of historian Marc Milner.

⁴ Commentary: “Ossal” is the German word that translates as “osseous” in English, which means boney or ossified. You can read whatever meaning you want into it in relation to Operational Supply Limitations, but mainly, it just was similar to “offal” that represents OFL, Operational Flight Limitations.

⁵ Commentary: What is presented here has been the classic historical analysis. There are many articles on the subject on the internet. There may be some revisionist arguments on small points, for example, regarding the Japanese 1st Class Submarines, and that codebreaking and industrial capacity had more to do with the U.S. submarine successes than individual submarine superiority. But the overall results were significant and undeniable.

⁶ Commentary: OFL/OSL is the basis of Arthur C. Clarke’s personal ♥ novel, The Songs of Distant Earth (1986) which he took nearly 30 years to develop from the 1958 short story. This was a sci-fi trend of the early 80s, I bought (and still have) four Foundation books in hardback when Foundation’s Edge was published in 1982, 30 years after the original three Asimov novels. Maybe this is the ‘way’ things of this sort work, had GGDM been published as a short story in 1992-1993, the final version of GGDM in 2020 would be the novel over 25 years later.

⁷ Commentary: In 1988, I watched U.S. Navy ships practice transferring casualties from ship to ship underway between Okinawa and the Philippines.

⁸ Commentary: Perhaps something like the “furniture” in Soy lent Green?

⁹ Commentary: A rather arbitrary distinction to be sure, but at the negotiations for the Sirius-Proxima Treaty of 13,013 GE (approximately 2,500 B.C. on Earth), the Log Pilot’s Union sought to avoid having Log Ships mistakenly shot at as Cargo Ships. In return, the Cargo Pilot’s Union negotiated a clause that allows warships to use heavy weapons and missiles on properly identified Log Ship targets, but not on Cargo Ships. It was this same treaty that, unbeknownst to our ancestors, made Earth the property of Deep Green. The Earth is primarily blue from space, of course, but the little green men are working hard to change that by guiding us toward industrial technologies that produce greenhouse gases and emissions that cause global warming. Their objective is to replace us with an advanced and enlightened global consciousness algae civilization.

¹⁰ Commentary: I may be just a paralegal, but I won one in front of a judge by a practical legal logistics argument. We were defending a petition by the opposition to remove the case to New York courts. One of the prime witnesses in the case had refused to appear for depositions and had refused to cooperate even with his own counsel, despite being threatened with sanctions by the judge. I suggested an argument based on the difficulty of getting this indispensable, uncooperative, belligerent witness to appear in court in another state. The attorney who was then writing the response brief said, ‘Hey, that’s a pretty good argument.’ He included it in the brief as the third or fourth argument; when the judge issued an opinion and order, the very first reason he cited to denying the petition was my argument. The attorney said afterward, “Yours was the winning argument, it was the first argument the judge cited.”

¹¹ Citation & Commentary: “Napoleon recommended all soldiers to ‘read and re-read’ the campaigns of Turenne as one of the great captains. His fame as a general rivalled that of any other in Europe ... for his military character epitomized the art of war of his time.... Strategic caution and *logistic accuracy*, combined with *brilliant dash in small combats* and constancy under all circumstances – of success or failure – perhaps emerge as the salient points of Turenne’s genius for war. Great battles he avoided. ‘Few sieges and many combats’ he used as his own maxim. And, unlike his great rival Condé, who appeared as brilliant in his first battle as in his last, Turenne improved day by day. Napoleon said of him that, his genius grew bolder as it grew older.... In his personal character Turenne showed little more than the nature of a simple and honourable soldier, endowed with much tact... Thus, though Condé’s genius appeared far more versatile, Turenne’s genius best represents the art of war in the 17th century. For *the small, costly, and highly trained regular armies*, and for the dynastic warfare of the age of Louis XIV, Turenne functioned as the ideal army leader.” – from Wikipedia article, “Henri de La Tour d’Auvergne, Viscount of Turenne,” October 2, 2018 (emphasis added). Logistic accuracy is vitally important in GGDM operations, ships are expensive.

- ✓ “There was nothing spectacular about such methods as compared to the bloody onslaughts of the past decade. Where other generals strove to duplicate the victories, Turenne had studied in detail the troop movements of Maurice and Gustavus. Avoiding encounters unless he possessed an overwhelming advantage, he relied upon caution, surprise and logistic precision to manoeuvre the enemy into wasted territory while retaining his own sources of supply... He was, in short, a painstaking master of small war; and in 1648 his strategy brought the struggle to a close with an almost bloodless triumph of manoeuvre.” – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), p. 292.
 - Note, Maurice of Nassau was Turenne’s uncle to which he was apprenticed as an *aid-de-camp* in 1626, rising from private to colonel in five years on merit alone (*Id.*, p. 291). Sort of like a ‘coaching tree’ in modern sports.
- ✓ Losing a conflict due to maneuver (e.g., see also discussion of the Battle of Angora, 1402 A.D., 3 Carriers & Fighters, EN 4, p. 1076, *infra*) is like losing a game of Mahjongg due to the set up – you have lost the game before you play off the first pair of tiles and there is nothing you can do or could have done! Most infuriating are the games where, in order to make any progress, you must play off a pair of tile X, only to find later that the other pair of tile X is at the bottom stacked on top of each other – and you lose due to something you could not have possibly seen in advance. Yeah, it’s like that.

¹² Commentary: Granted that the Treasurer’s job is a thankless job in most times and places, especially in a foreign-occupied kingdom. But it was the road that Sir Hugh chose to personal power, as the King’s financial enforcer, and he seems to have been arrogant about it and also inhumane toward the Scots.

- ✓ The fact that he was a knight (back when knights were knights), that is, a soldier, and *de facto* co-commander of the English forces (and the Earl of Surrey wasn’t a strong personality), while also being the King’s Treasurer demonstrates the perils of the failure of Unity of Command (Clausewitz) and of the blurring of military and civil office (see The Fog of Lützen discussion, 4 Colleges, p. 510, *supra*). In addition, Hugh had also been involved in law enforcement as the Bailiff of Haverford, was a King’s Justice in the northern counties, and had held clerical administrative positions as rectors and was receiving clergyman stipends (*prebends*) from several churches. The Church stipends would have come from the donations and tithes collected from the poor masses, and it is not certain for what services he was being paid the stipends – to modern sensibilities, this seems like appalling entitlement and corruption.

¹³ Commentary: Author Tom Godwin should not be confused with the originator of Godwin’s Law, attorney and author Mike Godwin.

¹⁴ Commentary: About 1988 or 1989, I heard about a space-opera empire-building video game (I had an Atari 1040 ST at the time) which was logistics heavy; that before each military campaign, it was important to spend years/turns storing supplies, setting up the political and propaganda side, and moving stuff into position at frontier colonies. I do not now remember the name of the game and I never played it, but I am sure it was not Sun Dog, or Captain Blood, two other games I heard about at the time but also never played (we played lots of Colonial Conquest, Lords of Conquest, and Time Bandit on Atari STs). Nonetheless, the concept stuck in my mind and I believe it influenced my design project as did the following memory: I also recall hearing of another game around that time, which again, I never played and cannot recall the title, where the larger an empire gets the more it loses to corruption, thus slowing the growth of interstellar empires. Maybe they were the same game? I like concepts, ideas.

- ✓ In historical reality, the same occurred before the Ottoman Turks attempted to capture Vienna in 1683 A.D.: They spent a decade building up supplies, troops and cannons on the frontier before moving. Because of the experience of the previous siege of Vienna in 1529 A.D., the Ottoman commander bypassed fortresses and cities to reach Vienna in mid-July 1683 A.D. – the previous attempt in 1529 A.D. failed mainly because the Ottoman army didn’t arrive at Vienna until very late September and was able to maintain the siege for only two weeks. This may have been the inspiration behind the game mentioned above.

¹⁵ Commentary: I think I read *Life, The Universe and Everything* (1982) when I was young (in the late 1980s) but I don’t seem to remember this. Maybe I only read part of it. Whatever I read didn’t leave an impression.

¹⁶ Commentary: Conversely, creatures evolved in a galaxy located in a super void would also possibly not be aware of other galaxies beyond their own due to the fact it takes light up to a billion years to reach across a super void area. Science-fiction also avoids voids and super voids, though some have noted small local ‘rifts’ and ‘empty expanses.’

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“Ordinarily, calling a lift is a Simple task, but in the heat of battle, it tends to be more difficult. The referee should roll this task for the character, with the time duration of the task representing the combat round in which the lift arrives at that level. Once the lift arrives, the door will open, and the characters may enter the lift during the next combat round. If no character enters the lift, after two combat rounds the doors close, and the lift goes to a different level.”

– *MegaTraveller RPG Player’s Manual (1987)*

Combat Resupply: Moviemakers love elevator fight scenes, e.g., Total Recall, Captain America, The Matrix, Die Hard. Log Ships are the only ships capable of, and the only means to, resupply ships in combat by transferring Fighters and/or Ship Missiles, or replacements for whatever else has been expended during the combat (i.e. other Expendable Enhancements).

- ✓ Log Ships that execute Combat Resupply must join the combat (Victuals & Vitals, 3 Combat, p. 975, *supra*). This should *not be confused* with supply on Regular Turns.
 - ✓ During combat resupply, the target unit and the Log Ship may not do anything else for the Combat Round, including attempting a retreat. Usually, the target unit and the Log Ship are Combat Screened (see 3 Fighters & Carriers, *infra*); it is not required. The unit(s) performing the Combat Screen cannot be the target of the resupply.
 - ✓ If the Log Ship or the target unit are successfully attacked (including Engaged results, see Engaged, 2 Carriers & Fighters, p. 1055, *infra*) during the Combat Round, the resupply aborts. The supplies are not lost (unless the Log Ship is destroyed), but the Log Ship is unable to resupply the target unit due to enemy interference. Combat resupply occurs after all attacks have been resolved in the round.
 - ✓ A Log Ship may resupply any number of other units in a Combat Round, until its replacements are exhausted. A unit receiving a transfer from a Log Ship must be able to legally use or carry what is received or the transfer does not happen.
- **Great Hsi-Ku Arsenal:** Colonies may not resupply units *during Combat Rounds* (including Orbital and System Defense Bases), and units in combat may not transfer supplies and enhancements between themselves, excepting Fighters from a destroyed Carrier.
- ✓ On the Regular Turn, the Log Ship could be refilled with whatever it can carry in the midst of Combat – because Combat Rounds run independent of Regular Turns (see Relativity, 2 The Streams of Time, p. 85, *supra*) – from a supporting colony in the same system by activation of the Construction Power for the purpose of Ship Supply. Again, timing is the key, as the Log Ship can Combat Resupply other ships if necessary during the Combat Round before the Regular Turn is run, so it may have extra capacity during processing of the Construction Power Activation.

The rule regarding Combat Resupply from a colony is a gray area, on the assumption that either the colony is trying to resupply Defense Bases during an attack on the colony or that the colony is too far away to resupply ships involved in a wide-ranging system-space combat. That said, it is probably possible for colonies to resupply whatever they have to Ground Bases, their Fighter Complements, and Ground Units during Combat Rounds. Mainly, this resupply is accomplished by building new stuff on the Colony during the Regular Turn actions.

- ✓ “Unexpectedly they then happened upon the Great Xigu Arsenal, a hidden Qing munitions cache of which the Allied Powers had had no knowledge until then. They immediately captured and occupied it, discovering not only Krupp field guns, but rifles with millions of rounds of ammunition, along with millions of pounds of rice and ample medical supplies. There they dug in and awaited rescue. A Chinese servant was able to infiltrate through the Boxer and Qing lines, informing the Eight Powers of the Seymour troops’ predicament. Surrounded and attacked nearly around the clock by Qing troops and Boxers, they were at the point of being overrun.” – from Wikipedia article, “Boxer Rebellion,” captured September 7, 2019.
- **Blitzkrieg:** People talk about the wrong thing when they talk about German Blitzkrieg. Blitzkrieg is at heart a new combat supply system addressing the shortcomings of WWI industrial warfare. In 1940 the French were still relying on WWI railhead supply and mobilization speed. During the campaign, the Germans also executed better than the French and had better command and control – but that goes hand in hand with the superior combat supply system called Blitzkrieg. Thus, it did not matter if the French tanks were equal in quality to German tanks; the Germans had more tanks and used them better because they had a better combat supply system and mindset. So, to blame the French Generals is to blame the entire French system for failure to innovate; for reliance on the systems of 20 years earlier.

“And the Rebellion exposed something that perhaps nothing else could have exposed: The Imperial social contract was dead. That contract was the contract of empire. Eleven thousand worlds collected into one group need a set of values that they all share to remain together... When enough nobles forgot that their positions were not guaranteed by invisible forces...the Imperium was doomed.... When the admirals of the Imperial Navy, nobles all, and entrusted with power enough to snuff out billions of lives committed their fleets to battle against other Imperial Fleets, they turned their backs on the proud service that gave meaning to their careers. They, better than any other humans, knew the appalling power of the Imperial fleets, knew the annihilation that would result if fleet were pitted against fleet. Only the Imperium, the Navy, and humanity would lose. But the admirals did not stand together and refuse to do battle against humanity itself. Noblesse n’oblige plus.”

– Dave Nilsen, “When Empires Fall,” Challenge Magazine, Issue 64, September 1992 ¹

Noblesse n’oblige plus: Merriam-Webster online dictionary reported that look-ups of the words “Godspeed,” “scion,” and “Nobless oblige,” spiked in the days following the death of former President George H.W. Bush.

- ✓ “It is of course quite easy to lambast the WASP power elite, in their exclusivity and material wealth unshared. The sins of [sic] committed should not be overlooked and should be criticized roundly. Yet, this sells short the virtues of our bygone ruling class. Ross Douthat from the New York Times writes, ‘Those virtues included a spirit of noblesse oblige and personal austerity and piety that went beyond the thank-you notes and boat shoes and prep school chapel-going – a spirit that trained the most privileged children for service, not just success, that sent men like Bush into combat alongside the sons of farmers and mechanics in the same way that it sent missionaries and diplomats abroad in the service of their churches and their country.’ From Mark Zuckerberg to Cory Booker, to even Ted Cruz, our new power elite seems to have ignored this idea in their education. As the old adage goes, ‘with great power, comes

great responsibility.’ Governance is not easy.” – Jack Beyrer, “George Bush, Noblesse Oblige, and the Death of American Leadership,” *The Wake Forest Review*, December 6, 2018.

Conservationist arguments are largely *nobless oblige* arguments. So are arguments about global wealth disparity. And arguments against animal cruelty. Finding the audience largely deaf to classic *nobless oblige*, most arguments turn to the question of what we are bequeathing to our children? Assuming we care about what world our children will inherit, i.e. Generativity.

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- ✓ Think about the concept of *nobless oblige* in the opposite: One can imagine a Dickens-like cartoonish ‘bad guy’ wealthy ruler saying “Pah! Nobless oblige is just an excuse for the poor people to expect handouts from the government and the rich.”
- **Oblige:** “Oblige” is a worldview of proper personal and societal relations that has faded; it is the personal obligation one has to those who provide for their safety, sustenance and wellbeing. It is inherent in humanity. The concept survives as artifacts in our language, e.g.:
 - ✓ “Thanks to you I’m much obliged, For such a pleasant stay.” – Led Zeppelin, “Ramble On” (1969).²

Oblige is reciprocal and the direct opposite of tyranny. It was also a wide-ranging convention, and thus the concept developed that rulers were obliged to those whom they ruled and who supported their privileged lifestyles. One might (and probably should) feel obliged to their civilization when it provides infrastructure, distribution networks, social safety nets, law and order, protection, and medical or emergency assistance, to name a few.

- ✓ Generally, people have thought through the ages that we should be obliged to our parents for conceiving, birthing and raising us. But that issue has been debatable...

Oblige also formed the boundaries within which one moved socially, assuming and receiving obligations. However, obligations also usually prevented people from moving spatially (that is, travelling, relocating), for example, family obligations, employment or apprenticeship obligations, supervisory obligations, even obligations to tend cattle and sheep, and that is I think one of the main reasons for the faded concept in a society currently obsessed with freedom to travel (e.g., car culture, jet setting).

- ✓ In 2012, a man went hiking in the mountains of Colorado with his faithful dog. The dog’s paws became bruised from the rocky terrain and she was unable to walk farther. The man put the dog in a sheltered place and returned to civilization. He did not go back and get the dog (or apparently intend to), but simply left her there. Somehow, it got out and the man was absolutely shamed by outrage on social media and in the news and received death threats; a group with a carry litter hiked into the mountains, found the dog still in the shelter, hungry and thirsty, and brought her back. The man was forced to give up the dog for adoption by one of the rescuers and pay the vet bill.
- ✓ *Nobless Oblige* was probably the reason for the Christian Rapture (and related similar beliefs): How could God end the world without responsibility (oblige) to his worshipers? Lacking oblige, the Abrahamic Judeo-Christian God is just another tyrant. Thus, the story was invented that at the end of the world, believers would be taken up and ‘saved.’ Notably, the story never says what will happen to the animals and the rest of creation; we are not concerned with anything but saving our own bacon.

“There is a contract and a bargain made between the King and his people, and your oath is taken: and certainly, Sir, the bond is reciprocal; for as you are the liege lord, so they liege subjects ... This we know, the one tie, the one bond, is the bond of protection that is due from the sovereign; the other is the bond of subjection that is due from the subject.”

– Judge Bradshaw in response to speech by Charles I before the Rump Parliament (1649) ³

Noblesse Oblige: In an interstellar civilization setting, who holds the actual power? There are potentially two competing centers of power, the system and planetary governments who rule over the vast planet-based masses and industry, and the starship captains and crews, especially those with military power, who hold it all together. It is the natural tension of the setting.

- ✓ The Roman Empire (on which interstellar science-fiction settings are sometimes modeled or referenced) had a similar complex tension. The transition of the Roman Republic to the Roman Empire was a three-pronged affair: Rome was a large military state, the transition made military service a road to political power, and the Empire made Rome extremely wealthy, aggravating preexisting wealth disparity.

It is the job – the existential necessity – of the interstellar government to hold them together in a smooth functioning arrangement – for the interstellar government needs both in order to exist.

- ✓ That arrangement may require the application of force, with attendant consequences, if no other solution is available or if the government doesn’t care about the consequences, is impatient, prejudiced, pressured, etc. The nail that sticks up the most gets hammered down the hardest. It’s not pretty, but look at Hong Kong in 2019.

The balance of this power depends on many factors of various complexity, for example, external threats, whether ships have their own supply capabilities, fuel and maintenance requirements, whether planetary or system or some larger government controls access to the starship service, such as commissioning of officers, training and indoctrination of crew, control and programming of ship computer systems, political and cultural unity and trust, the operational qualities of Star-drive technology, the strength and loyalty of planetary defenses, politicization and factionalizing of the military, and perhaps, even the state of artificial intelligence in the civilization. Heady.

- ✓ “Member worlds of the Imperium agree to pay taxes and obey a few fundamental laws which the Imperium promulgates, known as the High Laws.... In return, the Imperium agrees to patrol the space between the worlds, to protect interstellar trade, to encourage travel and commerce, and to arbitrate diplomatic relations between worlds. Beyond this, individual worlds are left to their own devices so long as they acknowledge the power of the Imperium to rule the stars.” – Traveller RPG Wiki, “Third Imperium,” captured June 10, 2018.
 - This is part of the “imperial social contract” alluded to in the feature quote above; it is the arrangement of interstellar civilizations in space-opera fiction.

Space-opera or interstellar colonization/exploration science-fiction trope have addressed these issues and the implications sporadically, though rarely, directly. For example, what happens when starship officers and crew positions become hereditary? Should the starship captains and crew be members of the government or granted titles of nobility? In most cases, science-fiction (esp. television science-fiction) stories tend to portray starship captains and crew as modern United States or British naval officers and crew: uniformed, disciplined, nationalist, patriotic,

technically competent, career devoted, and recruited from the general population, trained and serving in a military that is subordinate to the democratically-elected civilian government.

- ✓ However, as Amy Schafer pointed out in “The Warrior Caste” (Slate Magazine, August 2, 2017), volunteer military service in modern democratic Western nations is borne by the same families generation after generation, an inherited family business of sorts, a sort of ‘warrior caste’ is developing (see full quote, 1 Colleges, EN 5, pp. 469-470, *infra*). Thus, it is becoming a myth that, other than in times of draft conscription, *levée en masse*, the military is recruited from the general population.

To the extent that this is realistic in the interstellar setting, there are warning signs along the road. For example, the number of captains and crews who turned to piracy (becoming *hostis humani generis*) in the 17th and 18th centuries, or the mutinies that occurred in the navies responsible for holding together far flung colonial empires. Or the “boomer” submarine (SSB/SSBN) captains (the Cold War nightmare subject of Tom Clancy’s famous book, The Hunt for Red October) who hold frightening power at the turn of a couple of keys, and who are the closest approximation to the power of interstellar warship captains.

But participants in the game should not pre-assume any particular condition. What happens when the planetary or system government loses legitimacy with the local population and the population looks to the starship captains to save them? And when starship captains or crew revolt, who will be sent to take care of that problem? When an interstellar civilization loses a significant starships, loses control of the technology or ship routes, the Long Dark Night will follow.

- ✓ The key factors enabling world war – whether or not you consider the Seven Years War the first world war – were reliable oceangoing ships and navigation, and at least two powers with sufficient industry and population to carry global power projection. The same must be said of starships as the indispensable agents of power in an interstellar war. Even in the Stargate SG-1 Universe, starships of all sizes and uses still had an important role – though almost all of the ships featured in the universe were warships or troop transports (presumably, most cargo trade and tourism travelled via Stargate, as did nearly all of the exploration in the series).
- Boomer & Bang-Bang: A “boomer” is a *ballistic missile submarine (SSB)* armed with nuclear missiles which are also usually nuclear powered (e.g., SSBNs – Trident, Poseidon, Typhoon, Delta II class submarines).⁴ Both NATO and the Warsaw Pact had boomers in the Cold War; they served is the vital third leg of the mutually assured destruction (MAD).
 - ✓ [Interview] “... and then when the Soviets tested their first bomb we already understood that we had an answer to that, if you believe that there’s such a thing as deterrence and certainly at some level, the fact that a country that’s your enemy has nuclear weapons would certainly deter you from deciding to attack them without a good deal of thought at least, and of course there never was a war between the United States and the Soviet Union probably for exactly that reason. Nevertheless, there was a great hurrying and scurrying in Washington among the politicians about ‘What are we going to do? What are we going to do?’ [making hand-wringing motions] and the calm answer from people like Schriber and Robert Oppenheimer and others was look, we’ve got a lot more atomic bombs than they do ... and we are turning them out at a good rate now...” – Richard Rhodes (author of The Making of the Atomic Bomb (1986)), The Half-Life of Genius: Physicist Raemer Schreiber (2018).

That is, even if a first strike destroyed all of the land (ICBMs) and air-based nuclear weapon delivery systems, the submarines – operating independently deep underwater – would survive and deliver the counterstrike (subject of the movie, *Crimson Tide* (1995), called the ‘last Cold War movie’). Very likely, enough nuclear weapons would survive the first strike that the counterstrike would destroy the original aggressor. The likely end result would be the end of human civilization and possibly the end of life on Earth (by way of nuclear winter).

- ✓ The Soviet ballistic missile sub in Hunt for Red October (1984) was a Typhoon. The understanding came about in the late Cold War as depicted in popular books and movies (military men knew it) that upon the carefully picked and groomed boomer captains had settled the ultimate weight of *nobless oblige* of human civilization.
- ✓ In 1942, the German navy began experimenting with mounting missiles on U-boats; they successfully mounted some small mortar-like warheads on an external rack and launched them both from the surface and underwater. They were unguided projectiles and never used in combat. Later, desperate fantasy turned to the idea of mounting the V-1 on U-boats and attacking New York City. This was quite challenging and that late in the war, didn’t make much progress; later, they had another plan to launch V-2s which were even more technically difficult, from tubes towed underwater behind a U-boat. They may have completed building one V-2 tube; in the meantime, the U.S. intelligence received several reports which they took seriously. As late as the final months of 1944, German U-boats were able to land agents in Maine. In April-May 1945, Operation Teardrop was conducted to protect New York City from possible U-boat missile attacks. Although five of eleven U-boats were sunk, none of them had missiles mounted or towed. However, by February 1947, the U.S. Navy had adapted a V-1 missile design and successfully launched it from two submarines.

“Nothing travels faster than light, with the possible exception of bad news, which obeys its own laws.” – Douglas Adams

Speed of Bad News: Bad news must be the reason for Quantum Entanglement. Given what is actually transmitted in Quantum Entanglement – something happened to your matey – it is not inconceivable. Eh? How fast is quantum entanglement? No one really knows. Most articles on the internet cite 10,000 times the speed of light, but:

- ✓ “When most people describe this interesting process, they’ll describe the information transfer as ‘instantaneous’ or ‘near-instantaneous.’ Several research teams have attempted to measure the actual speed seen in the transfer of information in entangled systems, but have failed in one way or another, usually resulting from flawed methodology dealing in quantum nonlocality. ... So what were their results? The team came back and said that quantum entanglement transfers information at around 3-trillion meters per second – or four orders of magnitude faster than light. This is a lower speed limit, meaning as we collect more precise data, you can expect that number to get larger. At the moment, our technology and methodologies aren’t sensitive enough to measure speeds at this scale.” – Joshua Filmer, “Chinese Physicists Measure Speed of Quantum Entanglement,” *Futurism.com*, March 21, 2013.

Four orders of magnitude faster than light is... you guessed it. Quantum entanglement would reach Pluto in .0005 hours (1.8 seconds) whereas light from the sun takes 5 hours.

“It is impossible to travel faster than light, and certainly not desirable, as one’s hat keeps blowing off.”

– Woody Allen, “The UFO Menace,” *The New Yorker*, June 13, 1977

Endnotes.

¹ Citation & Commentary: “The simple man, whose best self, his noble self, is nearly all the time puzzled, dumb and helpless, has still the power to recognise the man in whom the noble self is powerful and articulate. To this man he must pledge himself. That is the only way. To act according to the spark of nobility we have in us, not according to our greediness and our cowardice, our hard selves. The hereditary aristocratic class has fallen into disuse. And democracy means the electing of tools to serve the fears and the material desires of the masses. *Noblesse n’oblige plus*. This is really the worst that can happen to mankind, when *Noblesse n’oblige plus*. Goodness and badness there is bound to be. But a spark of nobility redeems everything. This is our job, then, our uncommon sense: to recognise the spark of nobleness inside us, and let it make us. To recognise the spark of noblesse in one another, and add our sparks together, to a flame. And to recognise the men who have stars, not mere specks of nobility in their souls, and to choose these for leaders. We can choose for *noblesse* and we can choose for *basesse*. Nations are slowly strangling one another in ‘competition.’ The cancer of finance spreads throughout the body of mankind. Individuals are diseased with the same disease. To get money, and to spend money, nothing else remains. And with it goes all the strangling, and the bullying, and the degradation, the sense of humiliation and worthlessness of life, which is bitterest of all. There is nothing to be done, *en masse*. But every youth, every girl can make the great historical change inside himself and herself, to care supremely for nothing but the spark of noblesse that is in him and in her, and to follow only the leader who is a star of the new, natural Noblesse.” – D.H. Lawrence, Movements in European History (1921).

- ✓ D.H. Lawrence was and is a controversial, anti-democratic figure (it is amazing to think now that Movements in European History was a British junior school text book); this somewhat Platonic quote is offered at face value. Every man is a dichotomy, and D.H. Lawrence is Exhibit A.
- ✓ It is more important in this case to put him into historical context, D.H. Lawrence, T.E. Lawrence and Adolf Hitler were the same generation; Bertrand Russel, whom he corresponded with, who called him a proto-Fascist, was the prior generation, and Albert Camus and John Sartre were the generation after.
- ✓ WWII and the Cold War made D.H. Lawrence’s political arguments *unpalatable* (when de-cartelization of German industry and the spread of democracy acted as a bulwark against Communism), while his befuddled common man seems to foreshadow Camus’ absurdism, but the preceding quote is still an interesting entry in the subject of how best to govern humanity.

² Citation: “But how tomato and ‘ta-mato’ came to be pronounced differently is an interesting historical question because history, surprisingly, affects language. And in the history of language, a change that would have changed the pronunciation of ‘ta-mato’ to the word ‘tomato’ and virtually the whole English language stands out as a shining ex-ample of the intimate connection between historical events and the words that describe them.” – The History Guy, “The Great Vowel Shift,” YouTube, January 27, 2020.

³ Citation: See full speech and response, Luther & Charles Excerpt, Government Titles, *supra*.

⁴ Commentary & Citation: Curiously, when the term “boomer definition” is Googled, there is no reference to the name for a ballistic missile submarine. In fact, the Merriam-Webster online dictionary definition of “boomer” is rather absurd in this regard; it refers only to the term for Baby Boomers (who, coincidentally, were the generation most concerned with the “boomer” submarines). Instead, a search for “boomer submarine” brings up the Wikipedia article on ballistic missile submarines. I have known “boomer” as the name for a ballistic missile submarine since I was young, 35 years ago. It seems as though there is some *unconscious millennial effort to bury or erase Cold War terms and the Cold War zeitgeist*. Other terms have been changed by events; for example, “ground zero” does not mean to the current generation what it meant when Weird Al Yankovic sang “Christmas at Ground Zero” in 1986.

- ✓ In 1986 in Okinawa, Japan, a couple of Marines in my unit had t-shirts that read, “24 empty missile silos, 24 mushroom clouds. It’s Miller time.” The shirt had a picture of a boomer on the surface of the ocean and a mushroom cloud in the distant background. A formation was called and the Battery Commander addressed us about diplomatic sensitivity and ordered that those shirts not be worn ever again while in Japan.

War of the Worlds

By H.G. Wells, published in 1898

Opening and Ending Narration

Opening Narration:

No one would have believed in the last years of the nineteenth century that this world was being watched keenly and closely by intelligences greater than man's and yet as mortal as his own; that as men busied themselves about their various concerns they were scrutinized and studied, perhaps almost as narrowly as a man with a microscope might scrutinise the transient creatures that swarm and multiply in a drop of water.

With infinite complacency men went to and fro over this globe about their little affairs, serene in their assurance of their empire over matter. It is possible that the infusoria under the microscope do the same. No one gave a thought to the older worlds of space as sources of human danger, or thought of them only to dismiss the idea of life upon them as impossible or improbable. It is curious to recall some of the mental habits of those departed days. At most terrestrial men fancied there might be other men upon Mars, perhaps inferior to themselves and ready to welcome a missionary enterprise. Yet across the gulf of space, minds that are to our minds as ours are to those of the beasts that perish, intellects vast and cool and unsympathetic, regarded this earth with envious eyes, and slowly and surely drew their plans against us. And early in the twentieth century came the great disillusionment.

Final Narration:

For so it had come about, as indeed I and many men might have foreseen had not terror and disaster blinded our minds. These germs of disease have taken toll of humanity since the beginning of things--taken toll of our pre-human ancestors since life began here. But by virtue of this natural selection of our kind we have developed resisting power; to no germs do we succumb without a struggle, and to many--those that cause putrefaction in dead matter, for instance--our living frames are altogether immune. But there are no bacteria in Mars, and directly these invaders arrived, directly they drank and fed, our microscopic allies began to work their overthrow. Already when I watched them they were irrevocably doomed, dying and rotting even as they went to and fro. It was inevitable. By the toll of a billion deaths man has bought his birthright of the earth, and it is his against all comers; it would still be his were the Martians ten times as mighty as they are. For neither do men live nor die in vain.

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See Appendix EPAT1 – The Existential Patents

See Appendix EPAT2 – Existential Patents Quick Summary

See Appendix EXP – Expansion & Colonization Example

See Appendix PAT1 – Power Activations Tables 1 – Power Activation Costs

See Appendix PAT2 – Power Activations Tables 2 – Normal Sequence of Power Activations

See Appendix PAT3 – Power Activations Tables 3 – Scenes, Planets & Stars

See Appendix T&C – Taxation & Census Example

“The biggest population shift in modern times has been the colonization of the New World by Europeans, and the subsequent destruction of Native Americans (American Indians).”

– Jared Diamond, Summary of Guns, Germs, and Steel (2017) p. 9

Circumambulation: When Columbus (or the 10th Century Norse) discovered the New World,¹ it was the unfortunate meeting of separate prongs of humanity that had migrated out of Africa millions of years earlier, the closing of the circle that humanity had circumambulated through the Earth’s land masses. This poetic observation that I have not seen mentioned elsewhere, was probably the inspiration for Harry Harrison’s April 1964 Galaxy Magazine short story, “Final Encounter,” in which humanity has been migrating and exploring around the edge of the galaxy and meets on the other side of the galaxy, a seemingly alien species with different physiology, advanced technology, and unknown language and alphabet, only to discover that the ‘aliens’ were the evolved descendants of the other human civilization that left Earth and explored and colonized in the other direction around the edge of the galaxy, hundreds of centuries earlier.

As science-fiction literature is most always a reflection of Earth history (usually the bad kind), after a period of time (possibly centuries) the new extra-planetary, extra-solar colonies will develop, outgrow, and eventually throw off the political, military, and economic controls of Earth, which like the Old World in modern history, is worn out and consumed by its own internal bickering, while the new colonies have endless potential and a new start. This is the template for nearly all social science-fiction stories about space colonization.

- ✓ An interesting discussion I had at a game day recently was the fate of the Earth in various science-fiction universes and short stories. Frequently, Earth is either destroyed, or rendered uninhabitable by interstellar wars (e.g., Asimov’s Robots, Empire and Foundation series, The Matrix movies, the Aliens movies), or simply becomes a low population or almost abandoned backwater. Sometimes its location is even forgotten or it is considered mythical (e.g., Dune, Battlestar Galactica). Rarely the Earth fares out well enough (e.g., Star Trek) or survives but is much changed (e.g., Warhammer 40K).
- ✓ In Jerome Bixby’s The Man From Earth (2007), John, who claims to be 14,000 years old, described his prehistoric wanderings as he simply followed the Sun, and thus wandered through India, Nepal where he met Buddha, and ended up in Rome during the early Empire. This tale astutely reflects the Great Migration followed by migration to the New World and across the North American continent to the Pacific Ocean.

A Hitchhiker’s Guide: Expansion consists primarily of two groups of activities:

- 1) Searching and exploring new stars, planets and **alien colonies** (i.e. Exploration),
- 2) Loading, Transporting and Unloading or Landing colonist to either create new colonies or expand existing colonies (i.e. Colonization).

Thus, the Expansion Power must be activated for any of the six following purposes:

1. Looking (Exploration),
2. Scouting (Exploration),
3. Loading Population (Colonization),

4. Transporting Population (Colonization),
 5. Unloading Population (Colonization),
 6. Landing Population (Colonization).
- Exploration: Activation of the Expansion Power for the purpose of Looking requires one Act, and one Scene on the star that is being used for the Looking while activation of the Expansion Power for the purpose of Scouting requires one Act. One activation of the Expansion Power for the purpose of Scouting allows any number of Scout Ships to depart from one starsystem (no Scene required), whether or not controlled by the Scout Ship's owner, to any number of *unsupported* destination systems (i.e. no Supporting Colony).
- ✓ No checks are made for failure to obey Expansion Power Activations for the purpose of Looking or Scouting, that is, they will never fail to execute due to inactive Constructural Elements (see Power Off, 2 Constructural Elements, p. 193, *supra*).
 - ✓ Looking attempts may not receive the benefit of Enlightenment, but Scout Ships can if their Epistemological Constructural Element is active.

It is possibly not realistic or consistent with previous rules for Scouts to avoid checks for failure to obey the Expansion Power Activation for the purpose of Scouting, but they are curious explorers! It should be regarded as a game convenience concession. Perhaps we might assume that Scouts are drones, with no organic crews, perhaps they have crews who are the more adventurous type, or people trying to escape the bounds of their civilization?

Scout Ships do have Constructural Elements like any other ship, regardless of assumptions (above) which they receive from their origin colony at the time they are built (see Maiden Voyage, 3 Construction, p. 677, *supra*) and thus may receive the benefit of Enlightenment (where applicable) if their Epistemological Constructural Element is active (see Skool Tyme, 2 Constructural Elements, p. 190, *supra*).

Conversely, if the Scouts were *departing for* any destination system with a Supporting Colony, that would require activation of the Movement Power (see Engage! and UniSIM, 1 Movement, pp. 738-739, *supra*) costing a Scene, instead of the Expansion Power and a check to see if the Scout obeys the Power Activation using the rules in 1 Movement, *supra*. This contradicts the preceding – it may even be silly – but does not ‘break’ the game, so to speak.

- Colonization: Activation of the Expansion Power for the purpose of Loading Population requires one Act and one Scene on the *colony planet* from which the population is Loaded.
- ✓ Activation of the Expansion Power for the purpose of Transporting Population requires one Act and one Scene on the *star* of the destination starsystem to which the population is being transported. See also Canned Food, 3 Expansion, p. 913, *infra*.
 - The game mechanical difference between Movement and Transporting Population is the placement of the Scene and of course the Vital Power activated (which may be important, e.g., for Government Title Conflict Checks).
 - ✓ One activation of the Expansion Power for the purpose of Transporting Population may be used to initiate interstellar movement of any number of *Colony Ships* from any number of origin systems to the destination starsystem (the opposite of normal movement where the Scene is on the origin star, convergence instead of divergence).

- ✓ Finally, activation of the Expansion Power for the purpose of Landing or Unloading (these are two separate purposes, Landing and Unloading are not the same, see Opening the Can Of..., 3 Expansion, p. 914, *infra*, The Landing, 4 Expansion, p. 920, *infra*) requires one Act plus one Scene on the *star* where the Landing occurs or on the *colonized planet* where Unloading occurs.

“The Jewish–Roman wars had a dramatic impact on the Jews, turning them from a major population in the Eastern Mediterranean into a scattered and persecuted minority. The Jewish-Roman wars are often cited as a disaster to Jewish society. The defeat of the Jewish revolts altered the Jewish population and enhanced the importance of Jewish diaspora, essentially moving the demographic center of Jews from Judea to Galilee and Babylon, with minor communities across the Mediterranean.

Although having a sort of autonomy in the Galilee until the 4th century and later a limited success in establishing the short-lived Sasanian Jewish autonomy in Jerusalem in 614-617 CE, Jewish dominance in parts of the Southern Levant was regained only in the mid-20th century, with the founding of the modern state of Israel in 1948 CE.”

– from Wikipedia article, “Jewish-Roman Wars,” captured September 7, 2019

Seeding Space: Activation of the Expansion Power in GGDM is ultimately about seeding space, it is the “flowering schedule” of the species, “short-distance pollen dispersal” and “long-distance gene flow” (Gérard, Klein, et al. (2006) quote from 5 Taxation & Census, EN 21, p. 351, *supra*) to prevent extinction, in addition to all of the other benefits, such as resources, information, scientific discoveries. It is into the night, against the nightfall.

As indicated in Primal States, 6 Beginnings, p. 61, *supra*, the homeworld may be forgotten, lost, or become unavailable. Or the homeworld may become just another colony in which the original species is but a minority among billions of aliens, see Pilgrimage to Earth, 2 Order, p. 541, *supra*. The migration may be forced by external forces or natural disasters. There is much human history to draw from, much room in GGDM for creation of backstories during play that relate to or expound upon the reasons why the position’s Native Population Type left home.

And the stories that we tell, the events we remember, are not usually about good happenings. No one just goes out for a spacewalk in the sunlight or to see the stars. We go into space for political prestige, to install spy satellites, for business purposes. Why would we not expect that when the technology is available, people will not go into space to get away from the Earth, to make a profit, to hide from the law, to seek vengeance, to fight wars, to get free lands, to steal, to spy, to gain power over the masses still on the ground?

- ✓ “Well, I dreamed I saw the silver spaceships flyin,’ In the yellow haze of the sun, There were children cryin’ and colors flyin,’ All around the chosen ones, All in a dream, all in a dream the loadin’ had begun, We were flyin’ mother nature’s silver seed to a new home in the sun, Flyin’ mother nature’s silver seed to a new home.” – Neil Young, “After the Gold Rush” (1970).
- **Be Fruitful and Multiply:** As you can imagine, *from the anti-natalist point of view*, sperm and egg banks are just ridiculous conceit. Although the technology and techniques developed for them, and the technical experience they provided in preserving sperm and eggs of humans is possibly important to the long-term survival of our species (e.g., the seed ships

mentioned previously in Uranium on the Cranium, 3 Beginnings, p. 40 and Assumptions of Light, 1 Stardrive, p. 781, *supra*), the concept of a sperm bank or egg bank is just absurd. It requires the donor to think that somehow their reproduction is ultimately important, even if done anonymously and without sexual gratification, and this is before we even consider the Kantian Imperatives. If human children are ever born on another planet, someone (probably us) is responsible for putting them there without their consent and they may curse us for it; there is no denying this as on Earth. Like Snorri Thorfinnsson or Virginia Dare, there will be a first human not born on Earth, or born in Earth orbit, or not born in our solar system, a first human born on the Moon, or on an exoplanet – unless, of course, we discover humans already out there. And they will be just names in a book.

- ✓ E.g., The Amazon blurb for John R. Brophy’s novel God’s Ground (2017) notes that by raising her children in a zero-gravity environment, the main character may be condemning them to life in space.

Judging from the Genesis Mandate, a strong anti-natalist sentiment existed in ancient times.

- ✓ “And God blessed them, and God said unto them, *Be fruitful, and multiply*, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth.” – Genesis 1:28 (KJV) (emphasis added).

In forty-years wandering the desert, children were born, lived their lives and died in the Sinai and Negev deserts, because their parents put them there. They could not go back to Egypt, their only way was forward to Canaan or into still more deserts. In the desert environment, anti-natalist thought (possibly an extension of slavery or servitude or despair of wandering the desert) struggled against the need for increased numbers of tribal warriors to attack Canaan. Thus, the Genesis Mandate.

- ✓ Throughout the two seasons of the Stargate Universe series, various human and human like alien groups are left, stranded, crashed, or abandoned on planets along the Ancient Ship Destiny’s path inadvertently ‘seeding’, e.g., seven were left on Eden.

“Doesn’t take much to make some men happy. For me, I like a shave and a bath. Maybe get into town now and then. See a woman.”

– Flint McCullough, *Wagon Train* (1957-1965)

“That’s all any man can ask of you, but you know so many times the best is just not good enough. When you think of all the people, 75 or a 100 of ‘em who are gonna die when the cholera hits your camp without you knowin’ it’s comin’.. and that Indian war party that comes down off the high hills, their screams splinter the night and their arrows set fire to it... you say, ‘Well, I did my best.’ That’s what you say to all those silent dead, ‘I did my best.’”

– Maj. Seth Adams, *Wagon Train* (1957-1965)

Wagon Train to the Stars: There are three Existential Patents available to positions prior to the start of the game (see 1 Patents, p. 729, *supra*) that are directly related to and necessary for the Expansion Power: Scout Ships (which allows positions to build Scout Ships), Colony Transport Ships (“CTs,” which allows positions to build the basic Colony Ship of the game, the name is

self-explanatory), and Controlled Environment Technology (CET) – the classic domed cities of science-fiction lore – which is necessary to colonize Unpleasant and Hostile Class Planets (see *The Air that I Breathe*, 3 Taxation & Census, p. 315, *supra*).² It is strongly suggested that positions obtain these technologies before the game (are sometimes required to), or soon thereafter.

- ✓ There is no ability to move population in the 1st Era without a Colony Ship or Boat.

Venus, Mercury, the Moon and most other places in our Solar System would be Hostile or Uninhabitable Habitability Class, while Mars, the only place that even looks vaguely Earth-like, would be a very Unpleasant or Hostile place to live. CET does not change the relative Habitability Class of the planet, it is not terraforming technology.

- ✓ “Mars ain’t the kind of place to raise the kids, in fact it’s cold as hell.” – Elton John, “Rocket Man” (1972).

It may be possible to develop “Colony Transport System Boats” for in-system colonization or to be placed on Tender Starships. For Load and Unload Population purposes, Colony Transport System Boats act as regular Colony Transports. For the purpose of Transporting Population activities, the Tender Starship will act as a regular Colony Ship. Participants would need to determine if the Tender Starship can use its OSL to support the Colony Boats.

- ✓ As all sci-fi fans know, “wagon train to the stars” is how Gene Roddenberry sold the idea of Star Trek to blinkered network executives in the mid-1960s when television was dominated by weekly Westerns (e.g., *Gunsmoke*, *Bonanza*, *The Rifleman*). Star Trek: *The Next Generation* (1987-1994) was thus a major shift to a late Cold War outlook.
- Scouts Honor: Scout Ships (hereafter, “Scouts”) are the primary means of exploration in the game because they are small, self-sufficient *non-warships* that have two extra turns of Operational Flight and Supply Limitations (OFL/OSL) *with a Ship Systems Existential Patent* (see 3 Movement, pp. 855-856 *supra*), or two turns OFL/OSL without it. They are clearly the most economical ships in terms of cost and economy of action. Scouts are unarmed targets, can never be armed but they are slippery, they receive one Defensive Shift in Combat which helps them retreat safely. Scout casualty rate is high, which saves on pensions and health care costs as well. What’s not to like? Join the Imperial Interstellar Scout Service today!
 - ✓ “The Viking Lander is a superbly instrumented and designed machine; it extends human capabilities to other and alien landscapes. By some standards, it is about as smart as a grasshopper; by others, only as intelligent as a bacterium. There is nothing demeaning in these comparisons, it took nature hundreds of millions of years to evolve bacterium, and billions of years to make a grasshopper. With only a little experience in this sort of business, we are getting pretty good at it.” – Carl Sagan, *Cosmos*, Episode 5.
- Colony Cans: Any ship designed for the purpose of transporting large populations (i.e. population factors) over interstellar distances is called a “Colony Ship.” The 1st Era Colony Ship, the Colony Transport is the only early game ship that can move population.

Through the course of the game, it is probable that positions may develop next Era Colony Ships through PIT Patents (see *Physical Item Technologies*, 2 Patents, p. 739, *supra*), however, the transport of living populations (especially if they happen to be hostile or unwilling,

e.g., District 9 (2009), Alien Nation (1988)) is such a complex logistical task that it must be considered its own specialized technology. The purpose of a Colony Ship is generally incompatible with that of a Warship or Cargo Ship and thus, Colony Ship technologies should not be combined with any Warship or Cargo Ship functions.

- **Building Up:** Colony Ships and Scout Ships are built, as any other ship, by activation of the Construction Power (see Laying Keel, 3 Construction, p. 675, *supra*) for that purpose at any colony that is eligible to build ships, when the position has the proper Existential Patents. Colony Ships cost 10 RPs, and Scout Ships cost 8 RPs to construct. Unlike Colony Ships, however, Scout Ships *do not require* an Orbital Shipyard, but then cost 10 RPs.

- ✓ This *implies* that Scout Ships might, unlike most ships, be able to land on the surface of planets; Colony Transports also Land to found a colony, but never take off again.

CET technology is a COT Patent (Continuous Operational Technology Patent, see 2 Patents, p. 739, *supra*); once completed, it is automatically assumed to be in use whenever a colony is established on an Unpleasant or Hostile Class planet. CET is specific and unique to each Native Population Type and must develop independently.

Admittedly, this is not very realistic, but it is a concession to ease of play. It is a grey area as to whether CET can be used to Land conquered alien population on a planet unsuitable for their Native Population Type. But this is space opera trope...

“Migration, a phenomenon often confused with war, now threatened a civilization too decadent to defend itself. The human waves which beat against the frontier were almost impersonal in their impact, like some mighty and restless force of nature. Behind them, lending tribal impulse to the movement, came more waves of land-hungry barbarians seeking a racial home”

– Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 87

Core Worlds: In classic space-opera fiction, the historical effect described by Mr. Montross is invasion of decadent, wealthy, industrialized, urbanized, technological ‘core’ worlds by rebellious frontier star princes, admirals, pirates, or newly risen alien races who serve as the ‘barbarians’ of the setting. This is the subject of the card game, Core Worlds (2011), part of the post millennial trifecta of space-opera-themed card games with Race for the Galaxy (2007) and Eminent Domain (2011).

- ✓ **Most players** will tend to think of the game in terms of moves they made, decisions, Regular Turn Actions and Combat Orders issued, they will see the game from the player point of view. To make GGDM work as emergent storytelling, a shift from the godview is necessary; players should try to think of the game as if they were recounting the history of a starfaring people (e.g., the original BSG pilot is called “The Saga of a Star World” (1978)), the social and political conditions, zeitgeist, of a time past.

The Great Drama: Without doubt, the massive migration of human and animal populations across great distances is the single greatest drama of human history. Human examples include, the prehistoric migration of native tribes to North America and into Mesoamerica or from the Danube River Valley to Ancient Greece or from the Indus River valley through India or the Yellow River Valley south through China,³ the movement of the “Sea Peoples” of Mediterranean

antiquity, the Greek and Phoenician colonization, the legendary flight of the Nez Perez and other Native American tribes to Canada, the forced migration of the other Native American Tribes to reservations (aka the “Trail of Tears”), the conjectured migration of the Huns from the Chinese border through the Goth kingdoms of western Russia to the borders of the Roman Empire followed later by Tartars, Mongols, and Ottomans, and so forth.

The human magnitude of it is nearly beyond comprehension.⁴ While the populations of the game are represented as ‘factors,’ it is strongly suggested that participants take a moment to consider what is involved in uprooting and moving populations, not just armies or fleets. This is one reason why the Expansion Power requires more Scenes than other Powers. The essence of the Expansion Power is population shift.

- Huns on the Rostrum: In the year 406 A.D., the *Iranian* Alans tribe crossed the Rhine and migrated into Gaul of the late Roman Empire. They settled in Gaul and eventually came into possession of the ancient city of Orléans by the mid-5th Century. At Orléans, the Alans held off Attila the Hun long enough for the Romans to gather an allied army, they then participated in defeating Attila at the Battle of Châlons in 451 A.D. A branch of the Alans followed the Vandals into Iberia in 409 A.D. In Iberia, the Alans set up a kingdom stretching in an arc from the Mediterranean coast (Spain) to the Atlantic coast (Portugal). Less than two decades later, the Iberian Alan king was killed in battle with the Visigoths (their old foes from the Orléans area) where they were decisively defeated, and they then asked for protection under the Vandals. The Iberian branch of the Alans was absorbed into the Vandals and lost their *ethnic identity*, the leader of the Vandals took the title, “King of the Vandals and Alans.”

Most Iberian Alans crossed into North Africa with the Vandals in 429 A.D. The Alans who remained in the *original homeland* between the Caucasus Mountains and the Caspian Sea were driven into the mountains by successive invasions of other migrating tribes (incl. the Pontic Bulgars who lend their name to modern Bulgaria), remaining today in the Republics of Russia and Georgia, speaking Ossetian, a Northern Iranian dialect. Thus, the Alan migration began around modern Georgia about 375 A.D., through Russia, Ukraine, Poland, Germany, France, then to Spain, and finally into North Africa as far as modern Tunisia and Libya by 450 A.D., leaving traces of their yDNA Haplogroup G2 in populations along the wide arc of their migration. The physical appearance (in some sense, ‘racial appearance’) of modern Ossetians in early 20th Century photographs that I saw is markedly different from the contemporary Roman description of the physical appearance of the Alans in Gaul.

- ✓ Information extracted from Wikipedia articles, “Alans,” and “Orleans,” September 30, 2018.

So the Alans and the Huns had a long term thing going on... the Alans Kingdom was the first destroyed by the Huns around 372-374 A.D. on the Pontic Steppes and the resistance of the Alans at Orléans – invited into the region by the Romans around 408 A.D. to fight the rebellious Visigoths – contributed to the defeat of Attila the Hun at the Battle of Châlons in 451 A.D. The Alans weren’t friends with the Romans either and were probably present at the Battle of Adrianople in 378 A.D., but by that time, the Roman’s didn’t have many friends.

- ✓ “We of course have to mention as well the Huns who moved into Europe around the 4th Century A.D. and the Mongols who moved into Eastern Europe and the Near East in the Middle Ages. Neither of these groups were Chinese. Historians aren’t 100% sure where the Huns came from, likely Central Asia, but possibly farther east, and the

Mongols came of course, from the north of China and modern-day Mongolia. However, focusing on the larger picture of Western and Eastern contact, both groups were affected by and affected the larger politics of the day in both empires, especially the Mongols. The Hunnic invasions of Europe were possibly influenced by migrations that began by being pushed west by China and likely heavily influenced the future dramatic barbarian migrations that led to the fall of the Western Roman Empire. But ironically, the Mongols who conquered China, likely played a role in prolonging the time of the Roman Empire known to Westerners as the Byzantine Empire by invading their rivals. Exploring the relations between these ancient civilizations gives us a very important insight into what the perspectives and lives of past peoples were like; an important insight as to how human civilization as a whole developed. It was a time when the world was nowhere near as connected as it is today, but not as far apart as we might have assumed.” – Justin [Narrator], “Did Rome and China Know Each Other?” YouTube video by Fire of Learning (<https://www.patreon.com/FireofLearning>), posted February 22, 2019.

The sublime epic of the Hunnic displacement from the northern borders of China (mentioned previously in 2 Disruption, 3 Entropy, and 4 The Streams of Time, *supra*) was well established by the mid-1980s. R. Ernest Dupuy and Trevor N. Dupuy, The Encyclopedia of Military History, 2nd Rev. Ed. (1986) note the following:

- ✓ “After defeating the Hsiung-nu (later known to Europe as the Huns), Shih Huang Ti built the Great Wall along the northern border of his domains as a barrier to prevent further nomadic inroads.” *Id.* at p. 79.
- ✓ “A punitive expedition against the Hsiung-nu was led by Tou Shien ... who overwhelmed the nomads and drove most of them westward. It was the final Chinese victory ... which apparently set into motion the great Hun migration which swept into Europe a few centuries later. Replacing those Hsiung-nu who had departed ... the Mongol tribe of Hsien Pi moved into the desert-mountain region and northwest of Kansu. In a few years (by 101) the Hsien Pi were raiding Chinese frontiers just as their predecessors had done.” *Id.* at pp. 132-133.

The Huns arrival in Europe (about 372-374 A.D.) resulted in a domino effect that sent the Goths and Alans streaming into the weakened and confused late Roman Empire:

- ✓ “The Hsiung-nu tribes driven from Mongolia by the Chinese 2 centuries earlier ... were apparently the ancestors of a fierce Mongoloid people – the Huns – who now entered European history. They invaded the lands of the Scythian-Germanic Alans ... in the region between the Volga and the Don. The Huns won a great victory at the Battle of the Tanais River...; in less than two years the kingdom of the Alans was overwhelmed. Some of the survivors were absorbed by the Huns; other refugees wandered through the lands of the Goths, and some reached the Roman Empire where they joined the imperial cavalry.” *Id.* at p. 155.
- ✓ “While vainly attempting to repulse a major Hunnish invasion, the ancient [King] Ermanaric was killed, or committed suicide. His successor, [King] Withimer, was soon after this also defeated and killed. The Ostrogoths – men, women, and children ... began to steam across the Dniester, seeking refuge from the Huns. [King] Athanaric,

leader of the Visigoths, planned to stand and fight the invaders, but most of his people, infected by the panic of their Ostrogothic cousins, also began to migrate *en masse* toward the Danube.... There were between 700,000 and 1,000,000 refugees, of whom more than 200,000 were warriors. Athanaric and the remainder of his people then sought refuge in the Carpathian and Transylvanian forests.” *Id.* at p. 156.

- ✓ “The panic-stricken Visigoths appealed to [Emperor] Valens to grant them refuge and protection. Valens reluctantly agreed, on condition that the warriors give up their arms, and that all male children under military age be surrendered as hostages. The frantic Goths agreed to the terms and began to cross the Danube. Most of the boys were surrendered and scattered through Asia Minor, but the Visigoths were slower to give up their weapons, bribing venal Roman officers with gold and other treasures, including the favors of their wives and daughters. Meanwhile, the remnants of the Ostrogoths reached the Danube, and appealed for refuge in the empire. When this was refused, they crossed the river anyway, since the Romans were too busy trying to look after the Visigoths – and their women – to pay much attention...” *Id.* p. 156.
- Roman Parley: Imagine for a moment having to give up your underage son or brother to the Romans to be able to cross the Danube River and settle in Pannonia.⁵ Sophie’s choice?
 - ✓ “Roman officials in Thrace, not knowing what to do with the great influx of barbarians, took advantage of every opportunity to exploit and mistreat them. Frigiter and Alavius apparently tried to cooperate with their presumed protectors, but soon lost patience and began to negotiate with the Ostrogoths to present a united front against the Romans. At about this time, the Romans treacherously attacked the Visigothic leaders at a parley...” *Id.* at p. 156.

This was apparently a normal late Roman move, as Dupuy & Dupuy notes (*Id.* at p. 155) that Gabinus, King of the Quadi (a Teutonic tribe) – not to be confused with the earlier St. Gabinus – was killed by a Roman general during peace negotiations in 374 A.D. which caused the enraged Quadi to invade Pannonia and lay waste to it. It was also how the Ostrogoth leader killed Odoacer at the end of the Western Roman Empire, so the ‘barbarians’ learned well.

- ✓ I have heard arguments that the early Romans – the Republican Romans in the Punic Wars – were willing to risk it all to win big, they took chances that other conservative states would not have considered, and they overall won big. Chance-taking remained a Roman ‘virtue’ to the end, but the difference by the 4th Century A.D. was that the situation was both much more complicated and deteriorating, and that the late Roman leadership was not as ‘sharp’ as their Republican predecessors, and the chances they took in the mid-4th Century often were disastrously unsuccessful.

The core cause of the decline and decadence of the Roman Empire is the story of the warping and disregard of the answers to Why Not questions into sheer capriciousness, as illustrated by the insanity of the reigns of Emperors Nero (54-68 A.D.) and Commodus (177-192 A.D.). These two are only historical stand-outs, the overall trend of the empire made it difficult to maintain sensible answers to the Why Not questions when the Emperor had absolute power, was the worship object of the Imperial Cult, and was surrounded by immense wealth, with few or no effective reality checks. The loss of Roman virtue was the failure to answer the Why Not questions each generation as internal wars, assassinations, and bribery of the Praetorian Guard determined who would be the next Emperor.

- ✓ Although it is noted in many places that Mike Resnick never really explains why the human empire fell in Birthright: The Book of Man (1982) e.g.:
 - “Then, after there is no more room for conquest, the only way left is down: internal struggles as well as deep-seated resentment of aliens result in a decline of human power that takes nearly as long as the rise, but is described far less extensively. Somehow, despite whatever enabled humans to achieve total power, they were unable to keep it.” – Wikipedia article, “Birthright: The Book of Man,” May 15, 2019.

– it is clear that his overall historical model is the decline of the Roman Empire. And thus, the pattern may be the same, the situation was both much more complex after humanity had conquered all of the alien races of the galaxy, and human leadership took gambles that led to disaster.

- Valens & Alans: The search for *ultimate causes* in the “natural experiments” of history (see Jared Diamond, *et al*, *Unsolved Problems*, 3 Constructural Elements, pp. 209-210, *supra*) is really a search for *ultimate dynamics*. Industrial human population explosion and immigration led to the impetus, as described by Joel Shurkin in 3 *Taxation & Census*, pp. 314, 323, *supra*, for the development of electronic computers, starting with selling electric adding machines to the U.S. Census Bureau. Could we have predicted it? Did Malthus see it coming? In *hindsight* we think we or he might have...

The example of the Goths on the Danube in 376 A.D. is precisely a historical example behind the rules for Unloading and Loading population (and forced Balkanization) in GGDM, e.g., *Forced Balkanization*, 2 *Disruption*, p. 273, *supra*, and 3 and 4 *Expansion*, *infra*, which the Concierge could consider in *Interventions* and *disruption effects*.⁶

- ✓ “Either by coincidence or – more likely – some sort of informal alliance among the Germanic tribes, the entire European border of the empire now erupted from the mouth of the Rhine to the lower Danube.” *Id.*, Dupuy & Dupuy at p. 156.⁷
- ✓ “Yet it is evident on the eve of Adrianople that the Goths had no intimation of a victory that was to send the Empire tottering to its ruin. They had been literally pushed across the Danube by the pressure of migrating hordes behind them, only to be hemmed in by the Romans who had imprudently offered them refuge. Preservation must have seemed their only hope.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 88.

The Battle of Adrianople, where Roman Emperor Valens was killed by the Goths and Alans in a devastating Roman defeat, occurred in August 378 A.D. in Thrace, no more than six years after the Huns attacked the Kingdom of the Alans in the Pontic Steppes (Russia), between the Volga and the Don Rivers.⁸

Meanwhile, the Huns kept migrating, attacking the Eastern Roman Empire and the Persians (Sasanian Empire) in 395 A.D., attacked the Eastern Romans again in the 440s for failure to pay annual tribute to the Huns, and eventually invaded Gaul in 451 A.D. and Northern Italy in 452 A.D. in Attila’s bid to marry Honoria, the sister of the Roman Emperor.

- They Kept Coming: Westward mass migrations to Europe did not end with the Goths, Alans, and the fall of the Western Roman Empire. Later came the Bulgars, Avars, Magyars, Lombards, and others who beat against the borders of the Byzantine Empire and the Frankish

Kingdoms (Franks and Saxons were in Europe in the 4th Century A.D.), invaded northern Italy and southern England and eventually either ‘vanished’ as an ethnic group or tribe (like the Avars of the Pannonian Basin, between 790 and 870 A.D.) or became Christianized and settled down (the Magyars in Hungary accepted Christianity around 1000 A.D., the Avars were Christianized earlier, but their lands and populations were divided and shifted between princes into dissolution of their identity) to become the ancestors of modern nations. The Mongols arrived in the 13th Century near the tail end, and to great European relief, they abruptly abandoned European invasion and retreated from Hungary in 1242 A.D.

The last premodern major arrival in Europe were the Romi (known also as ‘Gypsies’), a dark-skinned people speaking an unknown language, wanderers in covered wagons moving in large groups, who arrived and migrated through central and western Europe between the mid-14th Century and the 16th Century. This group had left northwestern India (confirmed by genetics and linguistic analysis) around 500 A.D. (at the end of the Western Roman Empire) but arrived in Europe much later than other mass migrations; they arrived into a settled (relatively speaking) Europe a century after the Mongol terror subsided. The disparate poor treatment of Romi populations in Europe is well-documented history.

- ✓ “‘In the Judeo-Christian tradition, the history of salvation is essentially a history of migration,’ said the pontiff.” – Washington Post, January 9, 2018, from a speech given by the Pope in Regis Hall on January 8, 2018.
 - Apparently, there might be a view of history that the Great Migration was a process of ‘barbarians’ coming to be Christianized in Europe. That is, of course, literally what happened, by about 900 A.D. or just after, but were they saved? Really? Teleological thinking?
 - See also Core of Christianity, 1 Kairotic Moments, p. 1423, *infra*.

“Whether we like it or not, bacteria are going to be our partners as we venture out into space. It’s imperative, therefore, that we learn as much about these microorganisms as possible in the event an astronaut develops a life-threatening infection, or to prevent problematic ‘biofilm’ formation inside the ISS and other spacecraft (such as a ship en-route to Mars). As previous studies have shown, bacteria behave differently in space, in some cases acquiring mutations that make them better at reproduction and more resilient to the effects of antibiotics”

– George Dvorsky, “Alarming Study Indicates Why Certain Bacteria Are More Resistant to Drugs in Space,” Gizmodo, September 13, 2017

“If we’re going to look for life on Mars, it would be really kind of lame to bring Earth life and find that instead.”

– Catharine “Cassie” Conley, 7th NASA Planetary Protection Officer, NY Times Interview, 2015 ⁹

The Human Diaspora: The human population on our Homeworld has exploded from approximately half a billion people at the end of the Middle Ages to seven billion people five hundred years later, despite devastating wars, famines, social unrest, and plagues (and bad habits). But

the amount of land area on Earth remains the same (for now, until the polar ice melts), with a significant portion of the available land being undesirable, uninhabitable, or in need of development to sustain significant populations, or at least, less desirable than other places. This drives both real estate prices and conflict: More population on the same amount or less land.

- ✓ Merriam-Webster online dictionary at *diaspora*: **2a**: people settled far from their ancestral homelands, **c**: the movement, migration, or scattering of a people away from an established or ancestral homeland. Diaspora is thus both a process (*Id.* **2:c**) and a condition/identity (*Id.* **2:a**), a merger spectrum of acquired meaning.

Global warming will shrink the amount of available land, displacing populations who lived on lost coastal lands – which coincidentally, happens to be where the world’s largest cities are located. At what point will significant numbers of people be willing to sell out and give up everything for a ticket “Through the Never” (Metallica, 1991) to elsewhere? Once the galaxy opens up with the invention of interstellar travel (by whatever means) real estate will be potentially unlimited, but some places will still be more desirable than others.

- ✓ The world population is estimated to have reached 1 billion in 1804, and 2 billion in 1927, and 7 billion in October 2011. Information from Wikipedia article, “World Population,” June 18, 2018. The world population of about 3.5 billion has doubled in the half century since I was born. Soylent Green anyone?

The logistical challenge and social disruption of massive population removal from the Home-world or colony should not be underestimated.

- ✓ “Reading between the lines, the abrupt about-face can be attributed to the stakeholders of contractors and government policymakers, who weren’t pleased with Wörner’s public fretting. *This speaks to space exploration’s tendency to become industrial policy, more about jobs than science*, which is a key reason why 1970s space visions of lunar bases and enormous space stations aren’t a reality.” – Tim Fernholz, “China and Europe Love SpaceX’s New Heavy Falcon Rocket. Does NASA?” Quartz, February 19, 2018 (emphasis added).¹⁰

Imagine the logistical and social challenges of removing just half the world’s current population – 3.5 billion persons – from the Earth into system space or a colony on Mars or to an interstellar colony location? How about even a million people?

- ✓ “But then there’s the Mars part. The 2033 target is nice, precise and buzzy, but for practical purposes it’s meaningless. Start with the things we need to build – in some cases invent – before we get to Mars. After the SLS and Orion are complete, we still need (deep breath): a habitat module for the outward-bound and return trips, radiation shielding, a landing module, a habitat for the surface, a pressurized rover, a greenhouse facility and a way to manufacture fuel, power and water onsite – infrastructure, in other words, when we can barely get the damn stuff built on Earth. Even SpaceX’s Elon Musk, whose pledge to have humans on Mars by 2024, beats Congress in the fever-dream category, was not impressed. ‘Perhaps there will be some future bill that makes a difference for Mars, but this is not it,’ he responded to a follower in an extended Twitter exchange about S.442.” – Jeffrey Kluger, “Magical Thinking Won’t Get You to Mars. (Washington Please Note),” Time.com, March 23, 2017.

- ✓ “If you want to go to the Moon, you design a system to put humans on the Moon. If you want to go to a different world, you design a system to put human beings on that world. If you want to go to deep space, you figure out what you need to go to deep space – and you go.... If you want to accomplish something great, you don’t look at the technology you’ve already developed and ask, ‘what can we do with it?’ Instead, you must look at the goal you want to achieve and ask, ‘what will it take to accomplish this?’ You also have to provide funding for it, and plan it on a realistically short timescale. If the goal is to go to Mars, we’ve already done extensive research into how much it would cost and what type of technological development it would require. To do it safely and responsibly, it would take a sustained investment totaling somewhere in the ballpark of \$50-\$150 billion, spread out over the course of approximately 10 years. The plan would involve landing a slew of equipment on the Martian surface, along with robots and rovers designed to self-assemble stations and habitats, and then a crew of human beings, who would stay for anywhere from 6 to 18 months before returning home. The largest and heaviest things ever landed on the Martian surface are far lighter than what a crewed mission would require, and the only way you ensure the safety of the crew on such an endeavor is through practice.” – Ethan Siegel, “Sorry America, We’re Not Going Back to the Moon,” *Forbes*, December 19, 2017.

Consider that it required centuries for European migration to North America to reach just a million.¹¹ The long line of ‘space-ark’ stories featured in science-fiction magazines (and popular as cover art), novels and movies (such as the classic *When Worlds Collide* (1951)) make it abundantly clear that only a select score, hundreds or thousands (the chosen ones) would be able to evacuate the planet. Such stories usually then go on to showcase the breakdown of law and order and reason on Earth in the face of animal survival instincts and desperation.

The real Diaspora begins when life on Earth is so unbearable for much of the population that the risk of space and colonization on other planets is preferable. That is, for those who can leave and if we can figure out how to leave. The remainder will be left behind. Global Triage?

- ✓ “Philip French’s review in *The Observer* suggested the premise was ‘intriguing B-feature apocalypse, determinism versus free will stuff’ and that the ending has something for everyone: ‘A chosen few will apparently be swept away by angels to a better place. If you’re a Christian fundamentalist who believes that Armageddon is nigh, you’ll have a family hug and wake up to be greeted by St Peter at the Pearly Gates. On the other hand, Darwinists will be gratified to see Gaia and her stellar opposite numbers sock it to an unconcerned mankind.’” – from Wikipedia article, “*Knowing (film)*,” captured September 15, 2019.
- **Frontiers:** Any colonized planet whose current population is significantly below the Maximum Habitability has a *frontier area* on the surface and corresponding urbanized, settled areas, probably the first landing areas and areas that had the easiest available resources. This concept can be useful in many parts of the game, such as Special Operations, local cultural milieu of planets, Interventions, and storytelling elements of the game.
 - ✓ “As the Planetary Protection Officer for NASA, I am responsible for ensuring that the United States complies with Article IX of The Outer Space Treaty. Article IX speci-

fies that planetary exploration should be carried out in a manner so as to avoid contamination of the bodies we are exploring throughout the solar system, and also to avoid any adverse effects to Earth if materials are brought back from outer space.” – Catharine “Cassie” Conley, 7th NASA Planetary Protection Officer.

- History in the Balance: Following the success of the American Revolution, the European powers – Spain, Britain, and to some extent, France, were very concerned about the Westward expansion potential of the new United States. The British made an alliance with Native American tribes to block expansion along the Ohio River and Great Lakes (e.g., the Northwest Indian War, 1785-1795), Spain and Britain both engaged in espionage (e.g., Burr Conspiracy, 1805). The Civil War provided a golden opportunity to split the new nation in two. They were right to be concerned as within 100 years the expanding wave of population, pushed by immigrants from Europe, had smashed through every barrier – natural, legal, moral, human, humane and moved vast distances – to settle all territories coast to coast.
- ✓ If England held the 13 Colonies, they are the world’s first superpower, if they lost the 13 Colonies, the new United States will eventually eclipse the European powers.
 - ✓ “The Union victory and Lincoln’s [Emancipation Proclamation] played a considerable role in dissuading the governments of France and Britain from recognizing the Confederacy; some suspected they were planning to do so in the aftermath of another Union defeat. When the issue of emancipation was linked to the progress of the war, neither government had the political will to oppose the United States, since it linked support of the Confederacy to support for slavery. Both countries had already abolished slavery, and the public would not have tolerated the government militarily supporting a sovereignty upholding the ideals of slavery.” – from Wikipedia article, “Battle of Antietam,” captured November 11, 2019.
 - ✓ Most 4X space games are built on this historical model and lacking a ‘coast’ or much discernible terrain in space, they substitute rifts, black holes, asteroids, dust clouds, and nebulae and game board edges for terrain; GGDM participants will find themselves in a similar situation except that there are no limits, no end line.

“That coarseness and strength combined with acuteness and inquisitiveness; that practical, inventive turn of mind, quick to find expedients; that masterful grasp of material things, lacking in the artistic but powerful to effect great ends; that restless, nervous energy; that dominant individualism, working for good and evil, and withal that buoyancy and exuberance which comes with freedom – these are the traits of the frontier.”

– Frederick Jackson Turner, [The Significance of the Frontier in American History](#) (1893)

Endnotes.

¹ Commentary & Citation: There are no surviving contemporary portraits of Christopher Columbus, all pictures were created after his death by people who could not have or likely never met him. There is even a dispute about the location of his remains, which have been moved half a dozen times, kicked around half the globe like a geopolitical football. So, who knows, maybe he was a time-traveler from the future of humanity changing their history? Imagine what future are they trying to change? In light of what happened later, the charges of most brutal tyranny (to which even their supporters had to admit in Bobadilla’s report witness testimonials, discovered in 2006) against the brothers Columbus seem particularly unjust; others later were not held even close to the same standard.

² Commentary: CET, Habitability Class and Maximum Habitability, Landing, Colony Transports, and star colors are remainders from the original Stellar Conquest (1976) board game.

³ Commentary: The ‘Cradles of Civilization,’ that we all learned in school were the early urban power centers, and their quest for resources and control led to expansion of civilization beyond the cradle.

⁴ Commentary: I have, since my teenage years, had a sublime fascination with tracing the great migrations of humanity across the globe. There is something sublime about the distances, time intervals and numbers, across what is now called ‘flyover country,’ that arrive eventually at the modern polities, languages and cultures.

⁵ Commentary: This is similar to a scene in a movie I watched about the Warsaw Resistance during WWII; civilians were being smuggled out of Warsaw wading knee deep through the sewers at night. A baby started crying. If they were discovered by the Germans, they would all be killed. The baby needed to be silenced immediately.

⁶ Commentary: Dupuy & Dupuy seem to be suggesting that the arrival of the Goth and Alan refugees (up to 1,000,000 with 200,000 warriors, *Id.*) at the Danube was a great positive opportunity for the Roman Empire; I have read in other places that Pannonia, Dalmatia, and Moesia had been largely depopulated in the previous 50 years by raids, revolts, civil wars, famines, and plague and that the intent was for the Goths to settle into the depopulated areas. This is not an unreasonable idea and probably Valens’ intent, but clearly, the Romans were so far gone in corruption, incompetence, and exploitation that they blew it and turned a potential boon into a disaster at Adrianople.

- ✓ This is similar to an argument I heard in my youth about how the Nazi racial policies cost Germany up to half a million potential recruits for their armies, in addition to all of the efforts expended (and credibility lost) over their racial policies and wasteful exploitation, and of course, the intellectual flight to the West.

⁷ Commentary: Noting that the Goths, Franks, Alans, Scythian (e.g., Sarmatians) and Teutonic (e.g., Quadi) tribes had all crossed the Rhine and Danube in the first decades of the fourth century A.D. several times raiding and attempting to migrate into the Roman Empire, only to be repulsed and driven back. So there was some history there between the Romans and the refugee tribes. The final mass crossing of the frozen Rhine in December 406 by tens of thousands of tribal warriors and families is considered a second major mark of the end of the Roman Empire after the defeat at Adrianople in 378 A.D. Within a century of Adrianople, the Western Roman Empire was but a shade.

⁸ Commentary: Adrianople holds a truly special place in Western history, there are at least eight or nine different Battles or Sieges of Adrianople, each marking the rise or decline of an empire. The Bulgarians, Latins and Byzantines passed it back and forth, then the Ottomans took it from the Byzantines, the Russians took it from the Ottomans, and the Bulgarians took it from the Ottomans in 1913. Perhaps most important is the ambush and disastrous defeat of the nascent Latin Empire (established by the Fourth Crusade after the 1204 A.D. Sack of Constantinople) at Adrianople in April 1205 by the Second Bulgarian Empire and Cumans in which Emperor Baldwin I was captured. The Latin Empire collapsed after a half century of wobbly rule and crisis, the Byzantine Empire was restored.

⁹ Citation & Commentary: “Actually, however, you can sound the all clear: The planetary protection job is real, though its purpose is only partly to save Earthlings from the ravages of alien life forms (and by life forms we mean microbes, not green guys). A bigger part of the job is to protect aliens from us – the real bad guys.... If an earthly organism got loose in an otherwise pristine place, two problematic things could happen: The contamination would make it impossible to know for sure if any organism you detected was native to the planet or a stowaway. Worse, if alien life did exist, Earth bugs could contaminate its environment and perhaps even prove to be lethal. In-bound contamination – the space-to-Earth variety – has, of course, always been what worries us more. When astronauts from the first three Apollo moon landings returned to Earth, they were kept in quarantine for three weeks to ensure that they had not picked up any lunar bugs. That was unlikely given that the moon is an airless, waterless, and thus likely sterile place. But in fact there was a bit of a scare.” – Jeffrey Kluger, “Why NASA Is Right to Hire a ‘Planetary Protection Officer,’” Time.com, August 2, 2017.

- ✓ Now, think of it, if the EU had installed a Native American Protection Officer in 1500 A.D., the entire course of history would be so much different.☺

¹⁰ Citation: See also FalconX discussion in Predecessor Technologies, 3 Patents, p. 751, *supra*.

¹¹ Citation: “1907 was Ellis Island’s busiest year. 1,004,756 immigrants were processed there in that year.” – Soft Schools.com, “Ellis Island Facts.”

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“Will this project give us an answer? This project promises new data with hopes to understand this system. This project will be highly rewarding if we catch the star when it dips. But the possibility remains that over the course of the observing campaign the star will do nothing exciting. So please keep in mind that ‘new data’ does not necessarily mean ‘results,’ whether in the immediate or distant future. But also keep in mind, if we don’t look, we will never know!”

– Tabettha Boyajian, Ph.D., Kickstarter Project Page, June 16, 2016

Why Does it Matter?: And why does it matter if we know? Each of the 1,700 people who backed the project thought it mattered enough to give up money. Each of the people involved in the project thought it mattered, enough to give up time and effort, to make it a career-defining project. We often do such things on the intuition (or faith “that the dots will connect down the road” – Steve Jobs feature quote, 3 Patents p. 747, *supra*) that it matters or will matter, somewhere, somehow, someday, without being able to articulate.¹

The Looking Laws: Our ancestors looked up into the night sky and saw stars.² Maybe what we call stars now (our concept is remarkably different), but to them, they were steady reliable lights spots in the night sky. Why did our ancestors look up into the night sky? Because, on Earth, matter falls from the sky, rain falls from the sky and makes us wet, and our crops grow, snow falls from the sky and it gets cold, clouds block out the sun and that is a warning. Our ancestors looked up to the sky because the sky mattered. They may well have looked up into the sky anyway out of curiosity, because curiosity matters too.

- ✓ “Half of science is convincing the world that what you are working on matters.” – “Medical Student” (actor) in Microsoft Commercial, April 2018.

Matter is that thing which forms the universe (Merriam-Webster **2a** & **2b**³). *Matter* is also a subject under consideration, a subject of disagreement or litigation, the subject of a discourse or writing, something to be proved at law, something serious as opposed to nonsense or drollery, and reason and cause, and the problem or difficulty (*Id.* 1a-1i). There are no subjects under consideration, disagreements, discourses, writings, laws, seriousness or nonsense, or even reason or cause, or problems or difficulty, without life and intelligence (mortal or divine, it doesn’t matter) and someone to ‘look.’ So, it should be no surprise then that *matter* is “the indeterminate subject of reality, the element of the universe that undergoes formation and alteration” (*Id.* 3a) and most importantly, “the formless substratum of all things which exists only potentially and upon which form acts to produce realities” (*Id.* 3b).

Looking – not just seeing or hearing – is nearly synonymous with our concept of consciousness and is the base act of nearly everything we do – checking, monitoring, experimenting, observing, creating, building, caring, duties and responsibilities, rolling the die or drawing a card, safety,⁴ working, progress, arguing, criticism, ethics, memories (why have memories if you are not looking at them?), judgment, planning, anticipation, hunting, scavenging, being a male or female. ‘Looking’ is the doing of being.

We ‘look’ because it matters and when it matters, and it matters only when we ‘look.’ Alternatively: We look when it *matters* and it *matters* when we look. I cannot make anyone look at GGDM or anything else, until it matters to them. Can a *silly space game* be macrosociology?

- ✓ “Self-referential statements are admissible in argument so long as they are non-contradictory.” – Gennady Stolyarov II, “Doubt the Action Axiom? Try to Disprove It,” Mises Institute, April 5, 2006 (available free online).

The Galactic Space playing area is unlimited and expands when necessary. Players will look outside the initial thirty-star cluster when necessary, when it matters. Whether or not the stars outside were there the entire time is irrelevant to the game, they are there when it matters.⁵

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- ✓ And here we dance a light step around a probable violation of the Laws of Thought and keep GGDM in rational territory. But the empirical facts of quantum physics that cannot be wished away, seem most threatening to us when the indeterminate state (and generally the concept of fuzziness) appears to violate the Laws of Thought – the center of human rational discourse – laid down by Aristotle nearly 2,500 years ago.
- What Matters: Think of it this way: The only effective way to argue that something is wrong – whether it be ethics, sin, strategy, legal procedure, cockpit procedure, or manufacturing procedures – is to argue that it matters, it might matter, or there might be a foreseeable and probable circumstance where it matters. And this requires evidence, history, foresight, sapience, and abstract thinking. Even if you are sitting on your brain currently, you can understand what matters.

The milk bond is the first bond. The people who *matter* are those who have something or can take something we want or need, are able to make a decision to give, take or withhold, and have the ability and/or legitimate or illegitimate authority to act upon that decision. This includes criminals with guns, in-laws whose approval is deemed important to domestic tranquility, and employees or family members who perform skilled, indispensable functions in the business (for which there are in some cases, business insurance policies for ‘key persons’), people of enough political or social importance to be protected by the Secret Service, organization or family unit but otherwise would not *matter*.

This is not difficult to understand. Consider: The U.S. Marine Corps does not care one bit about what I think of it or say about it after I have been discharged. Any more so than any military cares about what millions of veterans individually say about their service (with some concession that they hate negative publicity in the form of books, movies, and testimonial accounts, but they cannot do anything about that, so it doesn’t really *matter*). However, if I were a politician who somehow became the Secretary of the Navy with budgetary control, or a prominent member of Congress whose vote on military budget matters was critical, then they would be concerned about my opinion.

“Physical intuition starts developing early, long before we ever encounter Newton’s laws on a blackboard. ‘Babies have a few skeletal principles that are built in to the brain and help them reason about and predict how objects should act and interact in the world,’ says Kristy vanMarle, an infant cognition researcher at the University of Missouri. They understand, for instance, that objects can’t pass through each other, a notion that’s at odds with a quantum effect called tunneling, which allows objects to slip through barriers that, in the classic world, would be impenetrable....”

Babies also intuitively grasp that objects exist even when you're not looking at them, a concept called 'object permanence' that goes against the classic Copenhagen interpretation of quantum mechanics, in which an object can't be said to have any definite properties until the moment at which it is observed. Since Jean Piaget first pegged object permanence as a milestone in infant development, psychology researchers have found evidence that ever-younger babies have some sense of it; affirming object permanence seems to be the main theme of peek-a-boo."

– Kate Becker, “Is Quantum Intuition Possible?” NOVA, July 28, 2014

Ontological Schisms: Peek-a-boo! Probably the first schism between the commonly perceived reality and the reality of subatomic physics came when science informed us that what we perceive as solid is mostly – nothingness, empty space. This subject usually comes up early in primary school science education, taught without implications, and generally forgotten shortly thereafter. This is not quite in the same category however, as quantum indeterminacy, as the fact that matter is composed mostly of nothingness does not challenge directly the objective existence of the universe (and the common perception thereof) – one can always shrug and say it must always have been so and we just didn't know we were mostly nothingness until science learned it. But the same can be said of quantum indeterminacy and isn't that somewhat strange? An emergent fractured-universe paradox at the core of 'reality' – that reality is both objective and indeterminate at the same time. It was there the whole time, waiting for our science to discover it.

- ✓ “One may remark here that uncertainty may simply be a mind phenomenon and not a feature of reality, that reality is in fact completely determined, or that science may eventually allow us to understand the determination of all events. [Ludwig von] Mises had no problem with that possibility and, in fact, may have been a determinist himself. By insisting on methodological dualism, however, he was simply pointing out that at present time, empirical science does not shed light on the topic one way or another and, for human scientists studying human behavior, the intentionality of human action seems to be a valid and constructive premise on which to build a social science.” – Michael Accad, M.D., “An introduction to praxeology and Austrian school economics,” alertandoriented.com (blog), April 13, 2016.

Praxeology and Schrödinger's cat? Have I just crossed the streams, is the universe going to implode? Well, it didn't happen in Ghost Busters (1984) (Egon: “Definitely, there's a very slim chance we will survive.”) so we are probably saved. It is historically notable that Austrian economics and quantum uncertainty developed in the same period and are thus part of a wider cognitive development of humanity.

- ✓ Blinding speed, especially of an object in our peripheral vision, challenges our intuitive concept of object permanence. It disappears in a 'flash' or perhaps like a bullet, we never see it in flight, only the beginning and end. Object permanence then becomes more and more of an abstraction, we wonder if it was ever there, or illusion.
- ✓ The third trailer for the 2016 horror movie, *The Witch*, shows a Puritan girl playing peek-a-boo with a giggling baby in a field. She covers her eyes – not his – and then pulls her hands away and says “Boo!” It is shown from the baby's perspective. On

the third round, she uncovered her eyes and the baby wasn't there. It was seemingly impossible for the baby to have vanished without a trace in those five or ten seconds, in the middle of an open field in daylight; she looked around frantically. In the sense expressed by Ms. Becker, quantum physics equates to old concepts of witchcraft: a violation of object permanence.

- See also Empirical Mythology discussion, 1 Technology, p. 691, *supra*.

“Quantum physics defies our physical intuition about how the world is supposed to work. In the quantum world, objects resist such classical banalities as ‘position’ and ‘speed,’ particles are waves and waves are particles, and the act of observing seems to change the system being observed. But what if we could develop a ‘quantum intuition’ that would make this all seem as natural as an apple falling from a tree?”

– Kate Becker, “Is Quantum Intuition Possible?” NOVA, July 28, 2014

Peek-a-Boo: I had a collie dog who used to hide his nose in the shower curtain when he got a bath. We used to laugh about it, I remember we thought that he thought that we couldn't see him if he hid his head in the shower curtain – despite the fact that he was getting a bath anyway and could feel the water. So ok, that didn't make any sense, but who knows? He might also have thought he was being punished (we did have to forcefully keep him in the tub and stop him from shaking water all over the place); the way a toddler fusses when an adult holds them still and wipes their face after they make a mess eating. It also might be like when someone looks away while they are getting vaccinated or having their blood drawn.

- ✓ “Schrödinger wrote:

‘One can even set up quite ridiculous cases. A cat is penned up in a steel chamber, along with the following device (which must be secured against direct interference by the cat): in a Geiger counter, there is a tiny bit of radioactive substance, so small, that perhaps in the course of the hour one of the atoms decays, but also, with equal probability, perhaps none; if it happens, the counter tube discharges and through a relay releases a hammer that shatters a small flask of hydrocyanic acid. If one has left this entire system to itself for an hour, one would say that the cat still lives if meanwhile no atom has decayed. The first atomic decay would have poisoned it. The psi-function of the entire system would express this by having in it the living and dead cat (pardon the expression) mixed or smeared out in equal parts.

It is typical of these cases that an indeterminacy originally restricted to the atomic domain becomes transformed into macroscopic indeterminacy, which can then be resolved by direct observation. That prevents us from so naively accepting as valid a ‘blurred model’ for representing reality. In itself, it would not embody anything unclear or contradictory. There is a difference between a shaky or out-of-focus photograph and a snapshot of clouds and fog banks.’

Schrödinger's famous thought experiment poses the question, ‘when does a quantum system stop existing as a superposition of states and become one or the other?’ (More

technically, when does the actual quantum state stop being a non-trivial linear combination of states, each of which resembles different classical states, and instead begin to have a unique classical description?) If the cat survives, it remembers only being alive. But explanations of the EPR [Einstein–Podolsky–Rosen paradox] experiments that are consistent with standard microscopic quantum mechanics require that macroscopic objects, such as cats and notebooks, do not always have unique classical descriptions. The thought experiment illustrates this apparent paradox. Our intuition says that no observer can be in a mixture of states – yet the cat, it seems from the thought experiment, can be such a mixture. Is the cat required to be an observer, or does its existence in a single well-defined classical state require another external observer?” – from Wikipedia article, “Schrödinger’s cat,” (quoting a translation of Schrödinger’s 1935 paper), captured May 27, 2019.

The cleverness of Schrödinger’s thought experiment is that he took subatomic uncertainty and blew it up into something in our world that is cognizable.

Schrödinger’s cat (the subject of endless geeky t-shirts) is at the center of the looking argument. The state of the cat is indeterminate to the outside observer at least – the state of anything is presumably indeterminate – until we look. But what does that mean? The genius of the experiment was to form a thought bridge from the indeterminacy of the quantum world to our everyday world. From this comes the notion that probabilities collapse into reality in the act of looking and this seems to be confirmed by the experiment with the two holes.

- ✓ “We can try cheating – shutting or opening one of the holes quickly while the electron is in transit through the apparatus. It doesn’t work – the pattern on the screen is always the ‘right’ one for the state of the holes at the instant the electron was passing through. We can try peeking to ‘see’ which hole the electron goes through. When the equivalent of this experiment is carried out, the result is even more bizarre. Imagine an arrangement that records which hole an electron goes through but lets it pass on its way to the detector screen. Now, the electrons behave like normal, self-respecting everyday particles. We always see now the pattern that builds up on the detector screen is exactly equivalent to the pattern for bullets, with no trace of interference.

The electrons not only know whether or not both holes are open, they know whether or not we are watching them and adjust their behavior accordingly. There is no clearer example of the interaction of the observer with the experiment. When we try to look at the spread out electron wave, it collapses into a definite particle, but when we are not looking, it keeps its options open. In terms of Born’s probabilities, the electron is being forced by our measurement to choose one course of action out of an array of possibilities. There is a certain probability that it could go through one hole, and an equivalent probability that it may go through the other; probability interference produces the diffraction pattern at our detector. When we detect an electron, though, it can only be in one place, and that changes the probability pattern for its future – for that electron, it is now certain which hole it went through. But unless someone looks, nature herself does not know which hole the electron is going through.” – John Gribbin, *In Search of Schrödinger’s Cat* (1984), p. 171.⁶

Scientist however, reject the idea that humans are the agents of local collapse of probabilities (“Analysis of an actual experiment found that measurement alone (for example by a Geiger counter) is sufficient to collapse a quantum wave function before there is any conscious observation of the measurement, although the validity of their design is disputed.” *Id.*), but have not offered a replacement explanation to my knowledge (there are many interpretations). It is also not clear what exactly ‘looking’ means or what is required, cognitively, of the looker (can the cat be looking?). But what most greatly troubles the Western consciousness – if the thought experiment is taken seriously – is the lack of any explanation or framework to reconcile the looking (“To appear is to be known” – Avi Sion; the *a priori* or axiom of phenomenology) – the individual, daily, moment to moment phenomenological experience – with the continuity, existence of the larger universe that humans have long thought existed objectively.⁷

- ✓ “No less an authority than Max Born, who received the 1954 Nobel Prize for his contributions to the foundation of quantum mechanics, felt that our minds just weren’t up to the task of ‘intuiting’ quantum physics. As he wrote in ‘Atomic Physics,’ first published in English in 1935, ‘The ultimate origin of the difficulty lies in the fact (or philosophical principle) that we are compelled to use the words of common language when we wish to describe a phenomenon, not by logical or mathematical analysis, but by a picture appealing to the imagination. Common language has grown by everyday experience and can never surpass these limits.’” – Kate Becker, “Is Quantum Intuition Possible?” NOVA, July 28, 2014.

GGDM is not going to offer an answer to those questions (we do not speak math), but instead approaches these issues in a couple of ways. The first is the Temporal Constructural Element (see 1 Constructural Elements, p. 173, *supra*), and the second are the Looking mechanics (*ut infra*).

- ✓ The most explicit sense in which ‘looking’ is true is the Public Space; things appear in the Public Space because we collectively look, see The Collective Consciousness, 1 Constructural Elements, p. 171, *supra*. Looking in that sense is the *flip side* of phenomenology: Looking – Appearing. Heads – Tails. Within GGDM play of course, stars that are *within the game* always appear on the Star Log (a record) and can appear on the Public Space if in actual contact with civilization. There are certain other parts of GGDM, e.g., Cultural Proficiency pieces, Government Titles and pathways, which only appear on the Public Space and are generally placed there (or are affected) when positions activate Powers (i.e. ‘look’).
- Neither Nor: Ultimately, whether the cat is dead or alive can be expressed as 0 or 1, but that value cannot be assigned until someone looks. So, in this sense, does the information exist independently of the observer (unless you believe in pre-destiny), as the Wikipedia quote maintains? If so, in what state, if it cannot be either 0 or 1? See, that is the problem?
 - ✓ “Information is the resolution of uncertainty; it is that which answers the question of ‘what an entity is’ and thus defines both its essence and nature of its characteristics. Information relates to both data and knowledge, as data represents values attributed to parameters, and knowledge signifies understanding of a concept. Information is uncoupled from an observer, which is an entity that can access information and thus discern what it specifies; information may exist beyond an event horizon, for example. In the case of knowledge, the information itself requires a cognitive observer to be obtained.” – from Wikipedia article, “Information,” July 26, 2019.

Suppose I begin a game of FreeCell. Once the cards are dealt, the outcome of the game, 0 (loss) or 1 (win) is not determined until I have played through the game (independent of the amount of time required). What information exists on the outcome of the game prior to me playing the game out (again, unless you believe in pre-destiny)? A set of probabilities, potentials. Suppose I quit the game, don't finish, what is the outcome of the game in 0 or 1 terms?⁸ This question has plagued, for example, tournament play, where it has long generally been the rule that quitting without finishing the game is considered a concession, forfeiture or loss, but that is just an interpretation to avoid difficulties in tournament play.

These questions lend themselves to the notion that we must be trying to figure this out in the wrong framework, because, there is no reason to think the stars existed only after humans looked to the sky! Most people would say that's absurd, but that is the mechanic in GGDM at least. Nor did gravity come to exist on Earth because humans looked to see if anything could hold them and the atmosphere to the surface. This is sort of a paradox because both arguments here seem valid, colorable, yet both cannot be true. Given the choice then, it is not surprising that scientists choose the objective empirical universe over human consciousness, rejecting certain arguments as 'quantum mysticism.'

- ✓ See John Archibald Wheeler 'it from bit' feature quote and discussion in Hologram Universe, 1 Information, top of p. 1327, *infra*.
- Life, Looking and Luck: Living matter must always be looking to confirm its own continued existence (and object permanence), death occurs when this can no longer happen ("If the cat survives, it remembers only being alive." – Wikipedia, *Id.*).⁹ Life is the very first object permanence to itself, and must also be the last:
 - ✓ "Since Jean Piaget first pegged object permanence as a milestone in infant development, psychology researchers have found evidence that ever-younger babies have some sense of it; affirming object permanence seems to be the main theme of peek-a-boo." – Kate Becker, "Is Quantum Intuition Possible?" NOVA, July 28, 2014.

That is, that the cat must be the observer (its own observer) in every moment is the only explanation that makes sense to my primitive understanding. I would offer that this is part of or should be part of, the definition of life – continuous self-observation is life, consciousness.¹⁰ Even if a non-sentient living being could exist, the being would always be able to 'sense' itself and its own continued existence (see tendentious pedant discussion of use of 'sentient' vs. 'sapient' in GGDM, 5 Beginnings, p. 56, *supra*).¹¹

- ✓ Meta-consciousness then may be, must be, an emergent from infantile object permanence, where the existence of the human is the most powerful object permanence in the child's universe. See Meta-consciousness discussion, In the Mirror I Meta Me, 2 Constructural Elements, p. 195, *supra*.

But how does the universe 'exist' when no one is looking? Is it the purpose of life to keep the universe in existence?

- ✓ "This is an application of the anthropic principle: We can only observe an environment capable of producing observers." – Matt O'Dowd (City University of New York), "Are You a Boltzmann Brain," PBS Space Time Channel, April 26, 2017.

This is the heart of the quantum interpretation problem, to wit:

- ✓ “Another way of stating this question regards the measurement problem: What constitutes a ‘measurement’ which apparently causes the wave function to collapse into a definite state? Unlike classical physical processes, some quantum mechanical processes (such as quantum teleportation arising from quantum entanglement) cannot be simultaneously ‘local,’ ‘causal,’ and ‘real,’ but it is not obvious which of these properties must be sacrificed, or if an attempt to describe quantum mechanical processes in these senses is a category error such that a proper understanding of quantum mechanics would render the question meaningless.” – Wikipedia, “List of Unsolved Problems in Physics,” captured June 18, 2018.

I have often seen and wondered about people who have terrible luck in board and card games which use randomizers who also display a bad attitude about die-rolling, card drawing, and life in general. Is there a connection between the two? This long-debated but not well-defined question extends beyond the hobby gaming table to our amazement at people who are both incredibly successful and life positive. It extends to educational philosophy, biographical analysis and literary fiction trope. Is this a chicken or the egg argument: Did they succeed because they are positive people, or are they positive people because they succeeded?

- ✓ “Unless you’re winning, most of life will seem hideously unfair to you.” – Oliver Emberton (blog).

But wave function collapse certainly adds another intriguing layer, something suggestive of a connection between mental states and the local universe,¹² does our attitude actually have some effect on ‘random occurrences’ and certain types of local entropic events? Or am I really wondering if ripe apples are like oranges because red is next to orange on the low end of the visible color spectrum?¹³

- ✓ “Heaven, nirvana, hell, it all exists. Not because of the Bible or Quran, or Buddha says it does. It exists because we expect it to.” – Craig Leeham, Einstein’s God Model (2016).
- ✓ What if what we think is objective reality is actually a continuing set of collapsing wave functions, which shift as we look at them? This view is not entirely implausible – you think you walk by pushing against the Earth, but science tells us we walk because the Earth pushes us forward in reaction to us pushing against it. Frame. Work.

“How much would we appreciate La Gioconda today if Leonardo had written at the bottom of the canvas: ‘This lady is smiling slightly because she has rotten teeth’ – or ‘because she’s hiding a secret from her lover’? It would shut off the viewer’s appreciation and shackle him to a reality other than his own. I don’t want that to happen to 2001.”

– Stanley Kubrick, Playboy Magazine, 1968¹⁴

Sapience: Even in astrology, there is the act of looking, whether it is performing whatever process the astrologer performs, or calling your ‘psychic friend’ in New York City (who oddly never calls you first) to ask for your ‘personal horoscope,’ or looking at the newspaper astrology section. You are looking for something.

All of the criticisms of astrology, outlined succinctly by Carl Sagan and others, are valid, within the framework of science. And science is the framework of our current world. But looking is

the essence of sentience – sentience exists to look, it's *a priori* – and sapience is the essence of projecting sentience into the abstract. That's just what we do. But echoing what Carl Sagan said about Ptolemy's astronomy – that “intellectual brilliance is no guarantee against being dead wrong” (Cosmos, Episode 1) – so is sapient projection no guarantee against being delusional.

- ✓ Merriam-Webster online dictionary at *sentience*: **2**: feeling or sensation as distinguished from perception and thought.

Sentience here is being used in a phenomenological sense, to feel or have a sensation is to appear, to be known both that thing which has caused the feeling or sensation, and the thing (to its own self) that has experienced it.

- ✓ “Looking” as used in GGDM is intended in a very broad sense, ranging from sentience to perception, thought, sapience, as at all levels, things ‘appear’ and are known when looking. It is quite unlikely that anyone has argued that inanimate matter looks, feels, experiences anything. Thus looking is the essential quality of living matter at all levels. Living matter cannot turn off sensation, perception, feeling, appearance.

The main distinction to be made between astronomy and astrology is that, of necessity, the astrologer claims to be a messenger from heaven or the cosmos, bringing a personal message *to you*. Astronomy makes no such claims. In modernity, astrology is treated as silly entertainment. If your personal astrologer predicted your death this week, would that be entertainment?

- ✓ **Old Man:** Beware, the Ides of March! **Caesar:** He is a dreamer; let us leave him: pass. – William Shakespeare, “Julius Caesar” (1623).

It might be interesting, if somehow, a setting could be created where astronomy and astrology co-exist equally and probably, asymmetrically, both with empirically verifiable results.

However, astronomy will point you back home from a distant star, astrology will not. Astrology is not portable like astronomy since the constellations only appear as we know them from the perspective of our Homeworld and in our time; so perhaps in such a setting, astrology would be equally valid only on the Homeworld?

- **Stellar Classes:** Very roughly, the stellar classes in GGDM correspond to the classic classifications of stars, which are O, B, A, F, G, K, M, N. The classic mnemonic for remembering the classes of stars is ‘Oh Be A Fine Girl Kiss Me Now.’ For example, the Pleiades is an open starcluster of hot young blue B-class stars that is visible to the naked eye from Earth. The Concierge is free to alter the over-simplistic system for determining stellar class in the game, it can be skewed whichever way is desired, it can be expanded, a more realistic distribution can be introduced. Class dismissed, we meet same time next eon!
 - ✓ The GGDM stellar classes (colors) in order (red, orange, yellow, green, blue), correspond (roughly) to the Hertzsprung-Russell (H-R) Diagram (available on the internet) moving from bottom right to top left. Our sun is a G2V (yellow in GGDM) star.

“And always remember, keep looking up!”

– Jack Horkeimer, Director, Miami Space Transit Planetarium (Miami Museum of Science), host of PBS “Jack Horkheimer: Star Gazer”

Horkeimer's Rule: The stars listed on the Starlog are obviously not the only stars in the universe or even in the galactic neighborhood. Activation of the Expansion Power for the purpose of Looking allows positions to look from certain locations to find other stars outside those listed on the Starlogs. Looking attempts may not receive the benefit of any Enlightenment (i.e. no re-rolling) as that would be rather absurd. The game looks only when it matters.¹⁵

- ✓ If you were an inhabitant or governor of a frontier colony world, when you thought of the sky, which way would your mind gaze? Would your attention run toward the interior, industrial, population and interstellar government worlds of your sovereign, or would your gaze be turned outward to the next stars beyond your world? Where would you *look*? Would your mental Scene be in the Galactic or the Public Space?

This is the true looking rule of the game, the way to understand how this game is played; the players look. When it matters. In the game.¹⁶

- **Procedural Generation:** The detailed game setup procedure, and the Looking and Scouting rules are very primitive and burdensome (if done manually) procedural generation systems designed to make a theoretically infinite, but practically limited, game universe that is exactly the size needed for play – or as I originally envisioned it in the post-Stellar Conquest days, to make a 3D game universe that is not artificially limited to the space on a flat game board. The emphasis of GGDM is to encourage an engaging emergent game play; GGDM contains structural elements designed for that purpose.¹⁷ Both concepts – procedural generation and emergent game play – were terms unknown to me when the current game was created around 2000 to 2002, so this section translates GGDM into current terminology.¹⁸
- **Looking Up:** Any colony, Scout, or Warship that begins the Regular Turn at a starsystem that has any X, Y, or Z coordinate less than or equal to 5, or greater than or equal to 25, may Look for new stars not currently on the Starlog. Each eligible star may only be used for Looking *once* in each game; that is, once one position has used a star to Look, no other position may Look from that star for the rest of the game for the simple sane reason that once the stars beyond are discovered, they cannot and should not be changed or added to by subsequent looking from the same star. A record, visible to all, will be kept of stars used for looking on the central Starlog page so that positions are informed and do not waste Activations.
 - ✓ Remember, a Scene is required and thus, the star must have been on the Public Space at the end of the previous Regular Turn. Thus the ship or colony must begin the current turn in the starsystem used for Looking.
 - ✓ New stars can appear nearby as a result of Looking from other locations; thus, the edges of the Galactic Space can be fluid until all stars in an area have been used for Looking. This can, admittedly, create some strange game situations that are a consequence of this particular looking mechanic; for example, if a position begins the game near the edge, stars can appear nearby that should have been there initially.
- **Looking Out:** Looking begins with a d10 roll to determine how many stars are nearby; the number of stars currently within 8 movement distance based on the Movement Formula used by the Generic Stardrive Existential Patent, is subtracted from the die roll. If the resulting number is greater than zero, that number is the number of new stars discovered by Looking.

The more populated the neighborhood, the less new neighbors you will find! *Or.* The farther out you are, the further out you will be!

- Looking Sideways: For each star discovered by Looking, a ten-sided die is rolled once for each coordinate. The result of the die roll is subtracted from the X, Y, or Z coordinates of the Looking location *if any coordinate is less than fifteen, or added if any are greater than fifteen*. Negative numbers or numbers higher than 30 are possible and likely.
 - ✓ For example, the Looking location is X5, Y20, Z18. Looking is allowed from this star because of the X5 coordinate, *ut supra*. The others are irrelevant.
 - ✓ One new star is located by Looking from that location, the die is rolled once for each coordinate with 8, 6, and 2 results.
 - ✓ Subtracting and adding from the Looking location's coordinates as described above, the location of the new star would be at X-3, Y26, Z20, located 16 movement from the Looking location using the Generic Stardrive Patent's Movement Formula.

Further Looking may subsequently be done from stars discovered by previous Looking, so that the Galactic Space is effectively infinite. Since stars are large bright physical objects in the sky, their location is perfectly obvious to everyone, therefore, a new star 'discovered' by Looking is added to the game's central Starlog and is available to all positions, and may be announced via Special Bulletin.

- ✓ GGDM necessarily assumes that all Major Races are capable of 'seeing' stars. A 'blind' species would not know there is a sky, only an infinite up and finite down.
- Looking Inward: The initial Starlog has coordinates in X, Y and Z from 0 to 30, and all of the starting positions and starsystems are located within that +++ quadrant. The initial Starlog does not have any negative coordinates. Thus, stars with coordinates from 0 to 5 and 25-30 represent the stars on the outer edge of the initial Galactic Space.

This system makes the initial Galactic Space playing area of the game inviolate; no new stars should appear inside the initial playing area (for game sanity). It must be assumed then that the 30 stars on the initial Starlog are all of the stars within the cube of X1-30, Y1-30, Z1-30. Either this represents a truly miniscule piece of Galactic Space, or, if the initial Galactic Space represented a spherical radius of say, 50 LY, then it is unrealistic that new stars would not be 'discovered' within the sphere of only 30 stars (*ut infra*, next page).

- Looking Through: Finally, for each new star, one die must also be rolled for the stellar class of the star (i.e. the color), on a result of 1 the color is red, on a result of 2 or 3, the color is orange, on a result of 4, 5 or 6, the color is yellow, on a result of 7, 8 or 9, the color is green, and on a result of 10, the color is blue. This information will be recorded, available for all.

Each position will be assigned, during set up, a stellar class of their Homeworld star, even if their homeworld (i.e. the world on which their species evolved) is not in the Galactic Space. During the game, the stellar class of each star in GGDM is a determining factor, in percentages, of Habitability Class of planets in the starsystem, with positions most likely to find Optimal and Hospitable Class planets in starsystems with a stellar class identical to or close to the stellar class of their home star. It's only natural. But it creates an interesting dynamic.

- ✓ For example, a position whose Native Population Type evolved in a system with an 'orange' star (in GGDM stellar classifications) will most likely find Optimal and Hospitable Class planets at orange starsystems. The chance of finding Optimal Class

planets at either red or yellow class systems is significantly less, and is extremely unlikely in green or blue starsystems. But the chance of finding Hospitable and Habitable Class planets is still decent or good in red or yellow class systems. *Und so weiter.*

The stellar classes do not loop, that is, red class stars are not next to blue class stars on the spectrum. Thus, species that evolved in blue or red class stars (the extremes) will likely find less stars of those classes in the Galactic Space, and also, will only have one adjacent color, which will also be slightly less numerous than the orange and yellow mainline stars. On the other hand, paw, tentacle, orb, whatever, there will be significantly less competition for living space in blue and red stars than among species evolved in orange, yellow, or green stars.

- **Looking Around:** Discovery of a new star via Looking does not grant ownership or any rights not enforced by arriving with warships first. New stars are like the old stars, they are *terra incognita* and *terra nullius* and may be subsequently explored, colonized, and conquered as any other starsystem.
 - ✓ Looking could be altered to allow new stars to appear inside the original Galactic Space if participants desire more ‘realism’ or want to experiment. See discussion Stage Illusions, 1 The Sidereal Stage, p. 107, *supra*. I do not believe it necessary.

“If there are millions of civilizations in the Milky Way each capable of radio astronomy how far away is the nearest one? If they’re distributed randomly through space then the nearest one will be some 200 light-years away. But within 200 light-years there are hundreds of thousands of stars.”– Carl Sagan, Cosmos, Episode 12

Realspace: This suggests that the Galactic Space is probably a tiny area indeed. This also suggests that even at sub-light speeds, outbound from the Earth, there are probably thousands of planets that could be colonized.

- ✓ “About one third of the stars visible with the naked eye lie within 250 light years, even though this is only a tiny part of our galaxy. There are 133 stars visible with the naked eye within 50 light years of us.... The Hyades cluster is the nearest major star cluster and the only one close enough to be mapped in three dimensions. The Hyades cluster is a bright object in Taurus, but the view is partially ruined by Aldebaran – a brilliant orange giant star that lies in front of the cluster at less than half the distance. The cluster itself is 151 light years away. It was formed about 660 million years ago and the cluster has probably gone around the Galaxy three times since then. Like most open star clusters, the stars in the cluster are slowly moving apart.” – captured June 22, 2018, from website <http://www.icc.dur.ac.uk/~tt/Lectures/Galaxies/LocalGroup/Back/250lys.html> (Institute for Computational Cosmology, Durham University, UK; website has some cool 3D star maps).
- ✓ “As many as 512 or more stars of spectral type G (not including white dwarf stellar remnants) are currently believed to be located within 100 light-years (or 30.7 parsecs) of Sol – including Sol itself. Only around 64 are located within 50 light-years (1y), while some 448 are estimated to lie between 50 and 100 light-years – a volume of space that is seven times as large as the inner sphere within 50 ly of Sol. A comparison of the density of G-type stars between the two volumes of space indicates that the outer spherical shell has around 100 percent of the spatial density of known G-type

stars as the inner spherical volume, which suggests that astronomers have identified the great majority of the G-type stars that are actually located within 100 ly of Sol, assuming the same spatial distribution in the Solar neighborhood... As of October 2005, astronomers have been able to detect the presence of planets around only 28 G-type stars (including Sol) – or around 5.5 percent – of those 511 stars located within 100 light-years of Earth.” – captured from <http://www.solstation.com/stars3/100-gs.htm>, on June 22, 2018.

This awesome free website, last updated in 2013, has a tremendous amount of information, including a table of all G-stars within 100 light years and, back-browsing, interactive maps, tools.

“Somewhere out there, something incredible is waiting to be known.” – Carl Sagan

“We began as wanderers, we are wanderers still. We have lingered long enough on the shores of the cosmic ocean. We are ready at last to set sail for the stars.” – Carl Sagan

City on the Edge of Forever: Who knows what you will run into out there? That’s why we go (or possibly don’t go). It’s also why we bring a gun. It is probable that positions will encounter each other during exploration and/or that exploring ships may encounter **alien colonies**, Minor Races, and whatever other strangeness the Concierge decides to put into the game. When units and colonies owned by different positions encounter each other for the first time, it is resolved per the First Contact Rules (see Bump in the Night, Diplomacy, p. 1099, *infra*); treatment of Minor Races is described in Mathó Thípila, 4 Diplomacy, p. 1140, *infra*. Finally, the practical limitations and considerations of what ships, colonies see is described in 2 Information, *infra*.

A Hostile Class Love Story in 150: A jilted and jealous lover attempted to commit suicide and mass murder by explosively decompressing the domed research colony. Twenty of one hundred colonist survived in an emergency shelter control room.

When the supply ship arrived a year later, bearing news of turmoil at home, a few less than a score of colonist remained; the jilted lover, overtaken at the last moment by survival instinct, had dashed to the shelter before the catastrophe. The supply ship, loaded with a new colony of 150 persons and another pressure dome, had no spare room to take off the survivors.

After an incident that destroyed the supply shuttle at the colony, the supply ship departed leaving behind the survivors and their hostages. Many years later, another supply ship arrived to find a few survivors who were not quite the same species as those who landed... EOM.¹⁹

“There are now five different lines of observational evidence pointing to the existence of Planet Nine,’ Konstantin Batygin, a Caltech planetary astrophysicist, explains. ‘If you were to remove this explanation and imagine Planet Nine does not exist, then you generate more problems than you solve. All of a sudden, you have five different puzzles, and you must come up with five different theories to explain them.’”

– Mike Wehner, “NASA says evidence for Planet Nine is mounting,” foxnews.com, October 18, 2017

Endnotes.

¹ Commentary: On Wednesday, November 7, 2018, Washington Capitals forward T.J. Oshie had a rough night; first he was hit in the eye under the visor with a stick and had to leave the game in the 1st period, then in the 3rd period, he was in a violent collision with Pittsburgh Penguins forward Evgeni Malkin in which he was hit in the head by Malkin's shoulder (Malkin was ejected from the game), and Oshie had to leave the ice for concussion protocol. I had a feeling he would return, and when he returned in the latter part of the 3rd period, and was active on the ice, I just got this feeling that he was going to score a goal. Somehow, it just felt 'right' and indeed, he scored the winning goal. How did I know? I have watched many baseball, hockey, and football games; it just felt predictable. That is literally what I thought at the time, it was predictable. But how?

- ✓ By one common philosophical argument of knowing, I 'knew' because I was right – no matter how – and had it not happened, my feeling would have been a 'belief' and not knowledge. Not JTB.
- ✓ A critical approach would suggest that I am highlighting all of the times it happened and ignoring the times it didn't happen. That still does not explain my intuition of the moment. I have seen this too many times before. Sean Young was traded back to the Pittsburgh Pirates after a horrific time in Atlanta, arrived just in time to dress for the game, but was not a starter. In extra innings, he came in as a pinch hitter and hit a walk-off home run over the wall. I have lost count of the number of such – what should we call them? – synchronicity moments over the years, and I was not thinking of those at the moment I had that intuition about T.J. Oshie. Was the expectation created in both instances by the broadcasters? And they just got lucky that a really special moment happened after their buildup? Ok, but I have seen it in person, without broadcasters in my ear. I was at the game where Josh Harrison broke up the no-hitter in the 10th inning with a homerun. I suddenly thought it would happen, and mentioned it to my friend when Harrison came to bat. I was also at a Penguins playoff game that went to overtime, I thought and said to my friend, that we would win quickly, and indeed, the Penguins scored a winning goal 30 seconds into the overtime. By definition, as they had not happened yet, no evidence was available to support my knowledge.
- ✓ See discussion of pre-theoretical intuition, *The Fine Print-isms*, 1 Temporal Technology, p. 811, *supra*.

² Commentary: If you look up in the sky long enough, without blinking, moving or looking away, you will eventually see stars...one way or the other...or if someone whacks you in the back of the head for not paying attention.

³ Citation: Merriam-Webster 11th Collegiate Dictionary.

⁴ Commentary: For example, we tell children to look both ways before crossing the street. What we are trying to make them understand is something more than simply seeing; we want them to process, pay attention, judge.

⁵ Commentary: I am aware of the potential charge of "quantum mysticism." *Nolo contendere, ad altiora tendo!* And the same goes for any suggestion of a creator or supreme deity.

- ✓ The sibling of modern quantum mysticism is "nuclear mysticism" which one of its main proponents, Salvador Dali, visualized in a painting, "Living Still Life" (1956). "Nuclear Mysticism is composed of different theories that try to show the relationships between quantum physics and the conscious mind. The different theories are composed of elements that range from 'Catalan philosophers' to 'classicism, pop art, and nuclear physics.'" – from Wikipedia article, "Living Still Life," citing to E. Baden (2011).
- ✓ "Quantum mysticism in the sense of consciousness playing a role in quantum theory first appeared in Germany during the 1920s when some of the leading quantum physicists, such as Erwin Schrödinger, leaned toward such interpretations of their theories." – from Wikipedia article, "Quantum Mysticism," manifested on my computer, February 7, 2019.
- ✓ The early controversy died off by the 1950s, to be revived later in 1961. By the 1970s, it had become part of the New Age culture (possibly ranging to manifestation).

⁶ Citation & Commentary: Mr. Gribbin perhaps uses some unfortunate language (such as electrons 'knowing'), unfortunate perhaps in his choice of words to convey the concept to lay readers, but also unfortunate because our language is still mythopoeic-anthropomorphic (and geo-centered, as Sagan pointed out) and lacks other words to convey the meaning more accurately. I am not a proponent of the electron 'knowing' anything, they should just remain ignorant, pay taxes, make baby electrons (quarks?) and vote for whomever the party bosses put up on the podium. ☺

- ✓ "What we see is what we get. An experimental observation is only valid in the context of the experiment and cannot be used to fill in details of things we do not observe. You might say that the double-slit experiment tells us that we are dealing with waves; equally, by looking only at the pattern on the detector screen

you can deduce that the apparatus has two holes in it, not one. The whole thing is what matters – the apparatus, the electrons, and the observer are all part of the experiment. We cannot say that an electron goes through either hole, without looking at the holes as it passes (and that is a different experiment). An electron leaves the gun and arrives at the detector, and it seems to possess information about the whole experimental setup including the observer. As Freyner explained to his BBC audience in 1965, if you have an apparatus that is capable of telling which hole the electron goes through, then you can say it either goes through one hole or the other. But when you have no apparatus to determine through which hole the thing goes, then you cannot say that it goes through one hole or the other. ‘To conclude that it does go through one hole or the other when you are not looking is to produce an error,’ he states. The term ‘holistic’ has become such a misused buzzword that I hesitate to introduce it. However, there is no word more apt to describe the quantum world. It is holistic; the parts are in some sense in touch with the whole. And it doesn’t just mean the whole of an experimental setup. The world seems to keep all of its options, all of its possibilities, open for us as long as possible. The strangest thing about the standard Copenhagen interpretation is that it is the act of observing a system that forces it to select one of its options, which then becomes real.

In the simplest experiment with two holes, the interference of probabilities can be interpreted as if the electron that leaves the gun vanishes once it is out of sight, and is replaced by an array of ghost electrons that each follows a different path to the detector screen. The ghosts interfere with one another, and when we look at the way electrons are detected by the screen, we find traces of this interference, even if we deal only with one ‘real’ electron at a time. However, this array of ghost electrons only describes what happens when we are not looking; when we look, all of the ghosts except one vanish, and one of the ghosts solidifies as a real electron. In terms of Schrödinger’s wave equation, each of the ‘ghosts’ corresponds to a wave or rather, a packet of waves, the waves that Born interpreted as a measure of probability. The observation that crystalizes one ghost out of the array of potential electrons is equivalent, in terms of wave mechanics, to the disappearance of all of the array of probability waves except for one packet of waves that describes the real electron. This is called the ‘collapse of the wave function,’ and bizarre though it is, it is at the heart of the Copenhagen interpretation, which is itself the foundation of quantum cookery. It is doubtful, however, that many of the physicist, electronics engineers, and others who happily use the recipes in the quantum cookbook appreciate that the rules that prove so reliable in the design of lasers and computers, or studies of genetic material, depend explicitly on the assumption that myriad ghost particles interfere with each other all the time, and only coalesce into a single real particle as the wave function collapses during an observation. What’s worse, as soon as we stop looking at the electron, or whatever we are looking at, it immediately splits up into a new array of ghost particles, each pursuing their own path of probabilities through the quantum world. Nothing is real unless we look at it, and it ceases to be real as soon as we stop looking.” – John Gribbin, *In Search of Schrödinger’s Cat* (1984), pp. 172-173.

- **The post-millennial version:** “Quantum field theory describes the interactions between particles as the sum total of all possible interactions that can lead to the same result. ... Every interaction with virtual photons that can happen, does. At least, in a sense. And the sum of the infinite possible interactions defines the strength of the one real interaction. And if that doesn’t make your head hurt, try thinking about it again. So yeah, quantum field theory is a type of madness.” – Matt O’Dowd (City University of New York), “Quantum Theory’s Most Incredible Prediction,” PBS Space-Time Channel, August 15, 2018.

Since the end of the Cold War, and possibly since the millennia, there are a number of card games that use this idea. You have a hand of cards, you must (or should if you are being competitive) try to play one or more of the cards when possible. Each card represents a possibility of what you might do, a possible future for your position in the game. Each has its pros and cons, and unknown or unknowable possibilities in terms of what you might draw, what your opponents might do, or die rolls, and such. You take your best guess and play a card. What makes the newer card games more interesting, is that you must (unlike old card games), pay-to-play by discarding cards from your hand to play a card, the process of doing so eliminates possible futures, possible timelines for your position by the act of choosing one to play on the table (and discarding others to pay for it). This intuitively reflects our lives when we stop to think about it, and also reflects quantum physics and that is sublime to me. This is what I see in games like *Race for the Galaxy* and why I have continued to play that game daily long after most gamers have forgotten about it. There have developed a number of other card games that use the same mechanic, and many board games (e.g., the underrated and forgotten board game *Lyssan*) in recent years have adopted this style of card play.

✓ My copy of Gribbin’s book looks like a venerable ancient text, according to a friend who borrowed it a few years ago, with its creased and worn cover and spine. It has a long history in my possession (i.e. Temporal 2 Expansion – Horkeimer’s Rule

Constructural Element), moving from place to place. I sat on the deck of the U.S.S. Tuscaloosa (LST 1187) and read it in the summer of 1988 on my way to the Philippines and Hong Kong. As such, in terms of science, Mr. Gribbin's book is, like me, a bit 'dated' and further, I sense, would be met with derision in the scientific community (like GGDM), Gribbin rather alludes to that above. They probably don't teach this in high school for the same reason they don't encourage teens to read science-fiction stories even now: Temporal authority must be completely objective, hard and fast, undeniable, beyond each of us, and in control (as Gatto and others have pointed out), no wishy-washy science of ghost probabilities or power to collapse wave functions by the act of observation are allowed to taint the youthful minds. I was fascinated by quantum tunneling of alpha particles who lack sufficient energy to escape the potential energy well (long before I heard of quantum entanglement, etc.) which I think I discovered on my own in high school and I recall doing a class presentation project on it in 11th grade; I had an unusual teacher however. Quantum tunneling, as I understood it in high school, suggests to the young mind that one might 'magically' escape and suddenly find oneself outside the bounds of whatever situation or system one finds themselves in (and I did just that after high school), regardless of rules, math, and probabilities. And so here I am, here I sit.

The quantum concepts have only very slowly crept into the Western consciousness in the last century and very little of science-fiction literature uses it (despite its apparent fertility for science-fiction concepts). The most notable science-fiction setting that I recall using the fascinating observer-triggered probability collapse is the Andromeda television series where it is the basis of Slip Stream travel (see 'quantum intuition' discussion, *Trans-human Touch-down*, 1 Stardrive, p. 784, and Andromeda Wiki feature quote at the top of 3 Movement, p. 854, *supra*).

⁷ Commentary: Thus in looking, we are roughly 'forcing' something into 'reality' against 'its' will, or without 'its' consent. Is that an absurd concept? Yet, it has parallels to the fact that all of us were born – brought into existence, ontologically by the acts of others – without our consent, and cannot be unborn, regardless of what we do (short of creating a paradox). It's just a metaphysical observation and not much more, if life has a pre-conception state, we have no idea where to look for it right now. That is, we have no empirical evidence of such right now, but it would be some great epic fiction. If life has a preconception state, don't picture babies in heaven or souls floating about waiting to be born; no it will be something much, much stranger still and related to abiogenesis.

⁸ Commentary: I have no answers to offer, but I am sure that someone much brighter than me has figured this out already. I am sure there is some math solution to the question of what if it is neither 0 nor 1 in a system that allows only 0 or 1?

⁹ Citation & Commentary: "...your physical body exists only to confirm your existence." – Serial Experiments Lain, Episode 6 (1998). In the series, Lain eventually has to give up her physical body in the Real World to inhabit the Wired. Lain cannot then cross back over into the real world and exists here only in the memories of those who are aware of her existence (this is referenced in the Wikipedia article in relation to a philosophical society talk given by Professor Susan Napier in 2003, "The Problem of Existence in Japanese Animation" (published 2005)).

- ✓ About fifteen years ago when I watched Serial Experiments Lain in its entirety, I was not aware of Russian Cosmism and was only vaguely cognizant of Transhumanism. But revisiting the series in the current context, it is clear that discarding the physical body to enter the Wired is related to the concepts of Russian pre-Cosmism (see excerpt from book by George Young in *The Sidereal Stage*, *supra*) and it is not coincidental that there is a link to the Noosphere article at the bottom of the Wikipedia article on Serial Experiments Lane. This form of ascension is not uncommon in science-fiction literature, of course.

¹⁰ Commentary & Citation: Steven R. Donaldson's two volume series Mordant's Need (1986-1987) comes somewhat close to this; the main character Teresa lives in an apartment covered in mirrors, so that she can always know that she still exists. Though I read this in the late 1980s after having read the First and Second Chronicles of Thomas Covenant trilogies (1977-1979, 1980-1983) and Daughter of Regals and Other Tales (1984), I do not believe it is directly the source of my commentary here.

¹¹ Citation & Commentary: "...appearing is being known." – Avi Sion, from abstract for his book Phenomenology (2003). Thus living matter, from a phenomenological view, must always be appearing to itself and when it cannot, when that condition ceases, it is organic non-living matter.

- ✓ The point of distinction that GGDM makes from phenomenology is the emphasis on looking, or more properly, appearance through looking. This extension of phenomenology into quantum interpretation – the horror of physicists worldwide – is where sentience and sapience are properly situated.

¹² Citation: "Time lines can not only interfere with each other, they can alter or even erase aspects of each other, and the potentials of each other as a whole. Or in terms of the plot of the film [Looper, 2012], young Joe's short term

future can alter his long-term future, which is ultimately, old Joe's past, hence, the memory fuzziness described by old Joe in the diner.

All of which is quite resonant with the structure of quantum entities, whether or not Johnson did this intentionally, or, as he has indicated, by instinct. According to quantum physics, sub-atomic entities aren't quite particles, and this is why, after at first depicting electrons as tiny satellites in fixed orbits around the central atomic nucleus, physicists came increasingly to depict electrons as fuzzy 'clouds' which hover around a nucleus. What's particularly difficult to grasp about this, however, is that electrons aren't spread out like a rain cloud, but rather, the electron and the space and time in the area of the so-called cloud are, to use a popular metaphor in the science literature, 'smeared' within and through each other. That is, while a rain cloud is full of little drops of water, there is only one electron in the spacetime of the cloud, and it could show up anywhere in there, but its location within this is, in a sense, 'fuzzy.' The reason for this is that quantum entities, which are only described as particles by scientists today as a short-hand, simply don't follow the laws of time and space like large entities do, they're able to be in more than one space and time at once, even if more intensely in some of those spaces and times than others. What's more, they interfere with each other, in a manner not all that dissimilar to what is described in *Looper*.

This is why we can think of old and young Joe as being similar, in many ways, to quantum entities. As they get closer to each other, in space and time, their actions increasingly begin to interfere, not only with each other in the present, but in the past and future as well. This manifests in the way in which young Joe's actions can rewrite old Joe's memories, or to the extent that the memory of one character is the future of another, also impact their potential future paths." – Christopher Vitale, "Collapsing the Fuzzy Wave: Rian Johnson's 'Looper' (2012), Quantum Logics, and the Structures of Time Travel Films," networkologies (blog), written in 2012, updated and reposted, October 31, 2014.

¹³ **Commentary:** The classic mnemonic for remembering the color spectrum is ROY G. BIV which stands for Red, Orange, Yellow, Green, Blue, Indigo, and Violet. The first five are the Stellar Classes in GGDM.

- ✓ Within our solar system, 'My Very Educated Mother Just Served Us Noodles' is a way of remembering Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune. Watch out for the Klingons circling...
- ✓ In the orders of life on Earth, in 7th grade we learned 'King Philip Came Over for Grape Soda' which stands for Kingdom, Phyla, Class, Order, Family, Genus, Species. *Homo Sapiens* are the only surviving species of genus Homo, which of course is the flash-point of much evolutionary-religious debate.

¹⁴ **Commentary:** La Gioconda is known in English as the *Mona Lisa*; the model who sat for the painting was Lisa del Giocondo and it was painted for her husband. Mona is a polite form of address, like Mrs. in English.

¹⁵ **Commentary:** The first rule to surviving a military inspection – or any inspection – is to pass on the first look. If the inspecting officer sees anything wrong or out of place, they will look more closely, start looking behind the facade. It's human nature. And cat nature. There are certain people who live on the edge, they make business deals, communicate and/or act in ways that are borderline unethical and possibly illegal at best. They talk the talk, act like big shots, connected with all the right people, knowing it all about how the game is played. They can do this as long as no one is *looking* – until something happens, some event, or events, something beyond what they imagined, that brings the gaze of a prosecutor, special investigator, or grand jury in their direction.

¹⁶ **Commentary & Citation:** Yes, I am aware that by my suggestions here I will be branded as the greatest scientific heretic, criminal of the 21st Century by the respectable scientific establishment (if they notice and *think it matters*); this very debate has arisen in 2020, e.g., Dr. Sabine Hossenfelder's video, "Is COVID there if nobody looks?" (YouTube channel, June 28, 2020); Frau Hossenfelder is a Fellow at the Frankfurt Institute for Advanced Studies.

¹⁷ **Commentary & Citation:** As opposed to, for example, the infinite procedurally generated universe of No Man's Sky (in its original form; they added a backstory, guilds and procedurally-generated missions later), which was roundly criticized as an overpriced, flat and soulless game-play experience (however, according to Gita Jackson at kodaku.com, a year later after several expansions, "No Man's Sky is good now").

¹⁸ **Commentary:** How is this for an example of a looking problem: I have observed many instances of the computer stating that it cannot find (i.e., 'no results') the word I typed to search in an open document, yet I am looking at the word it says it cannot find? I have seen instances where it jumped to the location of the word I searched, yet claimed that it cannot find the word in the document. It is displaying the word, I am looking at it; the machine obviously 'knows' it is there if it is displaying it, yet it cannot find it in the search function? I am sure there is a discipline term or name for this phenomenon somewhere in computer science, just as there are names for this phenomenon among humans.

¹⁹ **Commentary:** No humans were harmed in the making of this story.

2 Expansion – Horkeimer's Rule

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See Appendix EXP – Expansion & Colonization Example
See Appendix IMT – Interstellar Movement Table
See Appendix T&C – Taxation & Census Example

*“On through the never
We must go
On through the never
Out to the
Edge of forever
We must go
On through the never
Then never comes!”*

– Metallica, “Through the Never” (1991)

Level 13: If participants wanted to add occult to a GGDM game, the movie *The Risen* (2017), and especially the ending, provides a good starting point. The puzzle-mystery-building part of the movie is important; the Concierge might be able to execute something similar in game. I do admit that I thought the dialogue sounded a little off and the fight scenes were oddly clunky (but not worse in either case than most RPG sessions), but I liked the movie – as for reviewers, they were mixed with some being very cruel and condescending as usual, and as usual, audience reviews were generally kinder. The movie seemed to be a live-action descendent of board games like *Level 7* (2010) and *Tannhäuser* (2007). I was also reminded of my first cooperative board game, *Vanished Planet* (2003) and even somewhat of the movie *Event Horizon* (1997).

- ✓ I wonder if the writers of *Event Horizon* (1997) were listening to “Through the Never” (1991) on repeat? Fan music video: “Through the Never”/Event Horizon.
- ✓ “Never mind that noise you heard, it’s just the beasts under your bed, in your closet, in your head!” – Metallica, “Enter Sandman” (1991).
- ✓ “The first time I ever saw a horror movie, I think I was in middle school, and we watched ‘I Know What You Did Last Summer’ and ‘It’ at a slumber party.” – Jessica Rothe (actress).
- ✓ See also *DEATH OF A YOUNG GROUNDHOG*, 4 Fallen to Earth, p. 1551, *infra*.

Through the Never: Any *Scout Ship* that:

- 1) Departs from any system (no Scene required),
 - 2) Whose destination is a system that does not have a supporting colony,
 - 3) Must do so by activation of the Expansion Power for the purpose of Scouting.
- **Then Never Comes:** Whenever a Scout (or any non-warship) arrives in any starsystem unexplored by its owner, a ten-sided die must be rolled, exploration attempts are automatic and do not require a separate Power Activation. ***Each ship entering at the same time must make a separate roll.*** On a result of 1-4 (or 1-5 for any other non-warship that may accidentally find itself in an unexplored system), the Scout is destroyed by unknown hazards in the system, or because the Scout’s systems failed, or just because whatever. If at least one Scout (or ship) survives the Hazard Roll, the system is automatically explored and planetary and other information is received for the system. See 2 Information generally, *infra*, regarding what information is received in GGDM. Additionally, a star must be placed on the Scout owner’s Public Space and the Scout is then placed on the star. Planets of the system are not placed on the Public Space until they are colonized or conquered.

- ✓ As noted previously in Exploration, 1 Expansion, p. 876, *supra*, Scout Ships are considered to have Constructural Elements and thus can benefit from Enlightenment in Hazard Rolls if the ship's Epistemological Constructural Element is active. Enlightenment must be assigned/attached to a Scout Ship individually whenever the Expansion Power is activated for the purpose of Scouting in order to be used during Hazard Rolls or Combat. It will be subtracted from the Colleges and remain with the Scout until a Hazard Roll (or Combat) situation causes it to be used or the Scout is destroyed.

Use of Enlightenment for Scouts is a trickish issue. A Scout that is destroyed is no longer out there and must be replaced with a new Scout, which must be constructed and moved to the frontier. A position that has lost most of its Scouts suffers a 'Scout drought' and is blinded; this is a situation that used to occur frequently mid-game in the Stellar Conquest board game. The use of Enlightenment on Scouts might help with surviving the poking around part. Scouting isn't 'honey badger don't care'! Scouts do take care.

- The Air You Breathe: It does not matter how many times the system has been explored by other positions previously, *the process of exploration is individual for each position due to the unique Native Population Type of each position's species (ut supra)*. The first time a system is explored, the Concierge will establish the number of planets in the system, which could be from zero to ten, and the orbit numbers those planets occupy. This data is completely objective, all positions exploring a system will see the same number of planets and the same orbital information; what is relative to the species is the other half of the planetary data: Each species will see only their own *subjective* Habitability Class and Maximum Habitability data for each planet. See Habitability and Day World, 3 Taxation & Census, pp. 315-316, *supra*.
 - ✓ As noted previously, the game does not naturally look for details beyond orbit number (for reference) and Maximum Habitability and Habitability Class; e.g., the game does not make a record of moons, asteroid belts, or solid or gaseous planets, or whether moons are habitable or made of blue cheese.
 - ✓ It is quite possible and quite probable for two positions to have completely different data on a planet, one may see it as a Garden of Eden, the other as the Gates of Hell. It just depends on the air you breathe.
- Never Achievable: Exploration is the primary culprit of spatial injustice in GGDM; there is, and is not intended to be, anything fair about it. It is probable during the game that some positions might have better or worse luck in finding colonization sites; they might be squeezed by decisions of other positions to expand in their direction, or they may have bad luck with Hazard Rolls that mean other positions get there first. The Concierge should avoid Intervention for the purpose of 'evening up' the game for any position or leveling the 'playing field' for all positions – either to aid or hinder expansion and exploration – rather, the participants should play the game out as the geography of the game develops (as any tile flipping exploration game), realizing that spatial injustice makes the game (if not life) more interesting.
 - ✓ "Perfectly even development, complete socio-spatial equality, pure distributional justice, as well as universal human rights are never achievable. Every geography in which we live has some degree of injustice embedded in it, making the selection of

sites of intervention a crucial decision.” – Edward Soja, “The City and Spatial Justice,” JSSJ, January 2009.

- ✓ See also ‘fairness’ discussion, Balancing the Pin, 2 Patents, p. 735, *supra*.

[Dr. Who opening monologue]

Question: *why do we talk out loud when we know we’re alone?*

Conjecture: *because we know we’re not. Evolution perfects survival skills. There are perfect hunters. There is perfect defense.*

Question: *why is there no such thing as perfect hiding?*

Answer: *how would you know? Logically, if evolution were to perfect a creature whose primary skill were to hide from view, how could you know it existed? It could be with us every second and we would never know. How would you detect it? Even sense it? Except in those moments when for no clear reason, you choose to speak aloud. What would such a creature want? What would it do?*

[Later] *Suppose that there are creatures that live to hide. That only show themselves to the very young or the very old or the mad! Or anyone who wouldn’t be believed.... “What’s that in the mirror, or the corner of your eye? What’s that footstep following but never passing by?”*

– Dr. Who, “Listen” (2014)

Send the Enterprise!: Warships may be used for exploration; Cargo Ships and Colony Ships are each respectively limited to destination systems that have a supporting colony (Cargo Ships) or that have a Scene (Colony Ships), thus can never be sent to an unexplored star by operation of the rules (e.g., see Colonization, 1 Expansion, p. 876, *supra* and Cargo Ships in Combat and Green Goods, 1 Commerce, pp. 1186, 1188, *infra*). Warships departing for any destination that does not have a supporting colony, must do so by activation of the Combat Power for the purpose of Combat Movement (see Move Out!, 1 Combat, p. 942, *infra*). Warships have a better chance than Scouts of surviving the hazards of exploration, but they are limited by current Operational Flight Limitations (OFL) and Operational Supply Limitations (OSL). Thus, a program of exploration with warships only would be slow and expensive, requiring the constant establishment and protection of new, sprawling ‘grapevine’ colonies to support the warships. But it may be a good or necessary strategy in some instances.

- ✓ Curiously, the peaceful near-utopian Federation always sent a warship commanded by a loud-mouthed, tin-plated captain with a star-system-sized ego “to explore strange new worlds and seek out new life and civilizations.” But not Klingons, of course, the Federation is prejudiced against Klingons. The Enterprise was eventually hauled away by a garbage scow.
- **Heard it Through the Grapevine:** ‘Grapevine’ colonies existed in the original Stellar Conquest board game (e.g., James G. Branaum, The Space Gamer #25, November 1979); they are small colonies placed at strategic stars to provide a supporting colony for interstellar flight Power Activations that require a supporting colony at the destination system. These outposts also provide a place to return before OSL expires and serve as a ‘tripwire’ when other position’s ships enter the system.

The concept soon became common language in sci-fi gaming:

- ✓ “Rather than moving the facility, Lucan increased its defenses, placing a small fleet in the system and several tripwire flotillas along likely avenues of approach. ... Dulinor, swinging through Massilia to come at Lucan from an unanticipated direction, swept aside Lucan’s screening forces in several short engagements. Although each battle was a clear victory for Dulinor, each trimmed his fleet back by a few more irreplaceable vessels, and the warning given by the screening forces gave Lucan time to assemble his reserves at Omicron...” – Dave Nilsen, “When Empires Fall II,” Challenge Magazine, Issue 69, February 1993.
- Prime Timeline: Participants may envision exploration with warships as being something akin to the missions of the Enterprise in the Star Trek Prime Timeline. However, the Federation’s warships were designed – along with officer training, crewing, and institutional outlook – for the dual role of combat and exploration and had the supporting technology for that mission whereas, *in GGDM, warships are mainly warships*, are warships first (like Klingon Birds of Prey), thus the support requirements. Fans of the franchise lamented the dark ending of ST: Deep Space 9 series and the ‘militarization of Starfleet’ brought about by the Dominion War. According to Memory Alpha wiki, in the post-millennial Star Trek reboot Kelvin Timeline (Star Trek: Into the Darkness) the Federation did have a Dreadnought-class ship, an AI-powered, minimum crew, heavy warship-only designed with the assistance of Khan Noonien Singh. Thus series drift into loud, colorful militant space opera continues.¹
- Dead Before the Opening Credits: Each warship entering an unexplored system must make the same Hazard Roll as Scouts. The difference is, that if a warship fails the Hazard Roll, it may reroll the Hazard Roll (the only time a warship is ‘enlightened’!), and is only destroyed if it failed all Hazard Rolls. A 1st Era Warship must reroll once if it fails the Hazard Roll, a 2nd Era Warship may reroll twice, and a 3rd Era Warship may reroll up to three times. Warship Hazard Roll rerolls stop as soon as the ship survives a Hazard Roll. As such, warships are increasingly less likely to be destroyed during exploration of new starsystems.
 - ✓ The Klingons would not have survived the encounter with the First Federation (ST:OS, “The Corbomite Maneuver”); they would have, as Lt. Bailey suggested, opened fire on the First Federation Flagship Fesarius. Klingon pride would not have accepted Balok’s xenophobic threats and overbearing bullying – because they are bullies too.
- Punk Wood: It is possible, by activation of the Combat Power for the purpose of Combat Movement, to send Log Ships to an unexplored system, either with or without escorting warships. For all Hazard Rolls, *Log Ships are the same as Scouts*, but a lot more expensive.
 - ✓ The alternative would have been to state that Log Ships may never be sent to an unexplored destination system. However, given their purpose in the game (see Logistical Support Ships, 3 Movement, p. 860 and Combat Resupply, 4 Movement, p. 868, *supra*), and that they need to be able to move with warships using Combat Movement (see Move Out!, 1 Combat, p. 942, *infra*), this would have been an artificial restriction meaning that warships doing exploration would need to go unsupported, forcing the position to spend another Combat Movement later to send the Log Ships to rendezvous with the warship after the system is explored (or bring the warship home).

“We live on an island surrounded by a sea of ignorance. As our island of knowledge grows, so does the shore of our ignorance.”

– John Archibald Wheeler, *Scientific American*, 1992, Vol. 267

Cooper: *You sent people out there looking for a new home?*


Prof. Brand: *The Lazarus missions.*

Cooper: *That sounds cheerful.*

Prof. Brand: *Lazarus came back from the dead.*

Cooper: *Sure, but he had to die in the first place.*

– *Interstellar* (2014)

Colonization: Suppose the leaders of an island village are looking for resources,² so they send a young person in a boat out to an island that can only barely be seen on a distant horizon from coastal fishing outriggers on very clear summer days. The young person arrives and sees arable land for farming, clean running streams, and trees that bear fruit and lumber. The scout also sees that no one else is living on the island, and eagerly rows back home to tell his tale. The elders are delighted, but the next problem is, how can they obtain the resources of the new island and bring them back for the people of their village? That would mean sending a working party to the island to harvest resources and bring them back to the village. Or it might mean splitting the village and sending part to the next , or moving the entire village to the next island. Either way, colonizing the next island is going to be a lot more complicated than sending a scout.

- ✓ For an interesting case study in European colonization and trade, look up the Darien Scheme (1698-1700), Scotland’s belated attempt at colonization and England’s and Spain’s machinations to block it.³ The Scheme cost Scotland (at that time, still a sovereign nation technically, but ruled by the King of England who was also King of Scotland) nearly 1/3 of its total national wealth and a significant number of its youth and tradesmen (about 2,000). The catastrophe likely contributed to the Acts of Union (1707) ten years later with payment of £398,085 10s sterling to Scotland to stabilize their economy and a fixed value for the shilling in relation to English currency.
- **Sardine Tins:** Colony Ships are the only ships that may Load and Transport population factors, the Colony Transport is the 1st Era Colony Ship. Population from any Friendly, Naturalized, or Converted colony (or Orbital City) owned by the ship’s owner, may be loaded onto Colony Ships if the ships began the Regular Turn at the location of the colony and the Expansion Power has been activated for the purpose of Loading Population. Uprooting a population from a planet (or Orbital City) and placing them on Colony Ships (or Orbital Cities) is a Herculean logistical task. Because of the vagaries of how much time is represented by a turn, how much population is represented by a population factor, politics, economics, and so forth (and the fact that some of the population might not want to be moved), a Loading Roll must be made for each population factor sought to be moved to Colony Ships or Orbital City in a Regular Turn.
 - ✓ Prior to attempting to Load the first population factor, a check must be made to see if the Expansion Power Activation for the purpose of Loading Populations is obeyed

(pursuant to Power Off, 2 Constructural Elements, p. 193, *supra*). *For this check only*, the status of the Constructural Elements on the origin colony are used, *no second check* is made for the Colony Ship(s); if the Power Activation is obeyed at the colony, Loading attempts may commence:

- The base chance of the first population being successfully loaded to a Colony Ship is 85%, and 5% is thereafter subtracted for each population that has been successfully loaded to Colony Ships at that location in the same Regular Turn.
- Positions may continue to load one population factor at a time during the same Regular Turn until a Loading Roll fails after which no more population may be transferred to Colony Ships at that location that turn. A Loading process can fail (15% chance) with no populations loaded.
- On Naturalized Colonies, the base chance is 75%, and on Converted or Conquered Colonies, the base chance is 65% with decreasing chances of success as described above. Population may never be Loaded from a Conquered Colony to Colony Ships *unless* the Conquered Colony is also Looted in the same turn (see Looting, 3 Commerce, p. 1210, *infra*).
 - See Colony Politics, 2 Order, p. 538, *supra*, regarding Colony Political Status; Political Status is the determining factor in Loading population to Colony Ships representing in this case incentives, trust, willingness (and desperation) of population.
- Loading Rolls are *location specific* to the colony and not the ships. Thus, when Loading Rolls have failed at the colony, the ships may not each attempt to Load more population. Application of Enlightenment (marketing, carrot & stick, propaganda...) to Loading Rolls depends on the status of the colony's Epistemological Constructural Element (see Skool Tyme, 2 Constructural Elements, p. 190, *supra*) and not those on any ship.
 - Failure of a Loading Roll may be interpreted as failure of political will, technical failure, refusal, resistance or reluctance of the population to be moved, ideological problems, or that time ran out in the current turn.
- A single Colony Ship or Orbital City may not contain population factors of different native population types due to environmental differences. This may, of course, eventually be overcome by technology developed during the game, but this is the baseline rule.
- Population successfully Loaded to Colony Ships will be placed on one Colony Ship until it is full, and then further successful Load Rolls will place population on the next available Colony Ship and so on. The Load Rolls *automatically fail* when the receiving Colony Ship(s) (or Orbital City) cannot accept more population (i.e. are full).
 - A Colony Transport can hold 3 population factors and an Orbital City can hold 15 population factors.

- The base chances described are just for game mechanical purposes, they have no realistic basis. The Concierge may alter the base chances; for example, evacuation of desperate populations from a doomed world.⁴

Loading population from a Balkanized planet with a non-sovereign **alien colony** may cause **apostasy** on the Colony Ship, see *Alieny Apostasy*, 3 Disruption, p. 283, *supra*.

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- ✓ It is possible to fully evacuate, especially small colonies via Load Population. There are about a dozen ‘cat islands’ in Japan that had a population of 1,000 or less before WWII, who were either force-evacuated to the mainland for labor or migrated away after the war. Felines now outnumber humans on the islands by 10 to 1 and the remaining population is mostly elderly and declining. Caretakers and tourist feed them.
- **Colonies in a Can:** Population will remain on the Colony Ships until they are Landed or Unloaded; they will not grow if a Census occurs while the population is on the Colony Ships and will not produce resources during Taxation. In addition to being in population limbo, unarmed Colony Transports are extremely vulnerable in combat (they may never be armed or attack), and Colony Ships must obey all of the other rules concerning ships, including Operational Flight and Operational Supply Limitations (OSL/OFL).
 - ✓ “Eat recycled food for a happier healthier life, be kind and peaceful to each other, eat recycled food. Recycled food is good for the environment, and ok for you.” – food service drone, Judge Dredd (1995).

Population located on Colony Ships that are destroyed by any means are also lost. It is permissible to emergency Unload the population back onto the same colony that Loaded them, but this would be a monumental waste of previously-committed resources and time, and require another activation of the Expansion Power for the purpose of Unloading Population, and is generally counterproductive. Populations from Converted Colonies placed on Colony Ships **will not** automatically revert if not accompanied by a warship.

- ✓ See 3 Movement, pp. 855-856, *supra*, regarding OFL/OSL; Log Ships cannot supply Colony Ships. The underlying assumption is that populations on Colony Ships may exist indefinitely while located at a supporting colony either because a) they are frozen or in stasis, or b) their reproduction is limited to the space on the ships and they produce only what they need to survive, and have no growth or excess for taxation as a result. This is a necessary extension of the technological assumptions underlying the GGDM setting.
- ✓ Unfortunately, tuna cans and other cans that humans use, look like cat food cans to my cats. I wonder what your Colony Transports may look like to some predatory alien species? Sardine tins?
- **Canned Food:** Departure of Colony Ships from a system requires an activation of the Expansion Power for the purpose of Transport Population:
 - 1) A Scene is required on the star of the destination star system,
 - 2) This in turn, requires that the destination system be currently located on the position’s Public Space, and if the destination system has not yet been colonized, that would require that at least one ship be currently located in the destination system to place hold

the target/destination star on the Public Space (see On the Soapbox, 3 The Sidereal Stage, p. 122, *supra*),

- 3) This in turn, requires that the destination system has been successfully explored (pp. 907-909, *ut supra*), in order to have a guide ship waiting in the system.

Colony Ships may not depart for any system where *any* colony owned by the Colony Ships' owner is currently Besieged (see Besieged Colonies, 3 The Sidereal Stage, p. 124, *supra*).⁵ If a sovereign colony becomes Besieged while the Colony Ships are *en route*, there is no effect, except that they may need to run a Blockade upon arrival (see Blockade Running, 4 Commerce, p. 1233, *infra*) because they cannot be resupplied or Unloaded. The conditions precedent only apply to movement by Transport Population at the time it is initiated. If the destination system is removed from the Public Space or a colony becomes Besieged before arrival of the Colony Ships, they will still arrive (which will return the system to the Public Space).

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- ✓ Colony Ships have their own Constructural Elements status, received at the time they were constructed (see Maiden Voyage, 3 Construction, p. 677, *supra*) independent of the Constructural Elements status of the population Loaded to them.
- ✓ For the purpose of determining whether each Colony Ship obeys the Expansion Power Activation for the purpose of Transport Population, the Constructural Elements of each ship are used in individual checks. If the Colony Ships are still at a Supporting Colony and fail to obey the Power Activation, a second check is made using the Supporting Colony's Constructural Elements in the same manner as described in Engines Offline, 1 Movement, p. 839, *supra*, for Movement Power Activations to see if the Supporting Colony gives them a good 'ol kick in the can (jump or die!).

There are thus two activation purposes of the Expansion Power that initiate interstellar flight: Scouting for Scout Ships (*ut supra*) and Transport Population for Colony Ships. Movement, Expansion, Combat, and Commerce are the four Powers (not to be confused with the Four Powers of the Cold War☺) whose activations initiate interstellar flight.

- Opening the Can Of...: The Unload Population activation of the Expansion Power, removes population from Colony Ships onto an existing colony (or eligible Orbital City) of their Native Population Type. Hence, there must be an existing colony.... (not the same as Landing).
 - ✓ Prior to the first population factor being Unloaded, a check is made to see if the receiving colony (*optionally*, an exception could be Low Population Colonies) and each ship involved obeys the Power Activation. These checks are made separately based on each's current Constructural Elements. If the Colony fails to obey the Power Activation no population may be unloaded to the colony and the other checks are unnecessary. If the colony obeys the Power Activation then each ship involved makes an individual check and those that obey commence downloading (note that this is different than Loading, where only the colony is checked, *ut supra*, p. 912).
 - ✓ Colonist may not be Unloaded onto a planet surface if the existing colony is at its Maximum Habitability unless there is room in Orbital Cities, and colonist Unloaded onto a planet assume the political status of the colony to which they are added.
 - ✓ Like Loading Population onto Colony Ships, there are equally problematical logistical issues in offloading population to an existing colony, for example, where will they

- live, what will they do, integrating the newcomers into the social, political and economic framework of the existing colony, inflation, prejudice, exploitation, District 9. At the least, they must have a way to live and survive.
- ✓ Despite the possible integration problems described previously, population Unloaded to an existing colony have no distinction in GGDM, are not separate in any calculation, and adopt the status of the Constructural Elements of the colony, for better or worse.
 - This is purely a concession to game convenience; for story purposes, the integration can be played out in News Events and Interventions. It may also be possible to ‘backdoor’ Cohering in this way by Unloading ‘refugee’ population from other colonies with poor Constructural Element status to colonies with better status. The ‘cohering cost’ is simply shifted to the Expansion activations, any gain would be minimal.
 - ✓ Therefore, an Unloading Roll must be made for each population factor sought to be transferred to the new colony. The Unloading Roll operates the same as the Loading Roll; that is, if the Unloading Roll fails, no additional populations may be Unloaded to the colony (or Orbital City) during that Regular Turn.
 - ✓ Unloading Population is also considered *location specific* to the colony and follows all the same rules as described previously for Load Population procedures, including application of Enlightenment for failed Power Activation checks or Unload Rolls.
 - ✓ Colony Ships are not ‘consumed’ (*unlike* Landing, see Pandorum, 4 Expansion, p. 923, *infra*) by Unloading Populations, they are simply emptied (like an unloaded Cargo Ship or Logistics Ship) and can continue operating.
 - There is an operational triangle here: Loading population from planet to Colony Ship or Orbital City, unloading population from Colony Ship to Orbital City or planet, loading or unloading population from Orbital City to Colony Ship or planet. All are governed by the same procedures.

The Unload Population activation may be used to transfer populations from Colony Ships to existing Orbital Cities (or from Orbital Cities to the planet surface) that are either empty or have the same Native Population Type. See Orbital City Existential Patent and Dayworld, 3 Taxation & Census, p. 315 and Orbital City, 2 Construction, p. 667, *supra*.

- ✓ Yes, it is possible to backdoor the Colony Naturalization rules (see Naturalization, 3 Order, p. 557, *supra*) in this way by moving populations from Converted Colonies to Naturalized Colonies. However, the cost in RPs, Acts, and Scenes, Power Activations, disruption checks (see The New Neighbors, 2 Disruption, p. 273, *supra*) and time expended probably would not make it cheaper or easier in most cases. Further, this is a situation ripe for handy Concierge Interventions, as the previous converted population might act as agitators, troublemakers, or become resentful.
- ...Vienna Sausages: In addition to the problems of moving populations, there is also an economic cost in the form of *disruption checks*, lost production, and the actual cost of the operations. Each Load or Unload roll costs 2 RPs (you knew it was going to cost RPs!☺), regardless of success or failure, and counts against the colony’s GDP limit for the Regular Turn (see Gross Domestic Product, 1 Construction, p. 662, *supra*). A colony may not exceed its

GDP, nor may the Treasury be exceeded, with the cost of Load and Unload Rolls. Thus, the Loading or Unloading process may also be stopped, without a failure result, by reaching the GDP turn limitations or by running out of RPs in the Treasury.

- ✓ Note that in any situation there can be only one failed roll, so that minimum cost of any Load or Unload activation is 2 RPs. The number of success rolls however, is variable with the maximum possible being a highly improbable 16 consecutive success rolls (see also Improbables discussion, 4 Colleges, p. 506, *supra*), costing 32 RPs, at a Friendly Colony with at least 16 population and sufficient GDP. Use of Enlightenment to reroll failed die rolls could inadvertently lead to costing more RPs!

Adding or subtracting population from a Friendly or Naturalized colony is a Disruption Event, triggering Disruption Checks on the colony (see Highschool Friends and The New Neighbors, 2 Disruptions, pp. 272-273, *supra*). It's a bit of a gray area, but moving populations to and from Orbital Cities is probably not a Disruption Event, as they have not been added to or subtracted from the colony as a whole.

- ✓ Finally, pursuant to Alieneity Apostasy, 3 Disruptions, p. 283, *supra*, Unloading Population – even to an Orbital City – at a Balkanized planet with a non-sovereign **alien colony** requires an *apostasy* check.

The processing sequence of Power Activations is important to managing the Treasury each Regular Turn, see Clockwork Universe, 3 The Streams of Time, p. 90, *supra*. Loading/Unloading Population costs one Act and one Scene, see Colonization, 1 Expansion, p. 876, *supra*.

“Our planet is a lonely speck in the great enveloping cosmic dark. In our obscurity, in all this vastness, there is no hint that help will come from elsewhere to save us from ourselves.”

– Carl Sagan, [Pale Blue Dot: A Vision of the Human Future in Space](#) (1994)

Desperation: These two examples provide both a historical ‘real world’ example regarding loading rolls and difficulty of moving population over distances, and story material for Concierge use of Interventions. The process should in no way be considered smooth and reliable unless very special abilities or circumstances have developed. Mic drop.

- La Bestia: “They gathered at dawn in this railyard in southern Mexico, contemplating their next move: catching a ride on the roof of La Bestia (the Beast) – the name migrants use for the notorious freight train that winds its way through Mexico toward the United States. ... He had heard about the dangers: the criminal mobs that terrorize travelers, the risk of falling and losing an arm or leg, or worse. Mexican police recently reported that ‘delinquents’ tossed several migrants from La Bestia in the state of Veracruz, leaving one dead and two with severed limbs.

But the train has reemerged in recent weeks as a preferred mode of travel for Central American migrants after the Mexican government, under pressure from the Trump administration, started making it more difficult for them to cross Mexico on their way to the U.S. border. ...

An assemblage of young men with sticks served as an ersatz security squad. Exhausted families gathered on scattered railway ties and a graffiti-splashed platform, waiting for the train to come to a halt. Women cradled infants in their arms.

Soon, many scrambled across the tracks into open boxcars, which were coated inside with cement dust, a remnant of the previous cargo. Women and children entered first. The men placed wooden ties and stones by the doors to keep them ajar. All were elated to be on their way, finally.

But then railroad security men decked out in black arrived and chased them away. They sealed the boxcars, warning of the danger of suffocation should the doors slam shut.

Now, the only option was to ride on top of the train, a death-defying endeavor. La Bestia is renowned for sharp curves and sudden braking, capable of sending rooftop passengers flying onto the rails. Low-lying branches can suddenly sweep riders off. There is no relief from the sun, rain or evening chill.

Reaching the top was itself a challenge. A gap of about 6 feet separated the top rungs of the ladders built into the boxcar exteriors and the roofs.

Daylight had broken. The yellow locomotive was running its engine. Some families had already formed human chains to mount the cars.

Abruptly, Galo and his group decided it was a go: Men clambered first to the top. Migrants standing beside the tracks or poised atop metal couplers between the cars tossed backpacks and plastic bags filled with clothes, water and food to comrades above. Galo and other men lay flat on their stomachs atop the boxcars, straining to extend arms to grasp women and children who were passed up, fire-brigade style. Children screamed. People shouted instructions, often contradictory or unintelligible in the cacophony. ...

Galo and the others used yellow plastic rope to help secure children and luggage atop the cars. Finally, La Bestia began lurching north, its rooftop stowaways flashing smiles of relief. Ahead lay a voyage teeming with peril, but also the hope of fresh beginnings.” – Patrick J. McDonnell, “Despite perils, more U.S.-bound migrants are turning to ‘La Bestia’ to cross Mexico,” Los Angeles Times, June 2, 2019.

- The Carricks of Whitehaven: “In March of 1847, nearly 200 people crammed inside a small, two-masted ship called the Carricks of Whitehaven, which was bound from Sligo, northwest Ireland, to Quebec City in Canada. Many were women or children. Some were sick with typhus, cholera or dysentery.

All of them were probably starving.

They were tenant farmers who had tilled the fields of Henry John Temple, known as Lord Palmerston, then the foreign secretary and the future prime minister of Britain, according to a forthcoming documentary called ‘Lost Children of the Carricks.’

Palmerston was one of the most powerful men in the U.K., with 20,000 acres and over 14,000 tenants, according to the film’s website. But even he had been affected by the potato blight that had begun to devastate Ireland two years earlier. As the crops withered and his tenants stopped paying rent, Palmerston evicted them but, unlike some other landlords, put them on boats bound for North America.

When the Carricks pulled out of Sligo harbor, it was one of hundreds of ships bound for Quebec from Ireland in ‘Black ’47,’ the peak of the Great Famine. Roughly a million people would flee the island during the Great Hunger, as it was also called. Another million would

die of disease or starvation. Between death and emigration, a quarter of Ireland's 8 million inhabitants would vanish over the course of just four years.

But a spot on a brig to North America was not sure salvation. The same diseases that had torn through famine-weakened Ireland followed the migrants onto the ship. So many died on the journey that the boats became known as 'coffin ships.'

Even if migrants escaped disease, there was also a good chance that their ship would never make it to North America. Of the nearly 400 ships that sailed toward Quebec in 1847 – most of them filled with Irish – 1 in 5 never made it, according to the *Globe and Mail*.

By April 28, 1847, the Carricks had been at sea for a month. But just as the ship neared the Cap-des-Rosiers – named after the wild rosebushes that covered its green hills and white-faced cliffs – a storm struck.

'The vessel encountered a strong gale ... and was driven, about two o'clock the next morning, on a dangerous shoal about sixty miles east of [Cap-des-Rosiers] and went to pieces in the course of two hours,' according to the British magazine *John Bull*, cited in the *Globe and Mail*.

Of the nearly 200 people onboard, only 48 survived, according to 'Lost Children of the Carricks.'" – Michael Miller, "A storm exposed children's bones on a Canadian beach, reviving a 170-year-old mystery," *The Washington Post*, June 17, 2019.

"Six sets of environmental variables affected the outcome of Polynesian development: island climate, geological type, marine resources, area, terrain fragmentation, and isolation. Climate in Polynesia varies from tropical to subantarctic, with some of the highest rainfall in certain areas, and near-arid climates on others. Geologically, island types range from small coral atolls and raised limestone islands with thin soil and no permanent fresh water, to geographically diverse islands like New Zealand, with iron, coal, gold, and jade. Marine resources vary from abundant reefs and lagoons, to rocky coasts and steeply dropping ocean bottoms.

As to area, some islands are only 100 acres, while others are 103,000 square miles. The habitable terrain of these islands ranges from fragmented valleys and ridges to rolling hills and plains. Finally, some islands are so remote that they developed in isolation for hundreds of years, while others were in more or less regular contact with other islands.... Thus, Polynesian societies differed greatly from one another, and did so in a relatively short time and from a common human ancestor."

– Jared Diamond, Summary of [Guns, Germs, and Steel](#), pp. 8-9, Kindle Edition

6

Endnotes.

¹ Commentary & Citation: To not mince words, I believe that Gene Roddenberry would be ill if he saw the 2015 21-minute proof-of-concept video "Prelude to Axanar" (on YouTube, for a crowd-funded, fan-made film) but Norman Spinrad would not be surprised at all. Although the video pays brief homage (about 10 seconds) to the original concept of Starfleet (saying something like, 'we didn't join Starfleet to fight a war'), clearly war sells movies and Axanar is Star Trek's version of a Battle of Midway or Battle of Cannae (see *In Open Space*, 7 Combat, p. 1036,

infra); the current drift of Star Trek has become slick, militant space-opera video franchise for a new generation. The Prelude video again features an arms race of starship design, with the Federation building its first true warships and testing them in battle against the Klingons.

- ✓ “‘Star Trek’ as a concept has voyaged far beyond science fiction and into the safe waters of space opera, but that doesn’t amaze me. The Gene Roddenberry years, when stories might play with questions of science, ideals or philosophy, have been replaced by stories reduced to loud and colorful action. Like so many franchises, it’s more concerned with repeating a successful formula than going boldly where no ‘Star Trek’ has gone before. ... I understand the Star Trek science has never been intended as plausible. I understand this is not science fiction but an Ark movie using a starship. I understand that the character types are as familiar as your favorite slippers. But the franchise has become much of a muchness. The new movie essentially intends to reboot the franchise with younger characters and carry on as before. The movie deals with narrative housekeeping. Perhaps the next one will engage these characters in a more challenging and devious story, one more about testing their personalities than re-establishing them. In the meantime, you want space opera, you got it.” – Roger Ebert review of Star Trek 2009, May 6, 2009 (3 out of 5 stars).
- ✓ Of the two movies, the “Prelude to Axanar” (2014) on YouTube demonstrates more play with ideals and engages the characters in a more challenging and devious story than Star Trek 2009. But it’s still far away.

² Citation: Stanley Kubrick, speaking about the title of 2001: A Space Odyssey said, “[i]t occurred to us that for the Greeks the vast stretches of the sea must have had the same sort of mystery and remoteness that space has for our generation.” – Jerome Agel, The Making of Kubrick’s 2001 (1970). See also ocean discussion, 2 Movement, EN 1, p. 852, *supra*.

³ Commentary: The Darien Scheme presents a mostly unexploited opportunity for great fiction, it could be used as a starting point for occult, horror, alternate history, fantasy, romance, adventure, or historical drama.

⁴ Citation & Commentary: “The story begins in a future world where global temperatures have risen so high that in most of the world it is unsafe to be outside without special cooling gear during daylight hours. In a desperate bid to preserve humanity and ease population burdens on Earth, the UN has initiated a ‘draft’ for colonizing the nearby planets, where conditions are so horrific and primitive that the unwilling colonists have fallen prey to a form of escapism involving the use of an illegal drug (Can-D) in concert with ‘layouts.’ Layouts are physical props intended to simulate a sort of alternate reality where life is easier than either the grim existence of the colonists in their marginal off-world colonies, or even Earth, where global warming has progressed to the point that Antarctica is prime vacation resort territory. The illegal drug Can-D allows people to ‘share’ their experience of the ‘Perky Pat’ (the name of the main female character in the simulated world) layouts. This ‘sharing’ has caused a pseudo-religious cult or series of cults to grow up around the layouts and the use of the drug. Up to the point where the novel begins, New York City-based Perky Pat (or P.P.) Layouts, Inc., has held a monopoly on this product, as well as on the illegal trade in the drug Can-D which makes the shared hallucinations possible.” – from Wikipedia article, “The Three Stigmata of Palmer Eldritch,” captured February 12, 2019.

- ✓ The Three Stigmata of Palmer Eldritch is a 1965 book by Philip K. Dick, where psychedelic drug culture meets global warming/climate change. Note then that global warming was a concept before I was born, and well before the millennia when it became a political denial hot-button (see previous Air that I Choke discussion 3 Taxation & Census, p. 318, *supra*). Dick’s book was contemporaneous with another book where psychedelic drugs met far-future starfaring civilization, Frank Herbert’s Dune (1965). Both predate virtual reality and if written today, would probably include instead a virtual reality, such as Ready Player One (2011), where a virtual reality world substitutes for widespread psychedelic drugs.
 - Dune is, in fact, an entire interstellar civilization built on drug addicts, where drug addiction passed from being a purely mental state to the ability to affect living organic and inorganic reality.

⁵ Commentary: Canned food is what the Magog (Andromeda TV series) call all other starships and space stations! Magog is a biblical word for the prophetic enemies of the people of God in the end of days. In the Andromeda TV series, the Magog were minions of the Abyss and contributed to the downfall of the Systems Commonwealth.

⁶ Citation: See also, Minimum Viable Population and Inbred Population, 4 Taxation & Census, p. 329-330, *supra*, for similarities in Caribbean island culture. This is fodder for Interventions.

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“How would an interstellar civilization set out to explore its neighboring star systems? It might establish staging posts, colonies, on planets of nearby stars. But this would take time. Time to find and modify favorable planets. Time to build new spacecraft. Eventually, later generations of explorers would set out wending their way among the worlds creating an interstellar nervous system binding up the stars. Perhaps they’d come upon another expanding civilization and encounter beings previously known only from their radio transmissions. Star wars are unlikely. One civilization certainly would be far more advanced than the other. It would be no contest.

Perhaps they would cooperate exploring together a small province of the Milky Way. But even nearby civilizations could spend millions of years roving between the stars without ever stumbling upon our obscure solar system. In a galaxy of 400 billion suns perhaps no one has found us just yet. Advanced interstellar civilizations would know about many worlds. Some inhabited, some barren. Perhaps they would share their findings assembling some vast repository of the knowledge of countless worlds. They might compile an Encyclopedia Galactica.” – Carl Sagan, Cosmos, Episode 12¹

Dust Notes: Most fiction about early interstellar colonization envisions a Polynesian-like situation of scattered small colonies separated by vast tracts of space and time between contacts. There is no reason to think this vision of diaspora is wrong.² Cultural conformity and political unity are the casualties of time and distance; thus, most science-fiction writers take the interstellar setting as a liberal opportunity to air their social grievances and philosophical visions.

- ✓ “...the volume of all biospheres is miniscule compared to the volume of the universe.”
– Matt O’Dowd (City University of New York), “Are You a Boltzmann Brain,” PBS Space Time Channel, April 26, 2017.

The Landing: Landing is the process of using Colony Transports to establish a new colony³ on an uncolonized planet, only Colony Transports can Land to establish new colonies in the early game. An ‘uncolonized planet’ is a planet without a colony of the Native Population Type that is on the Colony Ships, it does not mean *no colonies*. As noted in 3 Taxation & Census and 2 Order, *supra*, ‘Balkanized’ planets are possible where different Native Population Types may co-exist on the same planet. Colony Ships are never required to Land by being located in a system where there is a colonizable planet, but may be forced to Land due to OSL. A Scene must be on the star of the system where the Landing is to occur (see Colonization, 1 Expansion, pp. 876-877, *supra*) or no Landing can be made (*ut infra*, p. 922) because of bureaucratic indecision.

- ✓ The Controlled Environment Technology (CET) Existential Patent is required to Land on any Unpleasant, Hostile or Uninhabitable Planet.
- **Spiffy Spaceman:** You know that Spaceman Spiff is always crash landing his flying saucer on remote alien planets, right? Maybe he needs to become a Spiffy Spaceman instead! If he is not more careful, the Yukbarfs might reverse engineer his flying saucer from the wreckage.

Colony Ships that have expired OSL and CET will never refuse to obey a Power Activation to Land on an uncolonized planet *as long as they can legally do so* (i.e. it is not a Maximum Habitability); if they have expired OSL but not CET, they will never refuse to obey an Expansion Power Activation to Land on an uncolonized planet that does not require CET to colonize. This will frequently be the case when it is time to Land if you wait long enough...

If the above conditions do not apply, each Colony Ship designated to Land must check to see if it obeys the Expansion Power Activation to Land (see Power Off, 2 Constructural Elements, p. 193, *supra*). If the Colony Ships are in the same system with a supporting colony (i.e. colonizing another planet in the system) and they fail to obey the Power Activation, a second check is made by the Supporting Colony as described in Engines Offline, 1 Movement, p. 839, *supra*. Of course, if at least one Colony Ship Lands, it establishes a Supporting Colony for the other Colony Ships that didn't Land (whether they weren't ordered to or refused) and thus the other Colony Ships *cannot* thereafter Land (as there is now a colony on the planet) but can Unload Population or move away. As there are no die rolls involved in Landing, Enlightenment cannot and need not be applied, except to Power Activation failures.

- ✓ *Terra nullius* is the underlying assumption of GGDM, and science-fiction trope, regarding the initial colonization of planets by the Major Races. This may even be true if the planet is the home of a Minor Race (such as in the movie Avatar (2009)); all of the alien invaders of Earth seem to have regarded Earth as *terra nullius* (in the tradition of European colonization). See also the Outer Space Treaty of 1967.
- Island Notes: There can be only one colony of each Native Population Type per planet, see Lebensraum, 3 Taxation & Census, p. 321, *supra*. All populations of the same Native Population Type Landed (or subsequently Unloaded) on the same planet *form one colony* for game purposes. A colonized Planet must be placed on each colony owner's Public Space adjacent to either the star to which the colony's planet belongs or another planet in the same system. Planets do not need to be laid in Orbit Number order. While Stars may come and go from the Public Space as exploration moves outward, once a planet is colonized, it and its star will remain on the Public Space until the colony is destroyed, captured, or moved, plan accordingly.
 - ✓ The day Mars became a place on our Public Space:
 - “The cameras on each [Viking] lander revealed a kind of rocky desert. Beyond the lander itself, we saw for the first time, the landscape of the red planet. It didn't look like an alien world. There were rocks, sand dunes and gently rolling hills, as natural and familiar as any landscape on Earth. Forever after, Mars would be a place.” – Carl Sagan, Cosmos, Episode 5.
- Lines of Communication: All colonies must be connected on the Public Space by a Pathway to at least one Government Title at all times (see The Claaaw is Our Master, 2 Government Titles, p. 597, *supra*). A new colony requires the immediate establishment of a legal Pathway. The new colony begins with the active Constructural Elements of the population that formed the colony.
 - ✓ I found it richly amusing that they kept repeating in almost every episode, like a mantra, of Stargate Universe (2009-2011) that ‘these are all the wrong people’ referring to the approximately 80 refugees onboard the Ancient starship Destiny. Yet those were the ‘right people’ to be on Project Icarus, located on a distant planet, who arrived by starship and were beamed down (as that particular Stargate could only dial out)?
- Prison or Paradise?: Population on a new colony will retain the political status of their origin planet. If Colony Ships from multiple origins are Landed at the same time, the lower political status will prevail. A new colony established with Converted populations will revert if not guarded by a warship (they will not revert while on Colony Ships, *ut supra*).

- ✓ Colonization using convicts and prisoners is not a myth. The British were particularly notorious in this respect, shortly after the American Revolution they were shipping convicts to colonize Australia. The First Fleet consisted of six convict ships guarded by two Royal Navy ships that left England in 1787 and arrived months later at the Botany Bay colony in January 1788. The female convict ship HMS *Lady Juliana* – loaded with prostitutes and women convicted of petty theft, along with their children, sent to ‘civilize’ the Botany Bay colony arrived in 1789 (with numerous females plying their trade at ports along the way) and was unwelcome because the colony was starving and had not received resupply. The infamous Second Fleet was another group of six ships carrying over 1000 male convicts, 40% of whom died *en route* or shortly after arriving in Australia in 1790. They were equally unwelcome due to the lack of skilled labor in the new colonists. The Third Fleet with eleven ships brought 2000 more male and female convicts, plus a few notables and skilled workers, *and provisions* in 1791. Despite the voyages and initial hardships, eventually the convicts found life in Australia a liberation from the oppressive morals and class system of England.
 - It is certainly not improbable that the drive to colonize Australia was a result of having lost the 13 Colonies less than a decade before....
- ✓ “Beginning in the early 17th century, the City of London shipped their unwanted excess population, including vagrant children, to the American colonies – especially the Colony of Virginia, the Province of Maryland, and the Province of Pennsylvania – where they became not apprentices, as the children had been told, but indentured servants, especially working in the fields. Even before the beginning of the Atlantic slave trade brought Africans to the British colonies in 1619, this influx of ‘transported’ English, Welsh, Scots, and Irish was a crucial part of the American workforce. The Virginia Company also imported boatloads of poor women to be sold as brides.

The numbers of these *all-but-slaves* was significant: by the middle of the 17th century, at a time when the population of Virginia was 11,000, only 300 were Africans, who were outnumbered by British, Irish and Scots indentured servants. In New England, one-fifth of the Puritans were indentured servants. More indentured servants were sent to the colonies as a result of insurrections in Ireland. Oliver Cromwell sent hundreds of Irish Catholics to British North America during the Irish Confederate Wars (1641-1653). In 1717, the Parliament of Great Britain passed the Transportation Act, which allowed for the penal transportation of tens of thousands of convicts to North America, in order to alleviate overcrowding in British prisons. By the time penal transportation ceased during the American Revolutionary War (1775-1783), some 50,000 people had been transported to the New World under the law. *When the American market closed to them, the convicts were then sent to Australia.* In total, 300,000 to 400,000 people were shipped to the North American colonies as unfree laborers, between 1/2 and 2/3 of all white immigrants.” – from Wikipedia article, *White Trash*,” captured April 5, 2020 (emphasis added).

- A single ship in GGDM can be said to represent a *capability* rather than a singular game unit. Thus a ship in the game may represent a fleet, and the three fleets plus colonization of Australia might be represented by Landing

a single Colony Ship on a new planet with the rest being storytelling in News Events and Interventions by the Concierge. The entire population shifting system of GGDM – like most parts – should be considered a ‘smear’ analogous to the previously discussed quantum imagery – being both literal-of-the-moment and historically figurative in extended time.

- Survival & Ethical Dilemmas: There is no way to prevent Colony Ships from Landing on a planet which already has colonies (causing a Forced Balkanization Disruption Event on the **alien colony**, see 2 Disruption, p. 273, *supra*)⁴ – or on any planet – unless they are destroyed before the Landing⁵ or unless the planet is at Maximum Habitability. Of course, this rule does not account for technologies that may develop during the course of the game. Populations may not be Landed on Unpleasant or Hostile Class Planets without Controlled Environment Technology. Colony Ships that are in an unsupported system will perish if their Operational Supply Limitation (OSL) has expired, they have failed their Supply Roll (see 3 Movement, *supra*) and they cannot Land. This may even justify Scene Snitching, see 3 The Side-real Stage, p. 124, *supra*, if someone else has placed a Scene on the star.

- ✓ “A thousand people in an iron box. No food, no water. After a month we ate the weak. You know what I hate about myself? I know what people tastes like....I know that babies taste best.” – Curtis Everett, *Snowpiercer* (2014).

What is the difference between Mr. Wilford’s Train and a Colony Transport? Colony Ships are not made to convert to Orbital Cities if they cannot Land (for one thing, Orbital Cities are much bigger) and thus may not become Orbital Cities under the baseline rules of GGDM if they cannot Land or Unload. That does not mean that versatility technology cannot be developed in the game that would allow advanced Colony Ships to both act as Colony Ships and become Orbital Cities, for example, using Tender Ships to insert Colony System Boats as mobile Orbital Cities.

- ✓ While forced Balkanization from Landing will not cause **apostasy**, as explained in 3 Disruption, p. 283, *supra*, subsequent Loading or Unloading of *anything* might.
 - ✓ In late 2017, it was determined and/or announced in the media that there is a cave on the moon large enough to house a future colony; how exactly this is to be done or why or when we will get there is an unresolved matter. But this is an example – and a striking literary image – of how colonization of hostile environment worlds might actually occur; having mastered the Earth (and significantly damaged it in the process), humanity’s possible first foray to colonizing the solar system returns us to being cave dwellers on the shore of the cosmic ocean.
- Pandorum: Colony Transports (CTs) are consumed (‘scrapped’/‘cannibalized’) by Landing populations to establish a new colony.

There are any number of possible reasons for this, but the most reasonable would be that either the Colony Transports literally landed and cannot take off once on the surface, or that the CTs were cannibalized to provide materials for the colony. Colony Transports that only Load, Transport, and Unload Population at established colonies are not consumed (see Opening the Can Of..., 3 Expansion, pp. 914, *supra*). In this, they are really acting like transports.

Consumption of Colony Ships during Landing applies only to Colony Transports, see Colony Transport Existential Patent. It is possible to develop Colony Ships that are not consumed by Landing through later Patents.

- ✓ Landing Colony Transports in GGDM feels sort of like Marvin the Martian's 'instant Martians' from the bubble-gum machine (aka gumball machine) – just add water and poof, an obedient green colony pops up. Within the time scales and abilities of GGDM civilizations, that would be the appearance of it.
- ✓ Pandorum is a fictional deep-space psychosis that is the name of a 2009 movie. The production company went bankrupt right after the film bombed at the box office.

“For the natives, they are neere all dead of Small poxe, so as the Lord hathe cleared our title to what we possess.”

– John Winthrop, first Governor of Massachusetts Bay Colony, Quoted in Alfred W. Crosby, Ecological Imperialism: The Biological Expansion of Europe, 900-1900 (1986), p. 208

“The seams of Pangaea were closing, drawn together by the sailmaker’s needle. Chickens met kiwis, cattle met kangaroos, Irish met potatoes, Comanches met horses, Incas met smallpox – all for the first time.”

– Alfred W. Crosby, Ecological Imperialism: The Biological Expansion of Europe, 900-1900 (1986), p. 131 ⁶

Bad Exchanges: Balkanization of planets *bypasses* the troublesome issue of xeno-microbes. The inadvertent exchange of microbes is no small matter; the Aztec Empire was ravaged by smallpox – one of the few diseases that modern medicine has rendered ‘extinct’ in the wild – (samples are kept in Atlanta and Moscow) leaving their capital vulnerable to conquest by the tiny Spanish expeditionary force and local tribal allies. Had the Aztecs understood smallpox as a virus, *what could they have done after the Spanish were already there?*

This is a possible point of Intervention by the Concierge based on judgment of technologies and habitats on the planet; e.g., if the planet is Hostile to all colonists, and each colony lives in a dome, there probably is minimal risk of contamination. This should also be kept in mind when contacting Minor races, during First Contact, during Ground Combat (i.e. dead bodies and destruction), or when transporting alien populations. The issue of xeno-microbes is always hovering in the background of contact between species (or even human populations) and microbial life is always evolving, adapting (see feature quote, George Dvorsky, “Alarming Study Indicates Why Certain Bacteria Are More Resistant to Drugs in Space,” in 1 Expansion, p. 885, *supra*). H.G. Wells issued the first modern warning in the clever ending to War of the Worlds (1898).

- ✓ Other than the Black Death, people generally underappreciate the effect of epidemics on history, yet microbes (and biological warfare) is the one thing we still fear (as evidenced by zombie apocalypse movies). An epidemic may have ‘saved’ Athens from Spartan siege in 430 B.C., the epidemic was so potent that it killed half of the population of densely-packed Athens, and the Spartan army and their allies refused to come near the city. Conversely, this epidemic is also likely the cause of Athens’ ultimate

defeat (just as the Black Death severely crippled the Church, see 1 Disruption, p. 252, *supra*); the loss of manpower from the deaths, the toll on public morale, the financial losses, loss of skilled craftsmen and leadership (the general Pericles and his sons all died of the epidemic); Athens couldn't even hire mercenaries, who did not want to be near the city.⁷

It is possible that some sort of Columbian Exchange will occur in any situation involving Balkanization of a colony world, and especially invasive colonization of a Minor Race (or colonization of any world that has a biosphere). How many alien planets do you think the Earth ants invaded through Babylon 5 (see top feature quote in 1 Entropy, p. 214, *supra*) considering that most species in the program breathe the same air as we do? Of course, that is a matter where the participants will need to 'look' to determine if it is possible; it is equally possible, or even probably more likely in reality, that most species will not be environmentally compatible: If we ever met any Venusians, likely our ants wouldn't follow them home.

- ✓ Remember all those awful Venusian creature features? 20 Million Miles from Home (1957), Zontar (1966), It Conquered the World (1956)... Now you know what the native fish in the Great Lakes and Mississippi River think of the Asian Carp invasion.

While much of the history associated with the Columbian Exchange is just plain ugly – venereal diseases, trans-Atlantic slavery, piracy, tobacco, cultural obliteration and imperialism, invasive species – participants should remember that the term Columbian Exchange is a completely neutral term that describes a massive, global (not just Europe, Africa and North America) and *indifferent* historical process of 500 years that is no different, more or less brutal or beneficial, than the 500 years of the Great Migration that shaped Europe before the Middle Ages. Such movements are within the scale of GGDM play, to be introduced intentionally or unintentionally.

"It's not going to do any good to land on Mars if we're stupid." – Ray Bradbury

Noosphere: Landing colonies on lifeless planets adds a *noosphere* to a planet that does not have a biosphere. Landing colonies on planets that already have a biosphere, may add to, intrude upon, disrupt, or destroy – depending on how profoundly these concepts are applied – an existing *noosphere*. In noosphere theory, the line between geosphere and biosphere is fairly stark, while the line – if such exists – between biosphere and noosphere is fuzzy and implies an emergence.

Specialized Colonies: All colonies, unless otherwise designated, are considered to be basic colonies (i.e. 'general colonies'), self-sufficient generally, and representing a general cross-section of the population of that type (both genetics and sociocultural classes), carrying on all of the culture and general functions of civilization in that place. It is possible to create Specialized Colonies (or 'special purpose colonies') to perform specialized functions in a manner superior to that of a general colony. Science-fiction literature and movies are full of 'prison colonies' (e.g., *Dune*'s Salusa Secundus), secret 'research colonies' (e.g., Traveller RPG's Research Station Omicron), 'mining colonies,' 'farming colonies,' military 'observation/listening posts/depots,' 'trading posts,' 'Foundation colonies' on the edge of the galaxy, and such other colorful places.

- ✓ Specialized Colonies not to be confused with *Special Planets* (see Resources from Special Planets, 2 Taxation & Census, p. 307, *supra*) are created by Special Writ similar to a Land Grant Writ (see Land Grant, 3 Colleges, p. 488, *supra*), which describes all of the advantages and disadvantages of a *type* of Specialized Colony and the Writ

would be activated in conjunction with either Landing a new colony or Loading Population to Colony Ships to send outward.

- ✓ It is probably *nearly* impossible to change an established general colony to a Specialized Colony – think of the retooling, reorganization, displacement of non-specialized population.
- ✓ A Specialized Colony may become a general colony by informing the Concierge of the revocation of the Specialized Colony status and Unloading enough population onto the colony to double the size of the colony.
- ✓ A colony cannot be both a general colony and a Specialized Colony, and a Specialized Colony cannot exist within or be hidden in a general colony.

This latter is a general rule for game sanity; if the participants want to engage in subterfuge, it may be possible to create Specialized Colonies within a general colony. As previously discussed, all of the population of one Native Population Type on a planet are considered to be one colony for game purposes, but an example of a Specialized Colony of the same Native Population Type might be ghettos or prison work camps, where minorities are reduced to near slavery. Even if there were an alien Specialized Colony hiding inside a general colony of another Native Population Type, it would still be a separate colony for game purposes, the only issue would be the concealment.

“It struck me as I waited that all great enterprises are about logistics. Not genius or inspiration or flights of imagination, skill or cunning, but logistics. Building pyramids or landing spacecraft on Jupiter or invading whole continents or painting divine scenes over the roofs of chapels: logistics.”

– Tom McCarthy, Remainder (2005)

Magnitude of Mars: A million humans consume three million pounds (1,500 tons) of food per day – and that’s being conservative.⁸ Thus, military students learn the adage, ‘Amateurs talk about tactics, professionals talk logistics’ (think back to 3 Movement generally, *supra*). Learn the logistics. Work it out.⁹ Logistics always kills brilliant plans, like paper always beats rock.

The current population of the world requires about 21 billion pounds of food per day;¹⁰ some populations don’t have enough food, some populations waste food (and you know to which I refer), food distribution is not the least part equitable, but that figure is a good starting point for our planetary domestic subsistence. By extension then, it is not unimaginable that the world consumes around 100 billion pounds of materials and/or resources per day to maintain our global civilization.¹¹

- ✓ “You’ve got simultaneous epidemics of obesity and starvation. Explain that one.” – Governor Nix, Tomorrowland (2015), see full speech, 3 Entropy, EN 4, p. 250, *supra*.

In the 21st Century, just having a sustainable colony of twenty people on the Moon would be an amazing accomplishment (at a ton of food per month, plus water, medicine, replacement parts, equipment, hygiene, fuel). We have managed to continuously keep a handful of people in low orbit for the last couple of decades – and that requires such significant expenditure that nations have turned to fledgling commercial space transport companies to make the required supply runs.

Even assuming for sake of argument that Mars is a nice place to live (which it isn't of course), imagine the effort and the capabilities that would be required just to move 1 million humans (a city) from Earth to live sustainably on Mars? Logistics is keeping us from manning Mars.

- ✓ "...because if the planet ever is terraformed, it will be done by human beings, whose permanent residence and planetary affiliation is Mars. The Martians will be us." – Carl Sagan, *Cosmos*, Episode 5.

Yet, certain abilities must be assumed for the sake of the game, therefore, the game is a balance between what must necessarily be assumed to be possible, while at the same time, bearing in mind the true magnitude of what is being assumed.

- ✓ Were the Romans or the Renaissance people to have imagined our world, they would have to imagine advances on a similar scale to be able to foresee our world. Of the two, only select Renaissance thinkers could have even begun to imagine – for example, Kepler's *Conversation with Galileo's Sidereal Messenger*.
- Soldier's Ration: Col. Trevor N. Dupuy, Curt Johnson, David L. Bongard, and Arnold C. Dupuy commented in How to Defeat Saddam Hussein (1991):
 - ✓ "Generally speaking, a man ate about three pounds of food per day (mostly bread and other grain products) and a horse needed ten pounds of grain and again that much grass, fodder, and silage. For a modest army of 20,000 men and 5,000 horses, this amounted to a daily consumption of 85 tons of edibles, including 50 tons for the horses. Along with the necessity of gathering fodder or finding pasturage for the horses, soldiers usually supplemented their grain or bread rations with meat, cheese, vegetables and fruit gathered on the march. ... Although soldiers commonly carried on their persons enough food for a few days (mostly flour or biscuit supplemented by beans or salt meat), horses generally depended on grazing from local pastures. For purely logistical reasons, an army had to find fresh sources of fodder regularly..." *Id.*, Appendix F, pp. 187-188.

The authors also point out tentage, wagons, replacement armor, weapons, and repair shops and other logistics that went along with just having food and fodder. Support of large forces such as those fielded by the Romans, Persians, speak of sophisticated and stable supply sources and logistics; in Medieval times, most battles were fought locally with only a few hundred men on a side. This discussion was of pre-gunpowder armies. The burden of logistics becomes exponentially greater each with the spread of gunpowder weapons, modern national conscription beginning in the 18th Century, and mechanization.

The daily ration of a French soldier in 1805 amounted to 48 ounces, or 3 pounds of food plus an ounce of brandy and a bottle of wine or beer. The munitions bread probably wasn't that tasty as a meal and it was most of what they received; the formal name soldiers gave it was *pain de munition* or "ammunition bread." Use your imagination. Still, it is clear that three pounds per day of food has long been the standard military field ration.

- ✓ "Hardships could not be blamed for such lapses, since an imperial order of May 14 fixed the daily ration of the soldier at 24 ounces of munition bread, 4 of soft bread, 16 of fresh meat, 4 of rice or dried vegetables, an ounce of brandy and a bottle of wine or beer." – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 522.

For the record, the metric system was not formally adopted by France until 1799 and was not compulsory until 1837, and was internationalized in 1870. Thus, the imperial order of May 14, 1805 referenced weights in the English system. See Russ Rowlett, “The Metric System,” <http://www.ibiblio.org/units/metric.html>, last revised April 27, 2018.

Soldiers have never appreciated field rations, the now ubiquitous Meal, Ready to Eat (“MRE”) was called by various names, including “Meal, Rejected by Everyone” when I served. The parts of the meals also had pet names, such as “beans and baby dicks” (I am not making this up) and the infamous “Wolf cookie” which you threw back over your shoulder for the wolves to eat after taking one bite.

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- ✓ “Each meal provides about 1,200 calories (5,020.8 kJ). They are intended to be eaten for a maximum of 21 days (the assumption is that logistics units can provide fresh food rations by then), and have a minimum shelf life of three years (depending on storage conditions) ... Each MRE weighs 510 to 740 grams (18 to 26 oz.), depending on the menu. Since MREs contain water, they weigh more than freeze-dried meals providing equivalent calories.” – from Wikipedia article, “Meal, Ready to Eat,” captured August 8, 2019.

A person should be able to live on two MREs per day, but in extreme conditions such as cold, or high levels of activity, three MREs per day may be required.

*“The thing that makes me happy is that I know that on Mars, two hundred years from now, my books are going to be read. They’ll be up on dead Mars with no atmosphere. And late at night, with a flashlight, some little boy is going to peek under the covers and read *The Martian Chronicles* on Mars.”*

– Ray Bradbury

Child Slave Colony on Mars: “Yes. Someone has accused NASA of being ringleaders of a child slave colony on Mars. If you’re brain just melted and leaked out your ears leaving you in a catatonic state just from reading that last sentence, congrats, you’re not alone....

The idea that this conspiracy theory could even gain steam is one big advertisement for why we should just delete everything. That NASA had to spend one single second, had to expand the energy to simply pick up the phone and say no to this conspiracy theory is a good reason to shut down America for good this Fourth of July.” – Marcus Gilmer, “Of Course NASA isn’t running a child slave colony on Mars, you idiots,” Mashable, June 30, 2017.

- ✓ “On Thursday’s Infowars broadcast, Steele alleged the kidnapped children were not only being kidnapped for space labor, but also murdered for their blood and bone marrow.” – Ben Collins, The Daily Beast, June 30, 2017.
- ✓ “Jones spoke with Robert David Steele, who said the kidnapped children arrived on Mars after a 20-year journey through space... The two decades of travel would technically mean the hypothetical children were no longer children upon arrival, but regardless, the child slave colony is not real, so the math doesn’t really matter.” – Lauren Tousignant, “NASA Clarifies: We don’t have child sex slaves on Mars,” New York Post, June 30, 2017.

*“Mars ain’t the kind of place to raise the kids,
in fact it’s cold as hell.
And there’s no one there to raise them if you did...”*

– Elton John, “Rocket Man” (1972)

*“Mars has become a kind of mystic arena onto which we have projected our
Earthly hopes and fears.” – Carl Sagan, Cosmos, Episode 5*

Endnotes.

¹ Citation: See 1 Combat, p. 950, EN 13, *infra*, for discussion related to this Carl Sagan quote.

² Commentary & Citation: In May 2019, there were two sci-fi short films on YouTube called simply “The Emisary.” One was by Blue Ice Pictures, posted by BravoFact on December 6, 2017 (13 minutes) and the second was posted by Byran Tan (the producer/director) on March 29, 2019 (21 minutes, it even has an IMDB entry). The first involved the retrieval of a lost alien ruler from Earth, and the latter, reestablishing contact with humans who fled Earth a century previously due to tyranny, genocide and persecution. I liked both of them, despite the criticism of the second one as not being sufficiently science-fiction-like for some, and I recommend both to GGDM readers and participants. I also liked the two related CGI animated shorts, “Fortress” posted January 2015 (3 minutes) and “The Last Day of War” posted on June 24, 2016 (6 minutes) by Dima Fedotov (The CGBrothers, YouTube Channel).

- ✓ YouTube is loaded with sci-fi shorts – and I only watch them occasionally – it seems to have become the natural playground for aspiring auteurs (and an outlet for racists and conspiracy theory crackpots who would be met with opprobrium elsewhere, aspiring musicians, bits of dead television series and old movies, Hollywood movie trailers, science and history educators, etc.). DUST is very prolific with hundreds of sci-fi shorts, all very well done on their own channel; BravoFact focuses on Canadian productions, but not specifically sci-fi. Among these thousands of sci-fi shorts are probably endless circumstances, technologies, scenarios that might spark game-play ideas or story arcs for GGDM participants for in-game exploration.
 - I have no idea how these YouTube content producers make money on the sci-fi shorts, but I suppose there is a way. Bryan Tan claims to have built the set in his basement and his short contains only two amateur actors and a few outside scenes by a lake. But there is that issue again – monetization of ideas discussed previously in 3 The Big Bang – science-fiction content creators have made huge money from successful books and films, but science-fiction literature may still be one of the last remaining places where creative ideas have intrinsic value prior to monetization.

³ Citation: “We do here settle and in the name of God establish ourselves; and in honour and for the memory of that most ancient and renowned name of our Mother Country, we do, and will from henceforward call this country by the name of Caledonia; and ourselves, successors, and associates, by the name of Caledonians.” – Dedication of New Caledonia colony (1698), from Wikipedia article, “Darrian Scheme,” captured June 25, 2018.

- ✓ *365 years later*: “Tonight we stand beneath a new heaven. After 150 years of calling out, the silence of the universe assures us that life is unique. We are alone. You and I are among the first to bring life to the stars – to this planet. The farthest any human has ever ventured. I know there are those at home who say that we are here only as a status symbol. Others say that we are fortune hunters, or that we’re running away. But I know we’re here because of faith – faith in each other, in a better world. The rocket fuel that brought us here can be burnt away, but our belief in ourselves, in one another, in the future, never can be; never will be.” – Dedication of Vesta Colony, Epsilon Eridani (2063), Space Above & Beyond (aka SAAB) TV series, Pilot Episode (1995).

- Is the date chosen by the writers, 365 years after New Caledonia, a coincidence?

⁴ Citation & Commentary: “People are not little stones, or keys in someone’s pocket, that can be moved from one place to another just like that.... Therefore, we cannot precisely arrange for only Serbs to stay in one part of the

country while removing others painlessly. I do not know how Mr. Krajišnik and Mr. Karadžić will explain that to the world. That is genocide.” – Colonel-General Ratko Mladić, 1992 comments reported in article by Edina Bećirević, “Bosnia’s ‘Accidental’ Genocide,” Bosnian Institute (UK), September 30, 2006.

- ✓ Didn’t happen in the New World either; pale alien invaders Landed, made colonies, forced the natives out of their lands. The only thing that could have stopped the Europeans from landing – the destruction of their ships or a credible threat thereof – did not exist for the Native Americans. You already know the history well. The Cossacks know the history well, too.

⁵ Citation: Destruction of Colony Ships *before Landing* is a Disruption Event for the origin colony of the population, see Vesta and Tellus, 2 Disruption, p. 274, *supra*. There is some grey area in this, if the colony ships were in another system when destroyed, would we assume that the original colony would know of it? That depends on what is assumed in the setting and the circumstances, e.g., FTL communications. However, Regular Turns in GGDM can represent very long periods of time, and the truth does have a way of hitting home eventually.

⁶ Citation: “Crosby was an inter-disciplinary researcher who combined the fields of history, geography, biology and medicine. Recognizing the majority of modern-day wealth is located in Europe and the Neo-Europes, Crosby set out to investigate what historical causes are behind the disparity, investigating the biological factors that contributed to the success of Europeans in their quest to conquer the world. One of the important themes of his work was how epidemics affected the history of mankind. As early as the 1970s, he was able to understand the impact of the 1918 flu pandemic on world history. ... In 1972 he created the term ‘Columbian Exchange’ in his book of the same name.” – from Wikipedia article, “Alfred W. Crosby,” captured August 8, 2019. (cf. Jared Diamond).

⁷ Commentary: The entire Peloponnesian War is bracketed between two entropic events: the 464 B.C. earthquake in Sparta which started the revolt (it was a sign from the gods, it was now or never for the helot revolt) that soured relations between Sparta and Athens, and the 430 B.C. Plague of Athens, though it took yet another generation until Athens surrendered in 404 B.C. The entire Peloponnesian war is bracketed between two Concierge Interventions...

- ✓ The exact cause of the Plague of Athens is not known, but is now believed by many experts to be typhus or typhoid fever. The Mahdi in Sudan, Muhammad Ahmad, over 2,300 years later, died in 1885 of typhus. So that bit of epidemic history is not far behind us. Alternatively, the other possible culprit, “viral hemorrhagic fever” – known as Ebola virus, made the news in 2016 with an outbreak in West Africa.

⁸ Commentary: This is what made the Berlin Airlift (1949) so impressive. In an attempt at securing currency hegemony, the Soviets blockaded all ground and rail supplies into West Berlin and cut off utilities. After discarding military options to resolve the blockade, Western leaders began a massive humanitarian airlift of supplies into the city that lasted over a year. The Soviets were then placed into a position of either occupying West Berlin with Soviet troops, or shooting down unarmed humanitarian cargo planes, or doing nothing. Unwilling to risk starting a war with NATO, the Soviets did nothing while the airlift kept the population of West Berlin supplied and eventually exceeded pre-blockade supply levels. With no credible argument left, the Soviets backed down. The West German deutschmark was issued and West Germany recovered and grew into an industrial power.

- ✓ On July 1, 1990, the East German “ostmark” was abolished, and the West German deutschmark became the official currency of a reunited Germany. The reunification of Germany proceeded like a hasty annexation of East Germany by West Germany.

⁹ Commentary: One difficulty with the Taiping Rebellion are the claims of the sizes of the armies involved in the campaigns and battles. I do not doubt the claimed losses, the ferocity of the total war, and the social and population upheaval and destruction caused by the war, but the claims of armies of half a million or that a million combatants were involved in various battles, armies that were not possible generally before mechanization (and greatly exceeded even those claimed in antiquity) – and I have seen no reference to rail supply and really no discussion of how such armies were fed (though the British did destroy an enormous hidden Imperial supply depot, Great Hsi-Ku Arsenal, during the later Boxer Rebellion) that would substantiate the numbers claimed – is difficult to accept.

¹⁰ Commentary: And generates at least that much sewage. Or put another way, if you buy cat food, you have to buy cat litter. Or let the cat out.

¹¹ Commentary: Lack of appreciation of scale is central to all human environmental problems; the ability to visualize the individual footprint multiplied by millions and billions per day, multiplied by a thousand years. This is central to all issues from local recycling and reuse programs to global warming and climate change dynamics.

The Case for the Empire

Leia Lies: “The destruction of Alderaan is often cited as *ipso facto* proof of the Empire’s ‘evilness’ because it seems like mass murder – planeticide, even. As Tarkin prepares to fire the Death Star, Princess Leia implores him to spare the planet, saying, ‘Alderaan is peaceful. We have no weapons.’ Her plea is important, if true.

But the audience has no reason to believe that Leia is telling the truth. In Episode IV, every bit of information she gives the Empire is willfully untrue. In the opening, she tells Darth Vader that she is on a diplomatic mission of mercy, when in fact she is on a spy mission, trying to deliver schematics of the Death Star to the Rebel Alliance. When asked where the Alliance is headquartered, she lies again.

Leia’s lies are perfectly defensible – she thinks she’s serving the greater good – but they make her wholly unreliable on the question of whether or not Alderaan really is peaceful and defenseless. If anything, since Leia is a high-ranking member of the rebellion and the princess of Alderaan, it would be reasonable to suspect that Alderaan is a front for Rebel activity or at least home to many more spies and insurgents like Leia.

Whatever the case, the important thing to recognize is that the Empire is not committing random acts of terror. It is engaged in a fight for the survival of its regime against a violent group of rebels who are committed to its destruction.”

– **Jonathan V. Last, “The Case for the Empire,” *Weekly Standard*, Art. 2540, May 15, 2002**

Luke is a Radicalized Insurgent: “While some have put forth persuasive arguments as to why the Galactic Empire were actually the good guys and the Rebel Alliance bad, the recent online discussion tends to be on a more macro level, discussing galaxy wide events and surrounding the Empire’s struggle to restore safety and order to a star system overrun by space terrorists.

A more focused study, however, is needed to truly understand that the Star Wars films are actually the story of the radicalization of Luke Skywalker. From introducing him to us in *A New Hope* (as a simple farm boy gazing into the Tatooine sunset), to his eventual transformation into the radicalized insurgent of *Return of the Jedi* (as one who sets his own father’s corpse on fire and celebrates the successful bombing of the Death Star), each film in the original trilogy is another step in Luke’s descent into terrorism. By carefully looking for the same signs governments and scholars use to detect radicalization, we can witness Luke’s dark journey into religious fundamentalism and extremism happen before our very eyes.

When we first meet Luke Skywalker, he’s an orphaned farm boy with barely any friends, living with his Aunt and Uncle, and wanting to join the Galactic Academy like all the other guys his age. You see, Luke didn’t become a space terrorist overnight, but he did exhibit signs that would make him a prime candidate for terrorist recruiters. The process of radicalization, as described by Anthony Stahelski in the *Journal of Homeland Security*, notes terrorists tend to:

- Come from families where the father is absent (check)
- Have difficulty forming relationships outside the home (check)
- Be attracted to groups offering acceptance and comradeship (checkmate)

Luke is just the kind of isolated disaffected young man that terror recruiters seek out.

Obi Wan — a religious fanatic with a history of looking for young boys to recruit and teach an extreme interpretation of the Force — is practically salivating when he stumbles upon Luke, knowing he’s found a prime candidate for radicalization. Stahelski notes terror groups place a focus on depluralization, stripping away the recruit’s membership from all groups and isolating

them to increase their susceptibility to terrorist messaging. Within moments of meeting Luke, Obi-Wan tells Luke he must abandon his family and join him, going so far as telling a shocking lie that the Empire killed Luke's father, hoping to inspire Luke to a life of jihad.

Shocked and confused by this onslaught of terrorist brainwashing, Luke hurries home only to find the charred corpses of his aunt and uncle. The Empire's accidental harming of Luke's Aunt Beru and Uncle Owen can be directly compared to the casualties of President Obama's drone campaign, whose body count terrorists capitalize upon for recruitment. This is precisely what Obi-Wan does, preying upon Luke's emotional state to take him under his spell and towards a life of extremism.

Obi-Wan whisks Luke off to Mos Eisley using a Jedi mind trick to bypass security, knowing full well he likely appears on numerous terror no fly lists. After contracting a local drug smuggler for transportation, Obi-Wan and his newest Skywalker recruit are off. They are soon captured, however, and attempt an escape which culminates in a battle between Obi-Wan and Vader. During the fight, Obi-Wan notices Luke watching, and seeing an opportunity to fully inspire Luke to radicalize, says a Jedi prayer while committing suicide. Can you think of any other groups who try to inspire terrorism by yelling a prayer before a suicide attack?

Once Luke escapes and regroups with a terror sleeper cell, he joins them on an attack mission. As he nears his target, hearing Obi-Wan's words in his mind, Luke closes his eyes, says a prayer and bombs a space station, killing everyone aboard. Young Skywalker has proven himself a quick study in the ways of armed religious extremism."

- Comfortably Smug, "The Radicalization of Luke Skywalker: A Jedi's Path to Jihad," Decider (decider.com), December 11, 2015

Just War: "Let us accept arguendo, however, the claims of Princess Leia and her apologists that Alderaan was peaceful and had no military targets.

Even so, one could argue that the destruction of Alderaan was not inconsistent with just war theory. To be sure, many just war theorists claim that the tradition requires both discrimination between civilian and military targets and proportionality. Yet, as LTC Peter Farber, an instructor at the Academy, has written: 'there is no single, coherent just-war position. Rather, there are clusters of ideas that have waxed and waned through time, and they have not evolved into a transhistorical system of simple moral rules.' Hence, as Farber notes, theorists long defended strategic bombing within the just war tradition:

.. 1) it preserved and protected the just against the criminal (note the Augustinian emphasis here), 2) the civilians supporting their national leadership were equally responsible for the decisions made by that leadership, and 3) the vigorous prosecution of the war prevented an even greater loss of human life

While the destruction of Alderaan may be regrettable, it seems clearly defensible under this understanding of the ethics of strategic warfare. Indeed, as Tarkin noted, the very purpose of destroying Alderaan is to end the war more quickly. Hence, just as was the case with strategic bombing in earlier times, 'the vigorous prosecution of the war' could be justified as an effort to prevent 'an even greater loss of human life.'"

- Prof. Steven Bainbridge (UCLA School of Law), "Was the Alderaan Incident Consistent with Just War Theory," Steven Bainbridge's Journal of Law, Politics and Culture (blog www.professorbainbridge.com), June 6, 2005

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See Appendix IMT – Interstellar Movement Table

See Appendix PAT1 – Power Activations Tables 1 – Power Activation Costs

See Appendix PAT2 – Power Activations Tables 2 – Normal Sequence of Power Activations

See Appendix PAT3 – Power Activations Tables 3 – Scenes, Planets & Stars

Stephen: *Did you ever play tic-tac-toe?*

Jennifer: *Yeah, of course.*

Stephen: *But you don't anymore.*

Jennifer: *No.*

Stephen: *Why?*

Jennifer: *Because it's a boring game. It's always a tie.*

Stephen: *Exactly. There's no way to win. The game itself is pointless! But back in the war room, they believe you can win a nuclear war.*

[after running through all nuclear war scenarios]

Joshua/WOPR: *Greetings, Professor Falken.*

Stephen Falken: *Hello, Joshua.*

Joshua/WOPR: *A strange game. The only winning move is not to play. How about a nice game of chess?*

– Wargames (1983)

Drama: How farfetched did Wargames seem? The AI program Eurisko did essentially the same as Joshua (with considerably less over-dramatization) and crushed the Traveller Trillion Credit Squadron national tournament in 1981 and 1982, a year before Wargames (1983), see quote in Imperial Admiral Eurisko, 4 Colleges, pp. 512-513, *supra*. Able Archer exercise (November 7-11, 1983) later that year brought the world to the brink of nuclear war, a month after Soviet tracking systems mistook cloud reflections for a first strike ICBM launch by the U.S.

*“What am I supposed to do
If I want to talk about peace and understanding
But you only understand the language of the sword
What if I want to make you understand that the
path you chose leads to downfall
But you only understand the language of the sword
What if I want to tell you to leave me and my beloved ones in peace
But you only understand the language of the sword
I let the blade do the talking...
So my tongue shall become iron
And my words the mighty roar of war
Revealing my divine anger's arrow shall strike*

*Beloved brother enemy
I sing my sword song for you
The lullaby of obliteration
So I can wake up with a smile
And bliss in my heart...
Coexistence, conflict, combat
Devastation, regeneration, transformation
That is the best I can do for you”*

– Heilung, “Kriegsgaldr” (2015)

The Come As You Are Party: GGDM doesn't have to be a wargame, players could agree on that, but here is the eternal conundrum: If you are going into the unknown, can you risk not bringing a weapon? As syfy.co.uk succinctly put it:

- ✓ “If Star Trek has taught us anything over the years, it's that pacifism, diplomacy and mutual understanding are the greatest weapons in any explorer's toolkit. But that doesn't mean you shouldn't also carry a phaser, just in case...” – “Ranked! Star Trek's 25 deadliest races, from the Romulans and Q to the Borg and Breen.”¹
- ✓ See also related discussions of starships in *Starship Jefferson*, 1 Stardrive, p. 780, *supra*, and exploration with warships, *Send the Enterprise!*, 3 Expansion, p. 909, *supra*.

And if the other guy has a weapon, you must also have an equal or better weapon, and so it goes ever onward through history.² Call it a lack of faith in fellow humanity and the universe (see also alterity discussions in *Let it Bee*, 1 Diplomacy, p. 1105, and *Mephisto's Marriage Counseling*, 3 Diplomacy, p. 1135, *infra*).

- ✓ “So be it, threaten no more, to secure peace is to prepare for war!” – Metallica, “Don't Tread on Me” (1991).

The ultimate form of this argument played out across the last half of the 20th Century; the world's major powers had nuclear weapons because others had nuclear weapons, and when there were enough such weapons to destroy humanity and most life on Earth, the weapons became a very expensive and practically useless implement of power. Instead, they became an enduring risk-management, slippery-slope restraint on the Cold War struggle that prevented the outbreak of major conventional warfare among the major powers (Ozzy Osborne, “Thank god for the bomb...,” *ut infra*). The current world was instead shaped by proxy wars, clandestine operations.

- ✓ We never thought it likely that the Soviets could beat us in full conventional ASL battle, rather, we were concerned what would happen when they could not. Deterrence is a tricky thing, once it failed to dissuade the Soviets from starting WWII, our technological offset strategy and containment strategy would become a slippery slope liability increasing the probability of the use of chemical and nuclear weapons

The Come-as-You-Are Party is an obsolete type of casual party from the time of more formal public dress codes of the mid-20th Century; you wore to the party whatever you happened to be wearing the moment you received the invitation.

- ✓ “Old newsreels of people walking along in any downtown setting show men in fedoras, women in skirts and heels – absolutely no one would consider ratty jeans or drawstring pants acceptable out in public. Hence the guffaws when we would see one another in clothes old women used to say they ‘wouldn't wear to a dog fight.’ It wasn't that everyone was insanely vain, it was that they simply took pride in their appearance and in wearing what suited the occasion. It was a point of etiquette, compliance with the dress code.” – Joni Hilton, “The Ultimate ‘Come As You Are’ Party,” *Meridian Magazine*, June 13, 2010.³
- ✓ A comic I remember from my youth: A man is laying naked in bed with his mistress. She is on the phone. She turns to him and says, “Your wife just invited us to a come-as-you-are party.”

- Nuclear Paradox: It is both true that thermonuclear weapons are the most powerful weapons humans have ever had (and that nuclear weapons are the most powerful weapons ever used in war on Earth) and that they are the most useless weapons in the arsenals of modern nations.

I recall reading somewhere (and I cannot find it now) that in the early centuries of the last millennia, some theorized that if there were enough gunpowder in the national arsenals of the Earth, they could blow up and destroy the Earth in a simultaneous or chain reaction explosion. Such a thought seems rather quaint now, but the idea was there in the early days of the new warfare based on chemical explosives that human destructive potential with new technologies could ‘destroy’ the Earth. Five centuries later the thought resurfaced in the popular imagination as potential reality.

- ✓ “For peace and trust can win the day, despite all your losing.” – Led Zeppelin, “Immigrant Song” (1970).

France has nuclear weapons; arguably France is more powerful now (in terms of destructive abilities) than at any previous time in history. However, France has not been the aggressor in a continental European war since 1870 (though has had military adventures elsewhere), is a member of the EU and NATO making any future French aggressions unlikely, and no longer has even its own currency, the franc being retired in 2002 for EU notes. The increasing paradox of the modern world order is epitomized by France – the habitual aggressor of centuries – its expensive destructive forces are of limited use and the concept of national sovereignty is getting soft around the edges (like a cookie in milk). France is bound to Germany in the EU by their shared historical shame of the 19th and 20th centuries.

- ✓ “Both the rewards and penalties were fabulous. The most deadly weapon discovered since gunpowder, atomic energy was also the most wonderful new source of power since steam and electricity. Where gunpowder had never known more than a limited industrial use, atomic energy held forth the promise of operating ocean liners within a few years, or supplying heat for a city as large as Seattle.” – Lynn Montross, War Through the Ages (2nd Ed. (1946)), p. 952.
 - This text does not appear in the 3rd Edition published in 1960, whose end was extensively rewritten to cover the end of WWII, the beginning of the Cold War and the Korean War. Assuming that Lynn Montross did not live in an intellectual vacuum, this text is valuable as an artifact of the early Atomic Age intellectuals.
 - By 1960, the optimism of a brighter post-WWII world had faded to black. Thus, this text was written out of the 3rd Edition. There are still no nuclear powered ocean liners to my knowledge, but there were soon nuclear powered submarines (USS Nautilus, 1958) and aircraft carriers (USS Enterprise, 1962), that is, nuclear powered warships. No sober person was surprised.
- Humanity Cometh: Sovereignty is “the *monopoly of the legitimate use of physical force* within a given territory” (Max Weber). See *The Earthly Entanglement*, 2 Government Titles, p. 586, *supra*. The development of sovereignty in early human civilization is intricately and inseparably woven with tribal warriors, their leaders, and their religions and tales. At some point, police forces developed and diverged from warriors, so that each could do certain tasks better, but they share the same brew. Activation of the Combat Power in GGDM – and all

other activations in support of it, all around the circle of civilization – is the most basic expression of sovereignty, either to preserve or extend it.

“Along with improved ease of use, the bow offered the advantage that the bulk of elastic energy is stored in the throwing device, rather than the projectile; arrow shafts can therefore be much smaller, and have looser tolerances for spring constant and weight distribution than atlatl darts. This allowed for more forgiving flint knapping: dart heads designed for a particular spear thrower tend to differ in mass by only a few percent.”

– Wikipedia article, “Atlatl,” captured June 30, 2018

Day Million: Day Million will be about the 265th Day of the year 2739 C.E. or maybe it’s the 265th Day of 2738 B.C.E. depending on which direction you are counting? Between those dates are 2 million days of human history.

Probably the first weapon used in combat is the stone.

- ✓ Would it have made sense if the hominid waterhole fight scene in the opening of 2001: A Space Odyssey involved rock throwing instead of a club? Or in addition to the club? Chimps throw stones at trees.
- ✓ In 2016, wild Capuchin monkeys were observed chipping stone and creating sharp, jagged flakes, however, the monkeys were not using these to make tools, rather, they consumed the quartz dust created by the rock-hammering activity. Archeologists have long thought chipping stone was an early human toolmaking activity, associated with hunting cultures. Eva Botkin-Kowacki, “Monkeys are making stone tools thought to be unique to humans,” The Christian Science Monitor, October 19, 2016.

Our best guess is that the sling, made from the hides and/or insides of animals, which propelled the stone to previously heretofore unknown velocities, was invented around 30,000 B.C.

- ✓ In 1935, child actress Shirley Temple reputedly hit First Lady Eleanor Roosevelt sharply in the behind with a stone from a sling shot she hid in her purse while at a White House cookout with her mother.

At about the same time was invented the ingenious spear-thrower (or “Atlatl”) which was able to propel a spear with speed and accuracy. The Aztecs used atlatls against the Spanish. Iron Age Europeans added a strap to give the spear a spin and range. Both of these weapons were useful both for food procurement and fighting.

- ✓ Imagine the difference in the Anglo-Zulu wars if the Zulu army had major contingents of expert atlatls, slingers and bowman to follow behind and around the flanks of their frontal wave assaults against the English at Rourke’s Rift and other engagements? The English soldiers were not wearing any armor.

Approximately 10,000 years after the sling, someone had the idea of propelling a small spear with great speed and accuracy by use of a bowed piece of wood and a string, attached to both ends, pulled back to provide the force. We know that humans had the bow and arrow around 16,000 B.C. (or at least by the end of the last Ice Age, 10,000 B.C.⁴), the oldest evidence of archery, dated 13,000 years ago, was found in Hamburg, the oldest remnants of bows, dated 8,000

years ago, were found in Denmark and cave paintings found at Vilafranca, Castellón, Spain show humans hunting with bows. Ötzi the Iceman, the name given to the well-preserved remains of a 30-45 y/o male who died 5,100 to 5,400 years ago in Italy, was slain by an arrow in the back.

- ✓ This is not to suggest in any way that the Europeans invented the bow. An article in Smithsonian (Erin Wayman, “Early Bow and Arrows Offer Insight Into Origins of Human Intellect,” November 7, 2012) suggests that stone blades found in South Africa, dated to 71,000 years ago, *may be* early arrow heads or spear thrower points. The one-inch silcrete stone blades were heated over a fire and then chipped to sharp points. To be clear, however, no one has found any bows from that time nor are there cave paintings from the period in the area.

Long before the invention of the sling or the bow, or metals, by approximately 60,000 B.C. at least, humans began practicing ritualized burial of the deceased, with flowers, arrangements of objects, personal possessions of the deceased, and perhaps even an extraordinary organized Neanderthal family burial plot, found at La Ferrassie, France.

- ✓ “An important innovation of the Middle Paleolithic is deliberate burial, often with indications of funerary ritual. Deliberate burials are common, as we have seen, at La Chapelle, La Ferrassie, Shanidar, and Teshik-Tash, and there are many others. At Teshik-Tash, we find an interesting ring of goat horns surrounding a child’s grave, an arrangement that would certainly seem to indicate ritualism of some sort. Shanidar IV was buried with flowers, an act which may or may not suggest ritual, but which certainly does suggest a special attitude toward death. A remarkable burial occurs at the La Ferrassie rock shelter perhaps as much as 60,000 years ago. It looks like a family cemetery; the presumed parents are buried head to head and four children are interred neatly nearby. A short distance beyond, a small mound contains the bones of a newly born infant, and bit further under a triangular stone is the grave of a six year old child.” – Jurmain, Nelson & Turnbaugh, Understanding Physical Anthropology and Archeology, 3rd Ed., 1987, p. 437.

Contemplation of death, followed closely by hunting, seasons, and our own mortality, were probably the first catalyst for abstract thinking among our distant ancestors. Almost all of the paintings and objects found from that period relate to those four subjects. As of today, the meaning of death and our own mortality remain the major catalyst of abstract human thought, the first encounters with death and mortality remain the key events in every child’s life, and all abstract human thought, in all its forms, can be traced, in some winding way, ultimately to thoughts of death and mortality (and the passing of seasons).

Most or all of the weapons used in early warfare were either hunting or farming implements. It is probable that over a period of time, the development of the spear diverged into two classes of spears, the war spear and the lighter hunting/throwing spear. However, the true breakthrough in weaponry development came when someone introduced the *metal* club attached to a wooden or wood and leather wrapped handle. The metal club eventually developed a thrusting point like a spear, and flattened out across the middle, and developed one or two long sharp edges; alternatively, many argue the sword developed from the dagger. With the sword, a man could lop off the tip of his enemy’s spear and then close on his now helpless opponent, especially when the spearmen were huddled in close formation with little room to maneuver or escape.

The sword was introduced to warfare, around 2,000 B.C.;⁵ the Assyrians also organized the first true ‘war-state’ with a top-heavy state and culture completely dedicated to war, conquest, and exploitation, and were probably the first to extensively use iron chariots. While one can hunt with a sword, the sword is not particularly good or efficient for hunting, fishing, or farming; the sword is a tool mainly efficient for one use: killing people. The sword, which became the universal symbol of military might and kings, was the first true weapon of war and represented a dedication to war. The sword became the symbol of war.

- ✓ Swords and ploughshares are well acquainted with each other, since Biblical times, ploughshares have been beaten into swords and swords have been turned into ploughshares. Metal can only take so much stress!

By approximately 2,000 A.D., humans were fighting vast interstellar wars with an amazing array of weapons and capabilities. We know from recovered films – a type of moving cave painting viewed against a wall in dark, enclosed places – that battles were fought at places such as Endor (in 1983), Proxima 3 and Coriana 6 (both in 1997), New Caprica (in 2006), Witchhead Nebula (in 2000), and Wolf 359 (in 1990) and of the adventures of the famed starship, *Galaxy Quest*. Curiously, the sword, most assuredly an anachronism by then, apparently continued in use, as shown in the films “Banner of the Stars” and “Crest of the Stars” found recently at an archeological excavation on Mars, and in the Star Wars historical documentaries found in The Satan Pit, where it had apparently developed into something called a “light saber” in which the metal of the original sword was replaced by a glowing, colored blade of light called “the force.”☺

- ✓ My attitude toward war, expressed through GGDM, is in *summus*, ‘it happens, it’s sad and devastating to generations, it is somehow necessary (just like stupid people, if it weren’t for stupid people, half of us wouldn’t have jobs) and much of the progress of civilization to this point has been the direct result of war, conflict, and migration in innumerable and emergent ways, even as we decry it, ‘change cannot occur without consequences.’ I think that my view, the sum of all of the debates and reading of my youth, and my military experience, is generally the same position as that of most of the late Cold War cohort. I see it reflected for example in the writings of Joseph Tainter (e.g., collapse of complex societies) and Edward Soja (e.g., spatial justice, the polis), who are both writing in their own way about conflict of civilizations.
- Thank God for the Bomb: Everyone has great ideas that if enough people listened to them, it would change the world. Hey, let’s make the world better by getting rid of nuclear weapons! It was the great cry of the Cold War. Are you sure? Was the world a better place before nuclear weapons? *Do you remember how we got there?*

Though it was not the main point of the story, the authors of “Duet” (Epic Illustrated, Vol. 1, No. 27, December 1984) understood that side consequence. In the story, aliens destroyed Mars as a demonstration of their power, and forced all of the Earth nations to get rid of their nuclear weapons without interfering otherwise (see Metalaw discussion, Mephisto’s Marriage Counseling, 3 Diplomacy, p. 1135, *infra*); at the end of the story, in a world free of nuclear weapons, the main character (a subway bum) was drafted into the military and sent off to fight in an oil war against the Soviet Union. Has the world been made demonstratively better by the ideas of Jesus, Confucius, Buddha, or Mohammed? The jury is hung. The best we can offer is that it is different than it was or would have been, but we are not sure how it would have been otherwise.

- ✓ “If that’s the only thing that’s stopping war, then thank god for the Bomb.” – Ozzy Osbourne, “Thank God for the Bomb” (1986).
 - The argument must have been out there in the late 70s probably, because “Duet” in Epic Illustrated – a story making a similar point – was published two years before Ozzy’s “Thank God for the Bomb.” Cognitive history.

Not all great ideas have this dramatic, intractable character. Quitting smoking on a personal level is a great idea that probably has few drawbacks in the long term. But the distinction must be made in legally banning sale, transport, possession, and manufacture of all tobacco products – there are reasons why it hasn’t happened beyond the tobacco lobby’s efforts – who might echo the question above: was the world a better place before tobacco?⁶ Part of the problem is the history of the alcohol Prohibition (see Flying the Banner, 4 Government Titles, p. 632, *supra*) and part of the reason is that, compared to other problems, such as opioids and addiction to other recreational substances *that are actually illegal*, tobacco use is the lesser problem (the whac-a-mole problem, 4 Culture, p. 404, *supra*). So that war has been waged, somewhat successfully, by convincing individuals to stop smoking or never start, and by removing smoking from public buildings, but it’s a goal like zero inflation and zero unemployment – smoke free society will probably never happen.

“‘Are we all crazy?’ the Agriculture Minister asked. ‘Do we think we can gamble with atomic arms like so many firecrackers?’”

“‘Comrade Defense Minister, you have led us to the brink of destruction,’ Bromkovskiy said. ‘Now you wish us to leap in after you!’”

– Tom Clancy, Red Storm Rising (1986)

Little Willie Won’t Go Home: When humans let the nuclear genie out of the bottle, we came close up against the mind-numbing scale of the universe; humans can no more *grok* the power of a nuclear weapon than the distance to Alpha Centauri. That genie will not go home.

- ✓ “The big bang, took and shook the world, Shot down the rising sun, The end was begun, it would hit everyone, When the chain reaction was done, The big shots, try to hold it back, Fools try to wish it away, The hopeful depend on a world without end, Whatever the hopeless may say.” – Rush, “Manhattan Project” (1985).

Dawning of Horror: The essence of the true nuclear war movie (e.g., The Day After (1983), Threads (1984), Testament (1983), By Dawn’s Early Light (1990)) is the psychological tension and helplessness of being caught up in a catastrophic runaway situation that we know is wrong and is madness, that we know we caused and could have avoided, like a disastrous high speed drunk driving, life altering car wreck stretched into slow motion over two hours (with thankful commercial breaks). I do not prefer to watch such movies now, because I know how they work, but I wish the younger generation would watch them (they won’t), as this is how the world of today was made by what didn’t happen in 1983.⁷

The cinematic treatment of global thermonuclear war is a history of the full horror of the concept dawning into the public consciousness. Compare the movie Atomic Attack (1954) to movies made 25 or 30 years later (e.g., The Day After, Threads, etc.). Atomic Attack (1954) is very naïve and is considered borderline whitewash propaganda in the early Cold War minimizing the

consequences of thermonuclear war (at a time when the U.S. government thought they were behind the Soviets in both the space race and nuclear missiles). Ten years later in movies such as *The Time Travelers* (1964) or *The Twilight Zone* episode “The Old Man in the Cave” (1963), nuclear apocalypse was referred to as devastating and catastrophic in a sort of distant past-tense manner, while by *Damnation Alley* (1977) and into the 1980s, global thermonuclear war had evolved in television movies into immediate personal horror in addition to being the end of civilization (infrastructure, civil authority) and possibly the end of humanity.

- ✓ The essence of the Cold War zeitgeist is the dawning realization that we were living on the edge of a manmade historical accident to tip us into the abyss. We still are. Nuclear weapons aside, do you think we can handle a global pandemic and/or rising seas from manmade climate change and massive coastal population displacement? In the Black Death people died so fast they could not bury or care for them properly.

The indie film *Day the World Ended* (1955, a year after *Atomic Attack*) is more ‘realistic’ but is mostly a creature feature resulting from nuclear war, while Stanley Kramer’s highly-praised film (even by scientists) *On the Beach* (1959) is a brutally grim and personal story about Australians and a U.S. Navy submarine crew in the aftermath of global thermonuclear war, foreshadowing the coming 1980s movies. *On the Beach* doesn’t show the actual nuclear war, but rather, the dread of spreading radiation and collapse of global civilization (foreshadowing *Mad Max*).

However, *On the Beach* (1959), the first realistic treatment of the subject, adds mass-suicide of surviving populations when the radiation reaches Australia.⁸ The 1959 movie, listed on IMDB with a runtime of 2 hours and 14 minutes, was significant enough that it was remade into a well-received television mini-series with an added hour of runtime in 2000. That is, *after* the end of the Cold War, whereas other Cold War nuclear apocalypse movies have not been reprised as of 2019 – does anyone expect to see *Threads* or *The Day After* remade? Those were not bad movies, but the producers took a risk: 2000 (after the Y2K scare) was probably the last chance to get something like that on the screen without having to add future evil robots or an alien invasion.

- ✓ “There’s been a 70% radiation spillage factor at high altitudes across the equator. It’s coming south. I got the radio operator in Singapore, then she went home to die.” [The Captain asks how long they have?] “According to Australian naval command in Melbourne, a matter of months, Sir.” – *On the Beach* (remake, mini-series, 2000).⁹

Even the 1980s films never went so far as to mention or endorse government-sanctioned mass-suicide and rarely discussed the suicide in post-apocalyptic effects;¹⁰ everyone was heroically supposed to be trying to survive and return to normalcy. I chuckle at the thought of the government of Australia in 1959 vehemently denying that it ever had such a plan – no warehouses full of suicide pills¹¹ – and pointing out that it was just a movie, that the movie makers had no special knowledge of government planning for global thermonuclear catastrophe. But under those circumstances, who knows what anyone would do in the aftermath of the ultimate absurdity?

- Enemy Mine: Suspicion of others is an act of projection and abstraction by sapient. In one sense, as when solving a crime or mystery, suspicion may be a projection or deduction from facts, but often lacking the final fact or proof necessary to identify the perpetrator or solve the mystery. In another, more common sense, it is a projection of what we would do if we were in the other’s position; the two senses are not the same, no one thinks that a detective who suspects a perpetrator, would do what the perp did in the same circumstances.

Yet the two senses come from the same process and involve facts, beliefs and emotions, both rational and irrational, and this is what is so confusing about our language and mental states. Would you do the same as a cow would do or do you think a cow would do the same thing you would do if given a chance?¹² It depends on the circumstances, sometimes humans and cows do the same (e.g., eat vegetation), but most of the time they don't (e.g., eat cows). In an interstellar setting would it be appropriate to suspect that sapient, technological aliens would do something because we would do the same?¹³

- ✓ The nuclear preparedness command post exercise called Able Archer in 1983 is a prime example. In principle, it probably sounded like a great multi-national exercise to align all of the NATO powers in the same procedures and to train top leaders in the decision-making process. Except that no one anticipated that the Soviets would see it as a ruse for a preemptive nuclear strike on the Soviet Union – probably because the Soviets thought that is *what they would do in our place*, they had probably contemplated that very ruse. As a result, the Soviet forces went to high alert, the period of September to November 1983 was the closest that the world came to nuclear war since the Cuban Missile Crisis of 1962. The Soviets realized later it was a training exercise, NATO realized how close they had come to a Soviet preemptive strike.
 - ✓ In the movie *Paths of Glory* (1957), General Georges Broulard assumed that Colonel Dax, a famous criminal defense attorney, defended the accused and exposed the incompetence and misdeeds of General Mireau in order to secure a promotion and take General Mireau's job. He assumed this was all part of Colonel Dax's ultimate plan *because that is what he would do*, and was stunned and unable to comprehend that Colonel Dax actually cared about his troops and the fate of the accused.
 - ✓ “We can't go on together, With suspicious minds (suspicious minds); And we can't build our dreams, On suspicious minds.” – Elvis Presley, “Suspicious Minds” (1969).
- Killer of Giants: Dehumanization in war – both of the enemy and of the combatants and civilians on both sides – is a well-known concept and staple of modern literature, documentaries, and frontline journalism.
- ✓ [Interview in German with English voice over translation] “The British were always astonished that we did not look different to them. This was the funniest thing about the whole situation. They said, for heaven's sake, you've all got English faces. Of course, what were we supposed to look like?” – Lt. Josef Klein, 3rd Paratroop Regiment, Monte Cassino: *The Soldier's Story* (documentary, 2018).
 - ✓ [Interview in German with English voice over translation] “I think that the war in the south against the English and the American units was, I would say, not really hate. He was the enemy. Everyone had to do their duty. He was on his side of the front, we were on our side. And I think the suffering was the same. Because of the very strange situation in this part of the battlefield, we had somehow the feeling they [the English soldiers] were like comrades because they went through the same things.” – Pvt. Rudolf Valentin, 3rd Paratroop Regiment. *Id.*
 - ✓ [Interview] [background scene, enemy soldiers exchanging cigarettes during an armistice to collect the wounded] “Part of the whole curious experience of being in combat was that you could have an intimate relationship with your enemies under certain circumstances, and there is another time you could quite cheerfully shoot them. It

was a conundrum because the human side kept coming through.” – Maj. Dennis Beckett, 1st/4th Essex Battalion. *Id.*

What could be easier to ‘dehumanize’ than extraterrestrials, especially if they pose an existential threat? The standard science-fiction solution is to ‘humanize’ them through the story, to make the audience recognize the aliens as mortal and moral persons, e.g., *Enemy Mine* (1985) a box office bomb (which I think I saw first at the Camp Foster theatre in Okinawa in 1987) is such a movie (a sci-fi remake of *Hell In the Pacific* (1968), a previous box office bomb¹⁴) that went on to become a major box office success in the former Soviet Union (according to Wikipedia). See further discussion in *Alien Persons*, 2 Diplomacy, p. 1110, *infra*.

- ✓ “If none of us believe in war, then tell me what the weapons’ for?” – Ozzy Osbourne, “Killer of Giants” (1986).
- ✓ “Mother please forgive them, for they know not what they do ... I had a vision, I saw the world burn, and the seas had turned red; the sky had fallen, the final curtain, in the land of the dead.” – Ozzy Osbourne, “Revelations (Mother Earth)” (1980).

“The wealth and scientific ingenuity of our civilization was being squandered on a runaway arms race. [The nuclear powers] employed half the world scientists and infested the world with 50,000 nuclear weapons.”

– Ann Druyan, introduction to the Collector’s Edition of *Cosmos* ¹⁵

“The nuclear arms race is like two sworn enemies standing waist deep in gasoline, one with three matches, the other with five.” – Carl Sagan ¹⁶

Evolutionary Arms Race: However, Douglas Adams described evolution as an arms race:

- ✓ “For example the race between the Amazonian manatee and a particular type of reed that it eats. The more of the reed the manatee eats, the more the reed develops silica in its cells to attack the teeth of the manatee and the more silica in the reed, the more manatee’s teeth get bigger and stronger. One side does one thing and the other counters it. As we know, throughout evolution and history arms races are something that drive evolution in the most powerful ways and in the world of ideas you can see similar kinds of things happening.” – Douglas Adams, “Is there an Artificial God?” speech at Digital Biota 2, Cambridge U.K., September 1998.

So was (is) the arms race part of human evolution or a sad parody of evolution?

[Interview] “We were turning out bombs by the thousands. The United States by the height of the Cold War had some 40,000 hydrogen, uranium and plutonium weapons in its storehouses and the Soviet Union which always cranked out more than it needed, had some 75,000, enough to destroy the world many times over. I’m happy to say that we are now down to about a total in the world of about 13,000 [in 2015], still enough to destroy the world many times over, but not as many times as in the 1980s.”

– Richard Rhodes (author of [The Making of the Atomic Bomb](#) (1986)), *The Half-Life of Genius: Physicist Raemer Schreiber* (2018)

The Combat Power: The Combat Power may be activated for the following four purposes:

1. Combat Movement,
2. Initiate Combat,
3. Combat Alert,
4. Seize Initiative.

The general purpose of activating the Combat Power is to *initiate combat* which are represented by the first three purposes of the Combat Power Activation, above. Activation of the Combat Power for the purpose of Combat Movement requires two Acts and one Scene which must be placed on the *star* on the Public Space where the movement begins. Activation of the Combat Power for the purpose of Initiate Combat or Combat Alert requires one Act and one Scene on the *star* of the system. Activation of the Combat Power for the purpose of Seize the Initiative requires one Scene on the *star* of the system where the combat is ongoing.

- ✓ It would be problematic to require the attacker to have a Scene on the target planet of a Colony or drop-in Ground Combat to Initiate Combat, esp. after a Short Movement.
- ✓ Units involved in an ongoing combat **cannot do anything** during the Regular Turns (will not obey Power Activations) until they either retreat or the combat ends.

Warships: A warship is defined in GGDM as a starship or system boat capable of initiating offensive combat in either system space or in orbital space over a planet (but not at FTL or in interstellar space; Colony Combat against Ground Bases is initiated from orbit). Specifically, they include Era Warships (see 2 Combat, p. 951, *infra*), Carrier Ships (see 1 Carriers & Fighters, p. 1049, *infra*) and armed system boats, with or without a Tender starship to transport them. See System Boats, 3 Construction, p. 677, A Hot Dinner, 3 Movement, p. 863, *supra* and Carrier Operations, 1 Carriers & Fighters, p. 1050, *infra*, for discussion of Tender starships.

- ✓ Colony-based Fighter Complements effectively make the colony an armed system boat for the purposes of *initiating offensive combat*.

A Log Ship is not a warship (at least initially) and thus must be addressed separately in the Combat Movement rules below. Carrier starships are capable of initiating combat without a Fighter Component (i.e. Carrier direct fire) and are thus a warship, Fighter Components, whether on a Carrier or Colony, can initiate combat but are not starships (at least initially). This is a bright dividing line in GGDM: Each ship or boat (unit) is either capable of initiating combat or not, there is no middle space, thus is a warship defined; conversely, all Defense Bases are not capable of initiating combat, such that the inability to initiate combat (as well as the inability to initiate movement, at least initially) is congruent with the definition of a Defense Base.

Tender starships – which may or may not be offensively armed, should be considered warships if they are transporting armed system boats – what Traveller RPG called Battle Riders – which may initiate combat upon arrival. Otherwise, the GGDM rules provide no means by which a military Tender can move to a system and deploy the system boats to initiate combat on arrival.

- ✓ Tender Ships violate the Law of Excluded Middle (or Third) in the GGDM rules as they fit neither the definition of a warship (*ut supra*) nor are they Log Ships, but must be able to initiate Combat Movement if carrying armed system boats.

Alternatively, Tender starships could function as Log Ships beyond the normal OSL, for their system boats (a system that would need one or more successful Patents) making them Log Ships for the purpose of Combat Movement (*ut infra*). See A Hot Dinner, 3 Movement, p. 863, *supra*.

- ✓ “Not in the mood? Moods are things for cattle and love play, not fighting!” – Gurney Halleck, *Dune* (1984).

“The English-speaking peoples took no joy in finding themselves the most powerful military force on earth in the autumn of 1945. Comprising only a fraction of the globe’s inhabitants, they had built up armies, navies and air fleets more mighty than all the others. Had they been obsessed with a lust for conquest in 1945, it is a fair speculation that they possessed the means. Far from having any such ambition, both Britain and the United States were uneasy under the new burden of responsibility. The awful secret of Hiroshima weighed heavily, for the public did not need to be reminded that today’s military asset might become tomorrow’s liability. Any citizen able to add two and two could perceive that the atomic bomb, plus jet and rocket propulsion, added up to future long-distance missiles which could conceivably shatter or even conquer a strong nation in a few hours.”

– Lynn Montross, *War Through the Ages* (3rd Ed., 1960), p. 964

World Conquest: What a striking thought, given the conditions of the world in August 1945.¹⁷ Though it would have been fanciful to think that the Allies could have pushed the Russians out of Germany and Poland in 1945 (i.e. Operation Unthinkable), the rest of the world was wide open, the Soviets had no comparable naval forces and neither did anyone else. How many peoples have turned their back on such an opportunity for conquest? What do you think the Romans would have done? Why Not? The difference is clearly in the comparison of the sociopolitical culture of the two times, the two civilizations. The question is, is the ‘pass’ of 1945 a sign of human maturation, or just circumstances at play?

“Never, never, never believe any war will be smooth and easy, or that anyone who embarks on the strange voyage can measure the tides and hurricanes he will encounter. The statesman who yields to war fever must realize that once the signal is given, he is no longer the master of policy but the slave of unforeseeable and uncontrollable events.” – Winston Churchill

Move Out!: Combat Movement is the special movement for:

- 1) Warships and/or Log Ships,
- 2) When moving from any system to any destination system that does not currently have a supporting colony,¹⁸ **and/or**
- 3) Where the warship’s owner desires to initiate combat upon arrival.

Activation of the Combat Power for the purpose of Combat Movement allows as many warships and/or Log Ships to depart from the origin system to any and as many destination systems – either unsupported (condition 2, above) or supported (condition 3 includes movement to a supported system) – as desired. Combat Movement is required when sending warships and/or Log Ships to an unexplored system (see Send the Enterprise!, 3 Expansion, p. 909, *supra*) or when sending Log Ships by themselves to an unsupported system (conditions 1) and 2) above).

There are only two conditions precedent necessary for Combat Movement, the “and/or” means that either **(1 and 2)** apply or **(1 and 3)** apply. Those two sets cover all possible situations for moving warships. Obviously, 3 can never apply to Log Ships moving by themselves.

- ✓ Whenever the Combat Power is activated for the purpose of Combat Movement, each ship designated must be checked to see if they obey the Combat Power activation. Like Movement (see Engines Offline, 1 Movement, p. 839, *supra*), if there is a supporting colony in the system, a *second check* is made for any ship that failed to obey the Power Activation. Any ship that fails to obey the Power Activation will be left behind. Enlightenment could be applied to these obedience rolls if the target unit (or Supporting Colony) has an active Epistemological Constructural Element (see Skool Tyme, 2 Constructural Elements, p. 190, *supra*).

If warships or Log Ships are moving to a system with a supporting colony, and do not intend to initiate combat upon arrival, they can and should use the Movement Power instead, which only costs one Act and one Scene (see Ad Astra, 1 Movement, p. 839, *supra*). If they are moving to a destination system with a supporting colony and intend or anticipate engaging in combat upon arrival, they must use the Combat Movement activation. There is no requirement that the anticipated enemy forces, or any enemy forces, be present in the destination system, or known, when Combat Movement is initiated; such Combat Movements may be precautionary.

- Space!: Space is very big in a three-dimensional absolutely-cold vacuum way. This leads to four basic principles of space combat. First, no one can be forced to initiate combat. Second, except when defending planets or any other important point in space, no one can be forced to defend in a combat (because space is big and three dimensional). Third, combat only occurs in starsystems, combat does not occur between ships traveling at FTL speeds between stars (or wherever they happen to be while moving between stars). And last, no one can be barred from entering a starsystem, the only way to stop someone from entering a starsystem or doing anything is to destroy them or provide a credible threat of destruction.
 - ✓ Ships *en route* will arrive in the star system at the end of their flight, see The FTL Missile, 2 Movement, p. 849, *supra*, that is, in GGDM, ships are assumed to be incapable of avoiding arrival in the destination starsystem once interstellar movement commences. Thus, the owner would need to be dissuaded from initiating the interstellar movement. Just as the only way for a bug to avoid being eaten by a bird is to not be present at that time and place. Bugs have no other defenses against birds.
- Attack!: Combat Movement only gives the moving warships the option of initiating combat upon arrival at the destination; the warships are never *required* to initiate combat upon arrival and Combat is never automatically initiated. Warships arriving in a system via Combat Movement, may either initiate a Ship Combat against any opposing ships (of any type) currently in the system, or if there are no opposing warships present (or they have retreated already), may initiate combat against any and all unconquered **alien colonies** in the system. As *each warship may only initiate one combat per turn*, initiating combats against multiple enemy colonies upon arrival will require dividing the force (even if some of the targets are undefended, you must send a warship to convince them to surrender).
 - ✓ “On July 2 the Finns intercepted a radio message that the 63rd Guards Rifle Division and 30th Armored Brigade were about to launch an attack on July 3 at 0400 hours. The following morning, *two minutes before the supposed attack*, 40 Finnish and 40

German bombers bombed the Soviet troops, and 250 guns fired a total of 4,000 artillery shells into the area of the Soviets.” – from Wikipedia article, “Battle of Tali-Ihantala” (emphasis added).

- **Defend!:** Participation in combat, except for colony Defense Bases and colony-based Fighters or armed System Boats defending a colony, is always ‘voluntary.’ Units will always defend themselves if attacked, regardless of whether they have initiated combat in the current Turn Cycle, or how many combats they have fought recently, or whether or not they are on Combat Alert. Activation of the Combat Power is not required to defend in combat, and no Acts or Scenes are used to simply defend in combat. Certain defenders, namely starships and some System Boats and perhaps Fighters, may always retreat at the end of the first round of combat, as described later. Retreating the warships defending a system, may, however, expose any colonies in the system to subsequent attack.

- ✓ “The outer fortresses have fired. These ships enter the fiord darkened. They are warships, damned right we shoot at them! Ready for action!” – Col. Eriksen, *The King’s Choice* (2016), from English subtitles.

- **Run Away!:** Warships whose owners decline to initiate combat at the end of a Combat Movement lose the opportunity. Upon arrival in the destination system, the owners of the warships will be informed within their turn results of what they see and anyone in the destination system will be informed of the arrival of the warships (see *One-Way Mirror*, 2 Information, p. 1340, *infra*).

The owners of the warships have one day (24 hours) after their ships arrive (i.e. after their Regular Turn is processed) to initiate one or more combats by submitting Combat Orders for the first Combat Round. Failure to timely do so is considered a ‘pass’ and the opportunity to initiate combat from the Combat Movement is forever lost.

- **Meteora!:** Ships arriving in the destination system by Combat Movement *may* automatically join any ongoing combat in the destination system. If they join the defense of a colony, on the second Combat Round after they join forces, the Colony Combat is ended and the remaining combat is fought as a Ship Combat in system space, as those attacking the colony will seek to escape being caught between the defenses and approaching warships. This is not considered a *retreat*, unless the attackers actually issue retreat orders to their ships.¹⁹

“There are two rules of war that have not yet been invalidated by the new world order. The first rule is that the belligerent nation must be fairly sure that its actions will make things better; the second rule is that the belligerent nation must be more or less certain that its actions won’t make things worse.”

– Martin Amis, “The Palace of the End,” *The Guardian*, March 4, 2003

Initiate Combat: Activation of the Combat Power for the purpose of Initiate Combat requires one Act and one Scene on the star on the Public Space where the combat is initiated (one reason why you might use Combat Movement instead in some situations). Activation of the Combat Power for the purpose of Initiate Combat allows all friendly units in the same starsystem:

- 1) That are capable of initiating combat,
- 2) That are not currently involved in a combat, and

- 3) That *began* the Regular Turn in the starsystem (possibly arriving by Short Movement on the previous turn),

...to initiate combat against any number of opposing ships and/or colonies as appropriate. The side initiating combat becomes the attacker and the other(s), the defender(s) in the combat.

Activation of the Combat Power for the purpose of Initiate Combat requires one Scene on the star of the system where the Combat is to be initiated. Thus, the star must already be on the Public Space in order to place a Scene on it, and that means that either a ship or a sovereign colony must be in the target system. This is a place where Scene Snitching can really ‘hurt.’☺

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- ✓ Except for Pacification Combat, *each unit* designated to Initiate Combat must check to see if they obey the Power Activation. The Supporting Colony(s) second check rule applies as described in Engines Offline, 1 Movement, p. 839, *supra*. If the units involved are Ground Units attacking another colony on the same planet, they check based on the Constructural Elements of their colony. If the Ground Units are landing on the planet to initiate combat, they check based on the Constructural Elements of their Transport Ship (see Lift & Separate, *et seq.*, 4 Combat, p. 987, *infra*). Units that fail to obey the Initiate Combat action will not fire in the first Combat Round and are not part of the combat initially; but likely can be joined later (see Those Who Stand Looking, 3 Combat, p. 973, *supra*) into the ongoing combat.
- Short Shot: Ships using Short Movement (see Space Hop, 2 Movement, p. 850, *supra*) arrive in the same Regular Turn as they departed, and thus, would be in the system at the *beginning* of the next Regular Turn. So it is possible to combine Short Movement one Regular Turn with Initiate Combat on the next Regular Turn *as long as the destination system is not an unsupported system* (requiring Combat Movement instead) and if the moving ships don’t want to initiate combat upon arrival. Remember to pre-place a Scene on the star of the system.
 - ✓ This does not provide any real savings in Acts and Scenes, as Short Movement requires one Act and one Scene on the origin, and Initiate Combat requires one Act and one Scene on the system where combat is initiated, as compared to Combat Movement requiring two Acts and one Scene on the origin. It would also require two Power Activations. It might be useful in limited circumstances where the position has not previously deployed Acts and Scenes that would allow a Combat Movement, or for diplomatic reasons.
- Uncles Sam and Albert Want You ☞: *Friendly units* that are:
 - 1) Capable of initiating combat,
 - 2) Not currently engaged in combat, and
 - 3) In the system where combat is initiated by ships arriving by Combat Movement may automatically join that combat and do not need to separately Initiate Combat.

“The notion of a nuclear firebreak is based upon a major premise of current military thought: that a full-scale nuclear war, should one ever occur, would probably result from a conventional conflict that exploded out of control, prompting one side to use nuclear arms in a desperate bid to stave off defeat.

The only existing barrier to such escalation is a moral and psychological firebreak – the widely shared perception that nuclear weapons are different from all other weapons, and that their use could unleash a chain reaction of strikes and counterstrikes leading to total world destruction.

So long as this firebreak remains wide and secure, so long as the distinction between nuclear and conventional arms remains sharp and unambiguous, potential combatants will retain this incentive to stay on the non-nuclear side of the divide, no matter what their prospects are on the conventional battlefield.”

– Michael T. Klare, “Securing the Firebreak,” *World Policy Journal*, Spring, 1985, p. 229

DefCon 1: Activation of the Combat Power for the purpose of Combat Alert requires one Act and one Scene on the star of the system where the alert is placed. Combat Alert applies to all friendly forces, whether ships or colony defenses, in the system where the Alert has been placed.

A position which has placed a system where they are present on Combat Alert and has at least one suitable available combat unit may *initiate one combat between their position’s Regular Turns*. Available units are any friendly unit that is:

- 1) Capable of initiating combat,
- 2) Located in a system where a Combat Alert has been placed,
- 3) Not currently engaged in Combat, and
- 4) Able to engage in combat in that theatre or sphere (e.g., Ground Units cannot initiate combat against Ships, see *Keep Your Friends Close, Your Enemies Closer*, 3 Combat, p. 972, *infra*).

The side initiating combat becomes the attacker and the others, the defender(s) in the combat. The Scene is used by the Power Activation regardless of whether or not combat is initiated.

- ✓ Defense Bases do not benefit from Combat Alert, the reference to colony defenses is to armed System Boats, colony-based Fighter Components and Ground Units.
 - ✓ Combat Alert may be particularly useful in timing of Raid/Strike Combats, see 4 Carriers & Fighters, *infra*, either before or immediately after the target’s Regular Turn.
- **Nervous from the Service:** A Combat Alert expires at the beginning of the position’s next *turn period* (see *Law of Periods*, 2 *The Streams of Time*, p. 84, *supra*), not when Regular Turn processing occurs. Thus, to keep up a continuous Combat Alert, a position must submit their Actions at the earliest opportunity, and activate the Combat Power for that purpose every turn in the same or different systems, which will hamper the position in other ways.
- **Firebreak:** All of the sputtering in the media over the casual comments made by the POTUS and some lesser figures in Russian government, are all in the fear that careless words indicate a lack of understanding of and breakdown of the nuclear firebreak.

Non sequitur: There is a difference between Initiate Combat and Combat Alert. It’s all about timing. Initiate Combat begins a combat shortly after the position’s Regular Turn, whereas Combat Alert, running from the end of the position’s current turn to the beginning of the position’s next turn period, allows initiation of combat in the starsystem between turns. Because ships arriving by Combat Movement must decide to initiate combat within one day of their arrival, their decision may be preempted by Combat Alert in the destination system, making the prospective ‘defenders’ the ‘attackers’ and taking the decision for combat out of the other position’s hands. Combat Alert, unlike Initiate Combat, may *put off* the decision to

start a combat to see what happens, *to allow for diplomacy time*, time to build, or to wait for other position's ships to arrive in the system on their turns. Both activations cost the same.

- ✓ “It’s not really hard to fire guns, but it’s immensely hard to make the decision to fire.” – Col. Birger Eriksen, Norway (post-WWII investigation).
 - ✓ As discussed more fully in Freeze Frame, 2 Information, p. 1341, *infra*, Observation and Surveillance reports are only provided in the position’s Regular Turn results after the Regular Turn actions have been processed. They are a ‘snapshot’ of the situation at the end of the position’s Regular Turn processing. Thus, whether to initiate combat using a Combat Alert between Regular Turns depends heavily on information provided by other positions who may be present (i.e. informal diplomacy, see Greys Diplomacy, 1 Diplomacy, p. 1097, *infra*) and who have their Regular Turns processed before the Combat Alert expires. Naturally then, Combat Alert is most useful in a crowded system where many positions are present.
- **Jumping the Ditch:** There is no check to see if a system placed on Combat Alert disobeys the Power Activation. However, if the position subsequently chooses to initiate combat, the Combat Alert is effectively changed to an Initiate Combat, and all units designated to initiate the combat must check, as described above, to see if they obey the Initiate Combat.

“The essence of the complaints was that it let a dying generation off too easily – specifically, the generation that built and fought for the Third Reich. Crafting a story around the fates of five 20-year-old best friends from Berlin, none of whom is a Nazi, and one of whom is a Jew, is a convenient fiction, some said.

In truth, however, ‘Generation War’ is no more convenient than any number of American World War II dramas that do exactly the opposite and demonize all Germans by turning every one, without nuance, into a frothing-at-the-mouth stormtrooper. Isn’t making monsters out of people just as bad as trying to find the human heart that beats in the breast of the criminal?”

– Michael O’Sullivan, “‘Generation War’ movie review,” Washington Post, March 13, 2014

Generational War Cycle: The Guns of August, the Tanks of September, the Missiles of October. Something important happened during the Cuban Missile Crisis in October 1962 that has not been fully realized in what I have read. We broke the historical generational war cycle. The time between the end of WWI and WWII was just under 21 years.

- ✓ Montross titled the chapter about the beginning of World War II, “The Resumption in 1939” in his *magnum opus*, War Through the Ages (3rd Ed., 1960) reflecting the idea that WWII was simply a continuation of WWI with a new actor, Japan, added.

The time from the end of WWII to the Cuban Missile Crisis was just over 17 years. By backing away from the brink, both sides broke the generational cycle of industrial warfare that was (by all projections) going to doom or significantly damage a nascent global civilization.

Given another half century, the forces in play dissolved, diffused, the energy flowed away in other directions, our trajectory changed, our world survived, but not necessarily as a better place. The criticism of this might be that *two occurrences do not a cycle make* (similar to: “Three writers do not a generation make.” – Gregory Corso), but the world might not have survived a third or fourth occurrence to confirm that a cycle does exist! If you were on a planet and it suddenly

became cold, you nearly died, then it became warm again, then cold again and you survived perhaps a little better, you'd be justified in projecting and preparing for a third period of cold expected at a specific future time, based on two experiences. You wouldn't wait to find out.

Elizabeth Stephens: *Paul, did you build an atomic bomb?*

Paul Stephens: *Only a little one.*

Paul Stephens: *I never thought I'd say this to anybody, but I got to go get the atomic bomb out of the car.*

Dr. John Matthewson: *You people really live in your own world, don't you?*

Lt. Colonel Conroy: *Well, we don't have the luxury of living in yours.*

[Paul is sitting on the floor with the atomic bomb on his lap, he is surrounded by FBI snipers]

Dr. John Matthewson: *Now what do you say we take it all apart... before everybody goes crazy?*

Paul Stephens: *No, I'm sorry. I can't do that right now.*

Dr. John Matthewson: *This isn't accomplishing anything.*

Paul Stephens: *Sure, it is.*

Dr. John Matthewson: *What?*

Paul Stephens: *Deterrence.*

Dr. John Matthewson: *Deterrence?*

Paul Stephens: *Yeah, you know. Like when each side thinks... that the other guy is going to blow everybody up. It's called mutually assured destruction.*

Dr. John Matthewson: *Yeah, I know what it's called.*

Paul Stephens: *Well, it's working, isn't it?*

Dr. John Matthewson: *How do you mean?*

Paul Stephens: *I'm still alive, aren't I?*

Dr. John Matthewson: *And since you all like scenarios so much... I've got one for you. It's called a little game of chance. I'll bet you that I can turn this key... and blow us all to hell... even after you shoot me. And you're gonna have to shoot me, OK? Everybody's problems all solved... in one millionth of a second. Now... who wants to play?*

Lt. Colonel Conroy: *You mean I'm gonna die because some asshole didn't bring a pair of pliers?*

– The Manhattan Project (1986)

Endnotes.

¹ **Citation:** “Who else could top this list more convincingly than humans? They defeated the Borg. They fought the Klingons into submission. They sent the Dominion back where they came from. And all the while, they did it while insisting to their enemies that they were only interested in peace, exploration and a nice cup of tea (Earl Grey, hot). There isn't a quadrant in the galaxy that's pleased to see a human turn up. And if nothing else, the Mirror Universe first ('Mirror, Mirror,' TOS 2.10) shows us that humanity has the potential to conquer the galaxy if only they get riled enough. No wonder the Vulcans spent so long trying to keep us down. It's the only logical response when faced with a race with so much destructive potential.” *Id.*

² **Commentary:** This is the same problem anarchists have: For every evil imagined or assigned to the state, an equally evil condition is evident in the absence of the state. Anarchists don't need to be convinced that anarchy is better than the state, but the rest of us do, and anarchist violence tends to highlight the need for a state to maintain order, e.g., the attempted assassination of Henry Clay Frick in 1892 by anarchist leader Alexander Berkman.

- ✓ The problem with Anarchist movements is that it is very easy for the opposition to argue or construct an image that they are a threat to civilization. To the audience, it seems as though they want to throw everything away, they seem to criticize everything the audience knows and perhaps loves. We all want small changes to this or that, but few want to toss everything out and go back to the trees, or start over again.

³ Citation: "...the fact that in America, you and I would had to have worn fedoras and suits on a hot summer days. Thank god that's gone, but something else that left was the sense that you put speech in its Sunday best. All of us nowadays at least fake it to an extent, but we could have predicted that somebody would come along who really just didn't bother to do anything but talk, rather than speak, and even become President of the United States. I don't think that Trump is going to be last in that regard." – John McWhorter, MSNBC 11th Hour, September 15, 2017.

⁴ Citation: Jurmain, Nelson & Turnbaugh, Understanding Physical Anthropology and Archeology, 3rd Ed., 1987.

⁵ Citation: Dupuy & Dupuy, Encyclopedia of Military History (2nd Rev. Ed., 1986); Wikipedia article titled "Sword" puts the date at 1600 B.C.

- ✓ A March 11, 2020 video posted by Pete Kelly "BREAKING NEWS – 'Oldest Sword In The World' Discovered // Aslantepe // Bronze Age Weaponry," announced the discovery of a Bronze Age sword made about 3,000 B.C., possibly at Aslantepe, housed in a collection of medieval swords at a monastery in Venice. The Assyrians have long been credited with the early adoption, if not invention, of the sword, but the video notes that the Assyrians attacked Aslantepe in Turkey. However, focus on the earliest invention of the sword is in the area of Aslantepe which had some of the most advanced metallurgy of the time.

⁶ Commentary: The argument might be that we have simply traded one bad for another ill, probably people drink less alcohol now, maybe we eat better foods now, but we also smoke and do less physical labor as a civilization.

- ✓ "Every age, every culture, every custom and tradition has its own character, its own weakness and its own strength, it's beauties and ugliness; accepts certain sufferings as matters of course, puts up patiently with certain evils." – Hermann Hesse, Steppenwolf (1927) (see full feature quote, top 4 Culture, p. 404, *supra*).
- ✓ See also 'whac-a-mole' discussion. *Id.*

⁷ Commentary: My first nuclear war movie was shown in school. I remember it was deemed so controversial, so potentially disturbing that they sent home permission slips for parents to sign. My mother, the pacifist, gladly signed the slip (I may remember this as a rite of passage that I was old enough now); about half the class got out early that day or went to study hall, I don't remember. The movie I remember was a Japanese-made animation of the morning of the bombing of Hiroshima that showed people melting like ice, instead of the flash vaporization of later movies like the Day After. I think that it must have been in my 6th or 7th grade, I just don't remember where I was when I saw it. It certainly was before I saw any nuclear war movies on television, including Damnation Alley (1976, and Twilight's Last Gleaming, 1977) both of which I must have seen later on TV around 1981-83.

- ✓ I definitely did not see Damnation Alley in the theatres in 1977 (I didn't see anything in the theatres in 1977, I assure you), so I must have seen the network TV premier (altered, reedited) version in June 1983.

⁸ Citation: "Cyanide capsules are easy to make and reliably lethal. They have been used for murder, executions and suicides and as a trope in popular culture. Potassium cyanide is easy to obtain, store, transport, conceal and unobtrusively self-administer. Cyanide ends life by arresting cellular metabolism by preventing hemoglobin from transporting oxygen. Thus, it causes a form of chemical asphyxiation. The public imagination of military cyanide suicide capsules is informed by movies such as *Skyfall* (a James Bond movie that showed a malfunctioning tooth capsule) and *Get Smart* (that used a suicide pill for a gag line).

The history of the use of suicide capsules by the armed forces or intelligence agencies is murky but suggestive. Heinrich Himmler, a senior Nazi commander, used a cyanide capsule to commit suicide upon his arrest. Hermann Göring, another Nazi official, took cyanide shortly before he was to be executed at Nuremberg. A Flight Surgeon gave the pilot of the Enola Gay cyanide capsules to distribute to the crew in the event they crash-landed in Japan after dropping the atomic bomb on Hiroshima. Washington DC's spy museum displays CIA Cold War era eyeglasses containing a cyanide pellet. Concerns about cyanide gas accidentally escaping inside the cockpit or flight-suit of spy plane pilots led the CIA to develop a fish-based neurotoxin to be self-injected with a needle. Such a device was concealed in a coin given to CIA pilot Francis Gary Powers for his 1960 U2 spy flight over the Soviet Union. If captured, as he was, Powers had been instructed to cooperate while maintaining the dignity of his office. Although some criticized Powers for not taking his life, the turbulent high altitude destruction of his aircraft and prompt capture made it unlikely that he could have used the suicide device even if [he] had chosen to do so. ...

North Korean agents and Tamil Tigers have also been known to have and used cyanide capsules. The United States government denies that suicide pills are provided to soldiers faced with capture by ISIS." – Steven H. Miles, M.D., "Military Suicide Capsules and Medical Ethics," Bioethics.net, March 21, 2016 (emphasis in original).

1 Combat – The Come As You Are Party

⁹ Commentary: The scientific-sounding dialogue is kind of corny, but it gets the central point across and is critical to set the stage for the rest of the movie – that the radiation from the Northern Hemisphere war is spreading south.

¹⁰ Citation & Commentary: The opening scenes of *The Book of Eli* (2010), set decades after the nuclear holocaust, features discovery of an apparent isolated survivor suicide. A later scene also features human cannibalism.

- ✓ I enjoyed *The Book of Eli* (2010). It follows the usual post-apocalyptic formula – it is a fight between the good guys and the bad guys over who will control reemerging civilization (i.e. how are we going to avoid making the same mistakes again?) – but *The Book of Eli* is clever, creative within the genre framework, and restrained. Much of the movie is like a Western, the scene where the bad guy tries to shoot Eli and cannot kill him even at close range in daylight reminded me of the tub scene in *High Plains Drifter* (1973).

¹¹ Commentary: The population of Australia in 1959 appears to have been about 10 million; it was at 22 million in 2009. Source, ChartsBin (<http://chartsbin.com/view/eoo>), “Historical Population of Australia, 1788 to Future.”

¹² Commentary: A favorite Far Side comic, cows are in the house, the phone is ringing. One cow says, “Well there it goes again... And we just sit here without opposable thumbs.”

¹³ Commentary & Citation: “Perhaps they’d come upon another expanding civilization and encounter beings previously known only from their radio transmissions. Star wars are unlikely. One civilization certainly would be far more advanced than the other. It would be no contest.” – Carl Sagan, *Cosmos*, Episode 12 (see top of 4 Expansion, p. 920, *supra*, for full feature quote).

- ✓ The *Cosmos* series was, of course, pro-empiricism and anti-Cold War, and as such, it is understandable that Carl Sagan and Ann Druyan (and Norman Spinrad) were probably appalled by the *Star Wars* movies. Thus, this bit of narrative (and his later book/movie Contact) were intended to discourage *Star Wars*-like visions of galactic civilization. Yet, when I re-watched the episode a generation later, I was very disappointed at the flippant nature of his comment and failure to provide any reasonable basis for the assumption that one civilization would be far more advanced than the other – and if so, why they would not crush the other civilization: Though I am sure Carl Sagan would consider that unreasonable for a scientifically-enlightened species, GGDM doesn’t make that assumption. Did Carl Sagan know something he couldn’t tell us? Because, if not, he was making affirmative statements about something he could not possibly know for certain. In that sense then, Carl Sagan is both human and no different than the clergy and bible beaters.
- ✓ “The Pythagoreans and their successors held the peculiar notion that the Earth was tainted, somehow nasty while the heavens were pristine and divine.” – Carl Sagan, *Cosmos*, Episode 7); angelic traits and enlightenment are being assigned by Carl Sagan to residents of the far away heavens by virtue of their positions.

¹⁴ Commentary: *Hell in the Pacific* was one of the big losers of 1968 because of anti-Japanese prejudice and/or lack of dialogue and action which the Vietnam Era, Cold War audience either didn’t comprehend or wasn’t in the mood to watch. It followed another movie of 1968, *2001: A Space Odyssey*, which also had extended opening scenes (and other long sequences) without either humans or dialogue, and which was doing so poorly that it was nearly pulled from theatres after three weeks, but then began to be appreciated as art. *Enemy Mine*, like its predecessor *Hell in the Pacific*, was also a box office failure, even without Americans vs. Japanese. But the former Soviet public was in the mood to watch and appreciate the movie, it was the first big Western sci-fi import film success.

¹⁵ Commentary: Ms. Druyan then suggests that the explosive progress of science is due to the end of the Cold War.

- ✓ At the end of the Cold War, people thought, ‘well we survived that and now it’s over,’ the world moves on, they wanted to forget the Cold War, forget the threat of global thermonuclear annihilation and bask in the glow of the technologies sprung from the Cold War. This was *the mistake*, history is never ‘over,’ it was the same mistake made after World War I; expansionist militant ultra-nationalism ideologies were not ‘over’ or ‘history’ then (or now) as subsequent history demonstrated. The world does indeed move on, whether we want it to or not, dragging chains behind like Marley’s ghost in A Christmas Carol (1843).

¹⁶ Citation: “‘Happy new year, everybody!’ the host joked. ‘We have two maniacs with nuclear warheads bragging about who has the bigger button.’” – Jimmy Kimmel, as quoted in *The Guardian*, January 4, 2018.

¹⁷ Citation: This identical paragraph was also in the 2nd Edition published in 1946 (p. 948), so Montross had or picked up on this idea between 1945 and 1946. This must have been discussed in the intellectual-social circles.

¹⁸ Citation: cf. the Scouting activation of the Expansion Power, Through the Never, 3 Expansion, p. 907, *supra*.

¹⁹ Commentary: The section title is in reference to the WWE double-diving knee drop aerial move, not to the medieval monasteries in Greece.

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*See Appendix CEX – Combat Example
See Appendix CST – Combat Shifts & Situations Tables*

“A’ warring for the heavens!”

– Megadeth, “Symphony of Destruction” (1992)

“The fact is, even in the old days, fully loaded, crewed and armed, the Andromeda was only an even match for a Pyrian Torchship. In case anyone hasn’t noticed, we’re not fully loaded, armed, or crewed, and the Pyrians have had three centuries to improve their technology.”

– Dylan Hunt, Andromeda, “Pitiless as the Sun” (2001)

Era Warships: Warships are classified by Era; that is, there are 1st Era Warships, 2nd Era Warships, and 3rd Era Warships. The Era Warship represents the best of all of the technology and engineering of its Era. Positions, may of course, improve Era warships by use of permanent or expendable Enhancement Technologies,¹ and small improvements by use of Continuous Operational Technologies developed during the Era, such that, with skill and luck (see Army of Light, 2 Colleges, p. 479, *supra*), a 1st Era Warship might give a 2nd Era Warship a good fight.

- ✓ The Babylon 5 television series provides a clear example of ships from three Eras. During the Earth-Minbari War, the damaged heavy cruiser EAS Lexington – a basic 1st Era Warship of Earth Force – destroyed the Minbari warcruiser Black Star – a 2nd Era Warship – by luring them into an ambush of nuclear mines. Some of the stiff-necked Minbari took exception that the Earth Force ship didn’t defeat the Black Star in a fair fight.² The 3rd Era Warships of Babylon 5 belong to the Shadows and Vorlons, the last remaining first races. One would assume that Minbari ships have as much chance against Shadow or Vorlon warships as Earth Force warships had against Minbari warships. Centauri and Narn warships are larger, advanced 1st Era Ships.

A historical example of earlier Era warships defeating technologically superior enemies is the Battle of Campeche in 1843. During that battle, two sailing ships, a Sloop-of-War and a Brig of the Republic of Texas Navy, defeated two steam warships of the Mexican Navy, a wooden-hulled ironclad and an iron-hulled paddle-wheeler that were manufactured by Britain and crewed by British sailors. It is the only known battle where sailing ships defeated steam ships.

- ✓ On the flip side, 16 years earlier in 1827, a British-French-Russian allied naval force of 22 warships defeated a poorly-armed Ottoman-Egyptian fleet of 78 warships (plus fire ships and smaller boats) in close range combat at the strange Battle of Navarino Bay – after the allied fleet deliberately sailed into an obvious classic trap and dropped anchor close in front of the enemy ships and flanking shore batteries – sinking two-thirds of the Ottoman and Egyptian ships in a couple of hours while silencing the shore guns. This was the last massive fleet battle between sailing ships. Effective numbers of the Ottoman-Egyptian fleet are uncertain, but regardless, the battle wasn’t close, they were very badly mauled.³
- **First Era Warship:** The 1st Era Warship Patent is an Existential Patent which positions may obtain before the game begins. Whether that is a wise choice or not depends on subsequent events; everyone wants ‘peace in their time,’ players may agree on a utopian peaceful game of exploration, but if the other guy has a warship, no matter what his intentions, you have to

have one too, just to be sure. Warship Patents are Physical Item Technologies (PIT) as they create the basic units of the game. See View from a Height, 1 Construction, p. 660, and Physical Item Technologies and Technological Devices, 2 Patents, pp. 739, 741, *supra*, regarding game units. Each position will need to develop their own PIT Patent for 2nd and 3rd Era Warships, pursuant to the rules of this section and the applicable *Uber Alles*.

- ✓ Completion of the 1st Era Warship Existential Patent allows a position to build warships at any sovereign colony that has an Orbital Shipyard, for 30 RPs.
- Ship of the Line: Warships produced by use of the Era Warship Patents, are assumed to be the average, middling ships of the line of the Era.
 - ✓ The term “ships of the line” dates from 1706 according to Merriam-Webster online dictionary; an oddly late development in the Age of Sail, classically 1571 to 1862.

Positions are free to develop Patents for specific classes of ships, for example, Battle Cruisers, Dreadnoughts,⁴ Death Stars, Warstars, Powerstars if you like, SDFs, Heavy Cruisers, Missile Ships (see 4 Carriers & Fighters, p. 1081, *infra*), Juggernauts, Birds of Prey, Berserkers, Sentinels, Guardians, Hulkers, Flag Ships, Magog Assault Ships, Gosroth Patrol Ships, War Rigs, whatever suits the tactical, economic, and strategic needs (and sounds cool).

- Magnitude of Eras: The difference between warships of successive Eras is not just a slight or a linear improvement in capabilities, rather, the difference between a 1st Era Warship and a 2nd Era Warship is a systemic order of magnitude,⁵ progress in warship technology of each Era is near exponential. Second and later Era Warships may gain new dimensions of capability over their predecessors due to the *Uber Alles* of their Era (see 2 Eras, p. 767, *supra*).
 - ✓ A distinction can easily be made by historical example. In 1853, a Russian fleet armed with Paixhans guns – the first naval gun to fire flat trajectory explosive shells, annihilated an Ottoman fleet at the Battle of Sinop, 30 years after the gun was invented, dispelling all remaining doubts. Only the Russian, French, and United States navies had Paixhans guns on ships at that time, Commodore Perry had Paixhans guns on the expedition to Japan in 1853. After Sinop, the British and other navies were in a race to ‘up-gun’ their ships; in GGDM terms, this would be an Enhancement Technology. It was the later addition of steam power (there were a few armed steamers at Sinop), plus iron armor (defense against Paixhans shells) and the invention of the gun turret (independently in Britain and the US) that completed the 60-year evolution to the metal, turreted, steampowered, oceangoing warships of WWI (2nd Era Warships).
 - ✓ The HMS Dreadnought was launched in 1906, the first modern battleship, which gave its name to a class of similar ships built between 1906 and 1920. The HMS Dreadnought made all other ships – retroactively called pre-Dreadnoughts (ships built between 1880 and 1905) – instantly obsolete. Eventually the original term battleship reasserted itself as the name for the largest capital warships in the naval lexicon.

Warship progression in the last two centuries is perhaps one of the most obvious examples of Era differences. The fleets that fought at Jutland in 1916 would have stood little chance against the fleets that fought at Midway in 1942 or later. The Era difference provides the stark dramatic choice in the 1980 movie, *The Final Countdown*: The USS *Nimitz* is pulled back in time to the day before the Pearl Harbor attack,⁶ the captain must decide whether his duty to defend the United States exceeds the possible historical and temporal calamity of the

Japanese attack fleet being smashed (there would be little contest) by the 100,000 tonnes nuclear-powered, missile-armed, supercarrier from the future.

- ✓ “A range of 4,000 yards had been considered long at Tsushima...” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 712 (see EN 4, p. 966-967, *ut infra*).

In a government-made video available on YouTube, produced around 1960, the 122mm recoilless Davy Crockett anti-tank gun fired a very small yield nuclear warhead at a target 4 kilometers away (“M388 Davy Crockett Operational Test,” posted by jaglavaksoldier). A single Davy Crockett would defeat a ship at the Battle of Tsushima, 1905. Mike drop.

- ✓ In Science Fiction: The Andromeda television series had the most integrated, advanced technology and is perhaps one of the better mainline sci-fi examples of 3rd Era Warships, alongside the Vorlons and Shadows in Babylon 5. I don’t know where the Death Star stands in terms of Eras in GGDM, it was huge, but didn’t seem greatly advanced – other than its power core – compared to the technologies displayed in later sci-fi settings; I am sure the Death Star and Battlestar Galactica would easily both lose to the Andromeda, or any Shadow or Vorlon ship. Or even a Borg Cube. There are many of these cross-universe battle videos, comparisons and discussions on YouTube, it’s a nerd sub-genre that people argue about in the comments sections.
- Era Inflation: The cost of warships will also increase by magnitudes by Era progression:
 - ✓ For example, suppose a Corvette model of the 1st Era Warship cost 16 RPs to construct, the comparable 2nd Era Warship would cost 25 RPs and the 3rd Era version should cost 36 RPs. That is, the 1st Era Matrix is 4x4 and has spaces for 16 Applications (see #IGY, 1 Eras, p. 757, *supra*), the 2nd Era Matrix is 5x5 and the 3rd Era Matrix is 6x6 with space for 36 Applications. Alternatively, if the cost is based on connections in each Era, the 1st Era Warship would cost 42 RPs to build! *Id.*

Destruction of a superior Era warship by a lower Era warship can be a form of economic victory. In 1916, the German Empire claimed victory at the Battle of Jutland on the basis that they lost less ships and men than the British (in tonnage sunk); despite this claim, the German High Seas Fleet remained bottled up in port, and never challenged the British again. The Germans instead changed to unrestricted submarine warfare... See also ship building rate discussion, Shipbuilding and Strategic Shipyarding 3 Construction, pp. 675-676, *supra*.

- ✓ “Paradoxically, the Germans had invested so much into the capital ships that they had essentially become too valuable to risk and thus, ineffective.” – Narrator, “The Battle of the Barents Sea” (1942), vandpubsell YouTube channel, December 7, 2019.

“Captain Sheridan, this is an emergency transmission. President Clark is dead. He took his own life before we could arrest him. But he left a message on his desk. Two words. ‘Scorched Earth.’ Captain, I believe he’s turned the defense grid toward Earth. We can’t override the systems here. If you don’t stop them, they’ll fire in 10 minutes. Captain, the particle beams on those defense platforms can level 40% of the planet’s surface. You have to stop them before they can fire!”

– Senator Crosby, Babylon 5, “Endgame” (1997)

Colony Defense Bases: Colony Defense Bases are the colony's main and last defense against aliens or enemy warships.⁷ Colony Defense Bases are considered installations, and are built on sovereign colonies by activation of the Construction Power for the purpose of Colony Enhancement. There are three Defense Base Existential Patents available: Ground Defense Base, Orbital Defense Base, and System Defense Base (detailed previously in 2 Construction, p. 668, *supra*).

- ✓ Ground Defense Bases are on or under the surface of the colony Planet which limits their effectiveness against warships, but they are important as a defense against Raiders and in Ground Combat.
- ✓ Orbital Defense Bases may/must have some orbital maneuvering capability, but obviously cannot leave the orbit of their colony. They control the planetary approaches.
- ✓ System Defense Bases are huge, heavily armored, imposing, and are placed farther out (perhaps at Lagrange Points⁸) to keep attackers at a safe distance from the colony.

Bases *do not have* Constructural Elements, using their colony's instead, magnifying the effect of an inactive Epistemological Constructural Element at their colony. Defense Bases may receive the benefits of permanent and expendable Enhancements, and new Continuous Operational Technologies improvements, as appropriate. Positions may develop variations and new levels of Defense Bases, and other defenses, by use of Patents. Defense Bases may not initiate combat against either ships or colonies *on other planets*. Though that would be a cool ability....

- ✓ Although Defense Bases are Colony Enhancements, an enhancement to a game unit (see View from a Height, 1 Construction, p. 660, *supra*), they are treated as 'units' in combat; 'units' in combat (or combat unit) is not exactly the same as a game unit; a *combat unit* is one capable of combat interaction with the enemy, which is not the same as initiate combat. Thus, Defense Bases are 'combat units' not capable of initiating combat. Not all 'combat units' have their own Constructural Elements.

However, per the Babylon 5 "Endgame" quote above (and a few score other sci-fi stories), it may be possible for at least Orbital Defense Bases to join or initiate combat against **alien colonies** *on the surface of their planet* or in Orbital Cities. In fact, this is similar to a concern holding up construction of a proposed asteroid defense system on Earth, it is called the Deflection Dilemma (see 2 Construction, p. 669, *supra*). Participants can address these issues in the game story.

- **Colony Defense Era Upgrade:** All three types of Defense Bases are available to positions in the 1st Era through Existential Patents. Unlike warships, Defense Bases do not have an 'Era progression' arc (that is, no PIT Patent is needed for 2nd Era Ground Base, etc., positions only need one of each Defense Base Patent), and would soon become obsolete, except that, upon reaching the next Era, *existing* Defense Bases can be upgraded to the position's current Era by use of an activation of the Construction Power for the purpose of Colony Defense Era Upgrade using one Act and one Scene on the sovereign colony where the upgrade occurs.
 - ✓ Colony Defense Era Upgrade never includes or effects Fighter Complements, see Next Generation Fighters, 1 Carriers & Fighters, p. 1048, *infra*.
 - ✓ The cost of upgrading a colony's Defense Bases one Era is 25% of the collective cost of building all of the Defense Bases originally (fractions truncated).

The game can be adjusted to suit the players or through collective experience. The primary aspect to understand is for each colony to be upgraded, the cost is an Act, Scene, Power Ac-

tivation and RPs. For a position with a large number of colonies and/or heavily defended colonies, this will be costly. Choices will need to be made against other pressing needs, risks assessed, some may be left behind. The percentage can be adjusted between 10% and 50% of the original collective cost of the Defense Bases – either because participants want a more or less defensive game or because play experience (*the crucial element lacking during this design process*) demonstrates that the base 25% cost is either too high or low.

- ✓ A Defense is only as strong as its weakest point; therefore, all of the colony's Defense Bases must be upgraded to the next Era, before any of the colony's Defense Bases can gain the benefit of the next Era in combat.
- ✓ Upgrading a Colony's Defense Bases may be done in installments with several activations of the Construction Power for that purpose, but no benefit is received until the upgrade has been completed.

The primary problem with Colony Defense Era Upgrade is that it is a construction project, and thus location specific, with local GDP limitations, and requiring activations of the Construction Power on specific colonies using Scenes. There are no shortcuts. Thus, it is most efficient to complete upgrades with one Power Activation.

- ✓ Colony Defenses cannot be upgraded two Eras with a single activation of the Construction Power for the purpose of Colony Defense Era Upgrade. Thus, colonies that have 1st Era Defenses will need two *completed upgrades* to be brought up to the 3rd Era when technology has progressed to the 3rd Era.

GGDM design is built throughout on a balancing system of two-tiered asymmetrical relationships, cf. warship and defense base era progression.

- New Era Bases: New Defense Bases may be constructed at any eligible colony *after* a colony defense has progressed to the next Era; these Bases will cost the same as their predecessors, but the additional cost must be paid to upgrade them when upgrading the colony defenses (i.e. no free upgrade). Defense Bases built in the new Era will not receive any benefits of the new Era in combat until the entire Era upgrade is completed at their colony.

“With possible exception of the Crimean War, the Gallipoli expedition was the most poorly mounted and ineptly controlled operation in modern British military history. Surprise had been lost even before the inception of the plan, for a premature bombardment of the outer Dardanelles defenses early in the war (November, 1914) had awakened both Turks and Germans to the danger.

Under Liman von Sanders' competent direction the fortifications had been vastly strengthened. The prize was a rich one, for success would mean keeping Russia in the war and probably knocking Turkey out; its attainment should have been confided in a single commander, provided with the best of means. Instead, with improvised organizations, both naval and army commanders worked independently. ...

Back in the war office, Kitchener failed to assure compliance with logistical, strategic and tactical fundamentals of mounting an expeditionary force. And he refused Hamilton's requests for adequate forces and staff officers.”

– Dupuy & Dupuy, Encyclopedia of Military History (2nd Rev. Ed., 1986), p. 955

Defending the Obsolete: ‘Obsolete’ defenses are not automatically vulnerable to attack, even by ships of a later Era. There are many political, economic and military factors that might also affect the outcome.

The Ottoman defenses at the Dardanelles were mostly obsolete, with only 14% of the guns of newer design, limited ammunition, and somewhat inadequate protection and night illumination. The Inner Defenses were the most outdated and of limited range. However, the attacking Allied naval forces were a mixture of new and obsolete ships as well and the minesweepers were civilian trawlers. The preemptive attack in November 1914 alerted the Ottomans to the threat and they added more minefields, brought up more ammo and field guns and tried to upgrade their protection.

More Allied attacks in February and March 1915 failed to clear mines or meaningfully damage the defenses with indirect naval gunfire. On March 18, 1915, the Allied naval forces made an all-out final attack on the Ottoman shore defenses, but were repulsed by several factors, including the combination of shore guns fire, underwater mines which struck several ships that turned starboard (the defenders had noticed the pattern in previous attacks), the inability to clear mines in front of the advance, and some timidity by the Allied naval commander. After the attack, the Ottomans retained several layers of naval mines the Allies had not reached, and defenses which had not been engaged at all.

The allies called for ground troops which landed in two places on April 25, 1915 under mostly ineffective naval gunfire, while between April and May 1915, three Allied battleships stationed off the Gallipoli beaches were sunk by torpedoes, and the permanent fire support of the battleships was lost when the ships withdrew. As history records, the campaign of Gallipoli to flank the fortifications on the land side, became an infamous debacle, with the Allies withdrawing after ten months, with 200,000+ dead and 110,000 evacuated as sick.

- ✓ Information and specific figures taken from Wikipedia articles, “Gallipoli Campaign” and “Naval operations in the Dardanelles Campaign,” on December 26, 2018, though I am, of course, familiar with the campaign from several history books of my youth. This is generally true of most subjects on which I comment and cite to Wikipedia articles, I possess a pre-Internet and non-Wikipedia base of learning against which Wikipedia serves as a refresher and a source of specific facts and figures.
- ✓ The attempted Kriegsmarine attack on Oslo in 1940 bears some similarity to the British attempt to force the Dardanelles in 1915, excepting that the Germans execution all around was far better than the British, they had actual surprise, and air power made a huge difference in the outcome.

“He who defends everything defends nothing” – Frederick the Great

Defending the Nothingness: The weakness of a chain is its weakest link. Colony Defense Bases are a *cordon defense*.

- ✓ “From such a disposition, consisting of several detached posts, to the cordon system, there is still certainly a considerable step, but it is one which generals, nevertheless, often take without being aware of it, being drawn on from one step to another. First, the covering and the possession of the country is the object of the dispersion; after-

wards it is the security of the army itself. Every commander of a post calculates the advantage which may be derived from this or that point connected with the approach to his position on the right or the left, and thus the whole progresses insensibly from one degree of subdivision to another. A cordon war, therefore, carried on by the principal force of an army, is not to be considered a form of war designedly chosen with a view to stopping every blow which the enemy's forces might attempt, but a situation which the army is drawn into in the pursuit of a very different object, namely, the holding and covering the country against an enemy who has no decisive undertaking in view." – Carl von Clausewitz, On War (1832).

- See also Areal Phenomena, 2 Carriers & Fighters, p. 1062, Under Your Desk, 4 Carriers & Fighters, p. 1085, *infra*.

In military matters, half-measures are rarely effective. There may be cases where even funding a basic bare defense force is of little use. Some GGDM participants may pin their hopes on non-military survival, seeding space, racing ahead in non-military technologies, for example.

- ✓ 1864 and April 9th: The situation in the Second Schleswig War of 1864 (subject of the Danish television series 1864 (2014)) and the German invasion of Denmark on April 9, 1940 (subject of the Danish movie, April 9th (2015)), separated by three quarters of a century, is little changed. In 1864, in addition to outnumbering the Danish forces, the Prussians were using breach-loading rifles which allowed them to reload while laying prone, whereas the Danish forces were still using muzzle-loading rifles which required them to stand while reloading. Thus, the Prussians had both a technological and numerical superiority on land (the Danes had naval superiority), while the defenders were patriotic and brave, they were doomed by leadership and equipment failures, and by population and industry disparity. In the movie April 9th, a platoon of Danish troops on bicycles, with rifles and a light machinegun, supported a unit on motorcycles, with a couple of light machineguns and a 20mm sidecar mounted gun. The Danish troops had bolt action rifles and limited ammunition, and apparently no grenades. They were facing German troops with armored cars, motorized infantry, and a Panzer II tank, it is likely that most of the German troops were also carrying bolt action rifles in early 1940, the switch to assault rifles did not occur until 1941.

Although the following is about Holland *in a different era*, Lynn Montross makes the point well:

- ✓ “But genius alone could not atone for the inferiority of Dutch ships, or the penny-wise policies of the merchants ruling the republic. Although Blake and Monk were beaten twice and severely handled even in their four victories, England was able to impose humiliating terms of peace. The temporary ruin of her commerce and fisheries taught Holland a lesson which led to reforms before the struggle was resumed twelve years later. Nevertheless, De Ruyter labored under handicaps which he overcame by sheer skill and audacity.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 330.
- ✓ And in early 1940: “But it is hardly necessary to add that the soldier is not the unit of today's warfare – In Poland the German advantage in numbers was less than two-to-one, as compared to a superiority of perhaps thirty-to-one in mechanical horsepower. The French and British had but three armored and three mechanized divisions in the spring of 1940 to oppose twelve German armored divisions, each with two and a half

times as many tanks. A much greater ratio of superiority was enjoyed by Hitler's mechanized units and air squadrons. Even in such defensive weapons as antitank and antiaircraft guns the Germans held an enormous advantage over armies which relied upon a defensive strategy. Altogether, it seems safe to assume that the Wehrmacht and Luftwaffe began the campaign with material odds of at least five-to-one in their favor." – Lynn Montross, *War Through the Ages* (2nd Ed., 1946), p. 796 (this paragraph appears to have been edited out of the 3rd Ed., 1960).

- ✓ *Speed advantage alone should not be underestimated*, speed kills quickly: "It has been suggested that if the generalissimo had been ready with a central mass of manoeuvre, he might have stopped the foe at Sedan. But the speed of enemy motorized advances, as compared to Allied movements, makes this hypothesis doubtful. It must also be remembered that the defenders were at a tragic disadvantage in tanks, planes and artillery. Above all, time had beaten France – the lost months before the war, the lost days of the early phase, and now the lost hours against a foe who did not lose minutes." – Lynn Montross, *War Through the Ages* (2nd Ed., 1946), p. 801 (rewritten section appears on p. 811 in the 3rd Ed., 1960).

This is a professional journalist and historian's polite way of saying the Germans ran circles around the French in 1940. The French plans still relied on timetables set for railway mobilization and supply; the Germans had not only mechanized/motorized their forces, but also had air superiority to bomb railroad bridges and stations to disrupt French national mobilization.

- ✓ Cordon colony defenses are defeated in detail by concentration of force; the attacking fleet concentrates against one sector at a time, eventually eliminating all Defense Bases.

Master: *What do you think is the best coastal defense?*

Student: *Building forts along the country's shores and equipping them with modern cannons.*

Master: *Wrong! Japan is surrounded by seas. You can't keep them out by building forts. Fool.*

Student: *Then let me hear your thoughts, what is the best defense?*

Master: *The Black Ships. [Referring to Commodore Perry's expedition specifically, and Western ships generally]*

Student: *What?*

Master: *Repel those who come by sea in the sea. Japan should build her own black ships and form a navy.*

Master: *By knowing their mechanism and technology, there is no way we cannot make what the Westerners make. That includes the Black Ships. ... We should use him [Napoleon Bonaparte] as a role model and educate ourselves in Western arithmetic, science, military and medicine. And those who want to shoot cannons can go elsewhere.*

Student: *I get it, that's what we lack. More than the number and skill of shooting cannons, but the knowledge base or knowledge of foreigners.*

– dialogue from the Japanese-language tiaga drama series (with English subtitles) *Yae no Sakura* (2013) in Episode 1⁹

Islands of Resistance: Colony defenses are ‘islands of resistance’ on the strategic level, a Besieged Colony is basically a failed colony attack, and unconquered colonies continue to pump out resources and ships for the enemy; bypassed colonies do so in your rear.

Ongoing Ground Combats, Pacified or Converted colonies with insurgencies (see Green Zone, 2 Order, p. 541, *supra*, and Fabrication of Order, 6 Combat, p. 1022, *infra*) are like the ruined villages of the Spanish Civil War or the Eastern Front in World War II, irritating and sniping:

- ✓ “This precept was taught to recent civilians – Spanish peasants and workers who had the courage to turn ruined villages into improvised fortresses after the mechanized forces swept past. Soon the attackers had to send back strong detachments to cope with snipers preying upon their flanks and rear. One such strongpoint could be reduced without too much cost; but when every village became, in military jargon, an ‘island of resistance,’ the attack was bled of its impetus by the detachments needed to battle their way from house to house in bitter street fighting. Neither tanks nor armored cars were of much use in such operations, and the assailants usually suffered heavier losses than the defenders.” – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), p. 775.

When considering the cost of warships vs. colony defenses, players should consider that colony defenses are strategically static, though necessary, whereas warships are mobile, can disperse, concentrate and maneuver, and represent the ability to project power to the enemy areas. This is the classic defense vs. power projection problem.

“To ravage, to slaughter, to usurp under false titles, they call empire; and where they make a desert, they call it peace.”

– Publius (or Gaius) Cornelius Tacitus on the Carthaginian Peace

Combat Categories: There are six types of combat: Ship Combat, Colony Combat, Orbital Bombardment, Ground Combat, Colony Pacification Combat and Raid/Strike Combat. Any Combat Power Activation that allows for the initiation of Combat will, under qualifying circumstances, allow the initiation of any of these types of combat, which location, target position and/or colony, and type must be specified in the Regular Turn Actions (except Initiate Combat), along with all participating attacking units. Additionally, first round combat orders must be included.

- **99 Luft Balloons:** Ship Combats are between ships of at least two sides in *system space*; at least one participant in a Ship Combat must be able to initiate combat in system space. These are the classic naval combats from short skirmishes, ship duels, to great fleet battles. A Ship Combat is not a direct attack on any colony, thus Defense Bases may not participate in a Ship Combat, but some units (e.g., Fighters¹⁰) based on colonies may initiate or join Ship Combat. A Ship Combat ends when all of the units of one or both sides have been destroyed or have retreated (this could occur simultaneously in some instances).
 - ✓ During Ship Combats, each ship uses its own Epistemological Constructural Element status to determine whether or not it can receive the effects of Enlightenment during the combat (see Skool Tyme, 2 Constructural Elements, p. 190, *supra*). This may have the effect of reducing the use of Enlightenment as applicable during the combat

and/or channeling application of Enlightenment to certain units (which will perform better or even heroically).

See definition of warship discussion, Warships, 1 Combat, p. 941, *supra*. Per the previous discussion in The FTL Missile, 2 Movement, p. 849, *supra*, ships in interstellar flight (FTL) cannot be affected, and combat cannot occur during FTL or in interstellar space. Thus, Ship Combats are only fought in system space.

- ✓ All Fighters in GGDM are assumed to be both space fighters and atmospheric fighters (like in most science-fiction television and movies), see Fighters, 1 Carriers & Fighters, p. 1046, *infra*.
 - ✓ Losing a Ship Combat in a system where there is a colony is a Disruption Event at the colony, see Burning Sky, 2 Disruption, p. 275, *supra*.
- **Panic Bells, It's Red Alert:** Units which were victorious in a Ship Combat may immediately initiate an attack of any available type against any colony in the same system unless warships remain in the *system space* that belong to the owner of that colony. A Colony Combat may never be initiated if the colony's owner has warships in the system, *unless all of those warships are currently engaged in other Combats*. The attacker also must have at least one remaining unit that is capable of initiating combat. This follow-through Colony Combat does not require a separate activation of the Combat Power for initiation, it is all the same operation. To attack other ships, however, would require a Combat Activation.
- ✓ Ships that successfully retreat from a Ship Combat must either retreat to a colony (and are located at the planet) or leave the starsystem, see Ship Zipped, 3 Combat, p. 982, *infra*. Other ships may remain in the system that did not join the Ship Combat.
 - ✓ While other alien warships in a system may pledge to defend any colony, for game purposes, only the ships belonging to the owner of the colony can be counted to stop the attack on the colony. If desired, other alien forces or arriving reinforcements can initiate combat against the colony attackers aiding the defense (or not).
- **Something Here from Somewhere Else:** Colony Combat is an attack on a colony by warships (or armed system boats from a tender starship or another colony) with the intent of damaging or subjugating the colony. Defense Bases may not initiate combat against warships. The Colony Combat ends when either the attackers have all retreated or been destroyed, or all colony defenses, except Ground Units (see GROPOS, 4 Combat, p. 985, *infra*) have retreated (i.e. ships) or been destroyed. The defenders in a Colony Combat have no retreat usually, Defense Bases in particular may never retreat, but defending Fighter Components and any ships (*ut infra*) may retreat from the Colony Combat; Fighter Complements may only retreat from a Ship Combat to the colony or a Carrier (thus, effectively, they may not retreat from a Colony Combat at their colony unless to a Carrier or another colony). The attacking warships may end the attack by retreating to system space.
- ✓ If a colony has at least one System Defense Base, *only* System Defense Bases and Colony Fighter Complements may be attacked in the first round of a Colony Combat, and *only* System Defense Bases and Colony Fighter Complements may return fire in the first round of a Colony Combat. System Defense Bases can be defeated in detail.
 - ✓ Ground Defense Bases may not fire until the second round of any Colony Combat, but may execute Close-in Defense fire against Missile and Fighter attacks on them.

They may only be attacked in the first round of a Colony Combat *if there are no Orbital or System Defense Bases*.

- ✓ During a Colony Combat, the status of the Epistemological Constructural Element of the *colony* is used to determine whether or not the colony's Defense Bases and Fighter Complement can benefit from Enlightenment (see Skool Tyme, 2 Constructural Elements, p. 190, *supra*) or NSF acting as Faculties (see The First is Last, 3 Colleges, p. 493, *supra*) during the combat. If the Colony Combat lasts to the next Regular Turn, the owner of the Colony may attempt to reactivate an inactive Epistemological Constructural Element at the colony by Cohering (see 5 Culture, p. 421, *supra*).
- In This Dust That Was a City: Orbital Bombardment is not really a combat, but is listed as a type of combat because it requires the *affirmative activation* of the Combat Power to initiate the ⚡bombardment. Orbital bombardment only lasts one Combat Round, there is no retreat option for either side, and each attacker only gets to fire once at the target planet. Orbital Bombardments may only be commenced on 1) colonies on which only Ground Units remain as defenders or on Conquered Colonies or 2) planets with no colonies. The intent is to kill the population *on the surface* of (i.e. 'de-infestation of the planet') and/or damage the *planet surface* (i.e. 'planet terraforming'). A planet may be Orbital Bombarded any number of times.
 - ✓ Orbital Bombardment Combat always ends after the first Combat Round with the 'retreat' of the attacking units. Orbital Bombardment may be initiated against the same colony multiple times in a Regular Turn by the same units with appropriate Combat Power activations. This is the only instance where a unit is allowed to initiate multiple combats in a Regular Turn when not a follow-on combat (*ut supra*).
 - ✓ Orbital Bombardment cannot be used for, and should not affect, Orbital Cities or any other Orbital Platforms or anything in orbit around the target planet; destruction of unprotected orbital targets can be accomplished by Ship Combat using the civilian target rules, 3 Combat, p. 978, *infra*, or by Strike Combat using Fighters or Ship Missiles, see World in Flames, 4 Carriers & Fighters, p. 1083, *infra*.

If the colony has any Defense Bases, System Boats or Fighter Complements, GGDM *assumes* that they will try to prevent Orbital Bombardment as an existential threat. The attacker would first be required to eliminate the colony's defenses by Ship Combat and/or Colony Combat before Orbital Bombardment.

After the wars, genocide, and pandemics of the 20th century, deaths of millions are no longer impressive to us (e.g., WWII – 75 million dead, 1918 Spanish Flu Pandemic – 17 to 50 million worldwide,¹¹ death toll of the first *two hours* of WWIII – about 300-500 million); science-fiction trope has moved onto billions of deaths and planetary destruction. The Concierge will adjudicate surface damages from Orbital Bombardment, but for guidance, each:

- ✓ 1st Era Warship involved will destroy 3 population factors,
- ✓ 2nd Era Warship involved will destroy 7 population factors, and
- ✓ 3rd Era Warship involved will destroy 12 population factors.
- ✓ Surface installations may be destroyed by Orbital Bombardment as well.
- ✓ There can be, probably will be, collateral damage to other colonies present on a Balkanized planet surface, in addition to environmental damage to the planet.

- ✓ The Maximum Habitability of the Planet will be reduced accordingly for all lost populations, and the Habitability Class will be reduced for (most) other positions by one class for every 20 population destroyed. Orbital Bombardment may trigger multiple Disruption Checks on the Conquered Colony, see Peaches for Mad Molly and Mars Bombing Run, 2 Disruption, pp. 273-274, *supra*.

Obviously, there is no need to commit Enlightenment to the ‘unenlightened’ Orbital Bombardment Combat, as there are no die rolls! ☺ Anyone seeing the planet in the future will be informed that it has been damaged by Orbital Bombardment (like moon craters). Ships that participate in Orbital Bombardment of any (regardless of Native Population Type) have a chance of *apostasy*, see Alieney Apostasy, 3 Disruption, p. 283, *supra*.

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- ✓ “There was a time when people were impressed I had enough firepower to decimate a planet in under 10 minutes. I miss that.” – Rommie (sapient AI holographic ship avatar), Andromeda, “Point of the Spear” (2003).

- And Here Is A Red Balloon: Ground Combat and Colony Pacification Combat will be discussed in the next section. Raid/Strike Combat is discussed in 4 Carriers & Fighters, *supra*.

[After the alien mothership is hit by a nuclear weapon and crashes into the city...]

Elaine: *What... What is it?*

Jarrold: *They're not dead. They're just really, really pissed off.*

– Skyline (2010)

The Bomb: I’ll bet they are, but they (Elaine, Jarrod, and all the other humans in the apartment) should be dead from the nuclear blast (look up the atomic shadows of Hiroshima). Or they will be soon from the radiation if the aliens don’t get them first... They should be permanently blinded too since they were watching the attack (one of them through a telescope who was only temporarily blinded! – bad filmmaking), but that doesn’t matter if they are dead anyway.

Strictly for the purposes of initiating Orbital Bombardment, the Native Population Type on the target colony or Balkanized planet is irrelevant (thus, *apostasy* may be triggered by the Orbital Bombardment of *any* colony, see 3 Disruption, p. 283, *supra*). But here’s the Bomb:

- ✓ Orbital Bombardment of planets with Friendly or Naturalized Colonies will and must have major legitimacy ramifications, *even if they are not the target*. See previous “Supra-Legitimacy” discussions in Type 3 Fundamental Realities, 3 Beginnings, p. 42, Naturalization, 3 Order, p. 557-558, Meta Aspect, 4 Culture, p. 409, and Earthly Entanglement, 2 Government Titles, pp. 586-587, *supra*. The tough question to be answered is whether this will be accepted as a necessary and legitimate use of force?
- ✓ Or alternatively, under what circumstances is bombing your own population or enemy-occupied friendly areas a legitimate use of force? When is collateral damage and risk to your own colony acceptable in Orbital Bombardment of an **alien colony**?
- ✓ In modern combat, aerial and artillery bombardment of occupied areas is accepted as an unfortunate necessity, but what about more extreme situations, for example, would a government ever be justified in detonating a nuclear weapon on its own cities, as in the movies Independence Day (Houston) and Skyline (Los Angeles), or carpet bomb-

ing Manhattan with MOABs (Massive Ordnance Air Blast, aka Mother of All Bombs – that is, fuel bombs, aka ‘the poor man’s nuke’), as in the movie *Cloverfield* (the “Hammer-down Protocol”)? How about habitability damage to Balkanized worlds where a sovereign or Friendly colony is located?

- ✓ This question must be adjudicated by the Concierge within the context of the story and culture for each instance, with appropriate game solutions ranging from generation of an IP+ to difficulty in future naturalizations to loss of legitimacy of Government Titles and/or Diplomatic Spaces.¹² Such an act will not be soon forgotten.

The figures for damage from Orbital Bombardment are just figures for game convenience. They can be adjusted for whatever reason. Here is the real science:

- ✓ A meteor 60 miles wide hitting the Earth releases 10^{31} Joules of energy, this is the apocalypse scenario for the Earth as the resulting shock and heat wave plus the burning debris thrown into the air would annihilate all life on Earth. The meteor that drove the dinosaurs to extinction was *only* 6 miles wide, and the flaming debris that rained down boiled the surface of the Earth.
 - “Asteroids have us in their sight. The dinosaurs didn’t have a space program, so they’re not here to talk about this problem. We are, and we have the power to do something about it. I don’t want to be the embarrassment of the galaxy, to have had the power to deflect an asteroid, and then not, and end up going extinct.” – Neil deGrasse Tyson.
 - See also Deflection Dilemma discussion, 2 Construction, p. 669, *supra*.
- ✓ The Chelyabinsk meteor, which struck in a less inhabited region of the globe in 2013, had an atmospheric impact force equal to a 400K explosion; the shockwave injured about 1,500 people and damaged many buildings; imagine if the impact had occurred in Western Europe, North Eastern United States or China, or the southern Indian or California coast? Or if it was just one of a rain of impacts in a small populated area?
- ✓ It is not difficult then to imagine the damage that could be done from space with mass drivers (nuclear weapons are not really necessary at that height) bombarding the planet, or by a starship that accidentally or intentionally collides with the planet at high speed. Or by an errant shot in combat or Raid on the wrong target. When science-fiction writers occasionally use this theme, they are not exaggerating the dangers.
- ✓ The figures used here were taken from “An Asteroid Will Not Destroy the Earth Today,” by Angela Fritz, atmospheric scientist, writing for the Washington Post, April 19, 2017 and Wikipedia article, “Chelyabinsk meteor,” captured February 9, 2018. Mass driver bombardment was introduced to television sci-fi by *Babylon 5* TV series.

Whether colonies on Balkanized planet surfaces can be bombarded without damaging others is a question to be adjudicated by participants based on the technology used and other factors, such as whether the planet is near Maximum Habitability; reduction in Habitability Class could affect other non-targeted colonies on the planet. Once the rule is established for the game, others can do the same. For example, the ‘clean’ destruction of Moscow by the alternate universe Daniel Jackson in the *Stargate SG-1* episode “Absolute Power” (2001) the relevant part of which is feature quoted at the end of 3 Combat, p. 983, *supra*, using Earth’s new orbital defense system.

“The security dilemma refers to two related ideas. The first is very simple: Things that one state does to make itself more secure typically have the effect of making other states less secure. ... The second is about how this fact could lead states whose leaders are both basically interested in maintaining a non-conflict status quo to end up in a very costly war.”

– James D. Fearon, “The Big Problem with North Korea isn’t that we can’t trust them. It’s that they can’t trust us,” Washington Post, August 16, 2017

“Yet, there is a point at which hope must give in to logic. If we believe that Kim is undeterrable without such a strike, how can we also believe that a strike will deter him from responding in kind? And if Kim is unpredictable, impulsive and bordering on irrational, how can we control the escalation ladder, which is premised on an adversary’s rational understanding of signals and deterrence?”

– Victor Cha, “Giving North Korea a ‘bloody nose’ carries a huge risk to Americans,” Washington Post, January 30, 2018

Slamfire:¹³ The first round of Ship Combat in GGDM is the most important and most combats will end in the first or second round. Logistics – Operational Supply Limitation (OSL) and Log Ships – will be a major consideration early in the game, and possibly for much of the game. Most ship combats will be skirmishes or hit-and-run; cost, position development, and race survival will make positions careful about committing their major fleets early. The defender in a supported system generally has the logistical advantage, the attacker needs to overwhelm with the tactical-numerical advantage in the first round. Thus, both sides will launch just about everything they have in the first exchange. The defender often wins if they survive the first round.

- **Will to Kill:** The “political and psychological means to wage war” (from Gen. Vo Nguyen Giap feature quote in 3 Combat, p. 972, *infra*) in GGDM terms translates to the *ability and willingness* to commit Acts and Scenes, and Faculties, and to use Combat Power activations every Regular Turn, sometimes multiple Combat Power Activations per turn. This separates from the economic and material means to wage war, which requires ship building output, RPs, industrial output, and technology. A side may have material and/or technological superiority and an excellent support economy and infrastructure, but not be willing to divert or derail other processes to engage in a prolonged period of Combat Power Activations, and commitment of valuable Faculties, Acts and Scenes to combats.
-

“After the fall of Tărnovo to the Ottoman Turks in 1393, a number of Bulgarian clergymen sought shelter in the Russian lands and transferred the idea of the Third Rome there, which eventually resurfaced in Tver, during the reign of Boris of Tver, when the monk Foma (Thomas) of Tver had written The Eulogy of the Pious Grand Prince Boris Alexandrovich in 1453.

Within decades after the capture of Constantinople by Mehmed II of the Ottoman Empire on 29 May 1453, some Eastern Orthodox people were nominating Moscow as the 'Third Rome,' or the 'New Rome.' Stirrings of this sentiment began during the reign of Ivan III of Russia, who styled himself Czar (cf. Caesar), who had married Sophia Paleologue. Sophia was a niece of Constantine XI, the last Byzantine emperor. By the rules and laws of inheritance followed by most European monarchies of the time, Ivan could claim that he and his offspring were heirs of the fallen Empire, but the Roman traditions of the empire had never recognized automatic inheritance of the Imperial office.

It was also Sophia's brother, Andreas Palaiologos, who held the rights of succession to the Byzantine throne. Andreas died in 1502, having sold his titles and royal and imperial rights to Ferdinand II of Aragon and Isabella I of Castile. A stronger claim was based on religious symbolism. The Orthodox faith was central to Byzantine notions of their identity and what distinguished them from 'barbarians.' Vladimir the Great had converted Kievan Rus' to Orthodoxy in 988, in return for which he became the first barbarian to ever get an Imperial princess as a wife."

– from Wikipedia article, "Third Rome," captured August 9, 2019

Inglorious Ends: The fate of Emperor Constantine XI is unknown, but he never resurfaced after the fall of Constantinople. There are no eyewitness accounts of his death, capture or flight, but he was seen fighting on the landside walls with the soldiers. He had no children, no direct heirs.

- ✓ Andreas Palaiologos sold his rights to the crown of the Eastern Roman Empire in 1494 and died in poverty in Rome in 1502 (he also came to Moscow twice before to beg money from his sister, Sophia Zoe, wife of Tsar Ivan III). Their father, Thomas Palaiologos claimed to be the Byzantine Emperor from 1460-1465 when he died in exile in Italy. Old ruling dynasties never end well.
- ✓ See Bulwark of the Past, 2 Eras, p. 773, *supra*.¹⁴

Winning Smart: In the year 234 C.E., Shu Han commander, Zhuge Liang moved against the Kingdom of Wei after three years of preparation. Wei commander Sima Yi, who had also been preparing for his army to remain in the field for a long time, paying special attention to food supplies, took up a strong defensive position on the Wei River on the Wuzhang Plains. The confrontation turned into a long stalemate; Sima Yi refused to be drawn out, while Zhuge Liang would not attack. As the summer months wore on, the Shu Han army began to suffer from lack of food and disease and demoralization; eventually, Zhuge Liang died in his camp (age 53). The invading Shu army thereafter retreated back to their capital with their commander's body; they had been defeated almost without a fight and began to fight among themselves.

- ✓ Source, R.G. Grant, 1001 Battles that Changed the Course of World History, p. 88.

Over 1,200 years later, in early October 1480 A.D., the Tartar leader Akhmat Khan approached a Muscovy army deployed along the Ugra River blocking their way to Moscow. For several days of running skirmishes, the Tartar army tried to cross the river in several places, but were in each instance successfully blocked by the Muscovites. The Muscovites were on the defense, across a

wide river and had more guns, the Tartars were light and very mobile horse-archers, but their arrows could not effectively reach the other bank. The two armies settled down into a stand-off. Ivan III opened negotiations with Akhmat, but only to buy time for more Muscovy forces to reach the area; Akhmat did not receive any more forces during that time, the Crimean Tartars did not come as promised, and the Tartar force was being harassed in the rear.

At some point, Akhmat tried to steal a march and cross far down river at night, but was blocked again. As winter approached, with the threat of the river freezing over, the Muscovites retreated to a high-ground position overlooking the river and the road to Moscow. However, Akhmat's army was then in no condition to cross and advance on Moscow, would not have been effective in assaulting the Muscovite hilltop encampment, and could not have bypassed them leaving an enemy army in the rear. Arriving late in the season, Akhmat was presented with a problem he could not solve for a month and a half, with the types of forces available to him; running out of supplies, on November 28, 1480 A.D., the Tartars retreated. Akhmat was killed the next spring in an attack by another Horde; Moscow was free.

- ✓ From Wikipedia article, "Great stand on the Ugra river," December 10, 2018.
- ✓ The Stand on the Ugra River (and the rise of Ivan III) is portrayed in the first season of the 2017 Russian-language series *Sophia* (available with English subtitles).

“Those skilled in defense hide in the deepest depths of the earth, those skilled in attack maneuver in the highest heights of the sky. Therefore they can preserve themselves and achieve complete victory.”

– Sun Tzu, [The Art of War: the Demna Translation](#), p. xviii (Trans. by Thomas Cleary) (2002) ¹⁵

Endnotes.

¹ Commentary: For example, radar gunnery was a huge advance of WWII; specifically, it eliminated the need to manually observe shell splashes and adjust salvos for range, instead, radar could track shells in flight, and provide accurate ranges. The USS California, damaged at Pearl Harbor, was one of six ships to receive radar in 1940, but due to the damage, the ship was essentially rebuilt and reentered service in early 1944 as a new ship with the latest improvements in fire-control and radar. The Imperial Japanese Navy generally lacked radar gunnery on their ships.

² Commentary: I recall that in the War of 1812, some stiff-necked Brits complained in the press that U.S. 40-gun frigates actually had 44 guns (e.g., the USS *Constitution* and five others which also had heavier guns), due to two extra guns in the front and back. They were implying that the Americans were 'cheating' in some way. New American heavy frigates outmatched British 5th Rate Frigates with 38 guns of lighter caliber and smaller crews and generally caused problems for the blockade. The British navy suffered major defeats and loss of prestige during the war.

- ✓ This was – more or less – the same sort of claim made by the British after their defeat by the Scots at the Battle of Stirling Bridge (1297) in which, at some point in the battle, the wooden bridge collapsed cutting the English army in two on both sides of the river. No one knows why the bridge collapsed or exactly when, Blind Henry's account is the main one of fiction, which some mistake for history. The bridge may have been destroyed by the British to prevent the Scots pursuit, it may have collapsed from the weight, but the English made great propaganda out of claiming that the Scots sabotaged the bridge; but more importantly, in the late chivalric age, the English claimed that the 'barbaric' Scots had won 'unfairly' because they attacked before the whole English army had crossed and formed up for battle! Humph! And all that.

³ Citation: Information from R.G. Grant, 1001 Battles that Changed the Course of World History, pp. 568, 578 and Wikipedia article, "Battle of Navarino," June 21, 2018.

⁴ **Citation:** “The lessons taught by Tsushima gave rise to the most feverish decade of naval construction history. Immediately afterwards the British *Dreadnought* lent its name to the new era of the all-big-gun battleship designed for speed as well as terrific striking power. Of 17,900 tons displacement and 490 feet in length, the vessels of this class were driven by turbine machinery of 23,000 horsepower developing a speed of 21 knots. The armament consisted of ten 12-inch guns in five turrets, supplemented by twenty-four 12-pounders distributed over the ship for defense against torpedo boats.

Even these formidable specifications did not satisfy, and the *Iron Duke* class of super-dreadnoughts introduced ten 13.5-inch rifles with twelve 6-inch guns as secondary armament. The length was increased to 580 feet and the displacement to 25,000 tons. As a more radical departure came the *Queen Elisabeth* class, begun in 1912 and completed after the outbreak of war. These five battleships used fuel oil to develop a speed of 25 knots from 75,000 horsepower. The armor belt had a maximum thickness of 13 inches, and 15-inch guns appeared for the first time in the main armament.

A range of 4,000 yards had been considered long at Tsushima, but these giants could hurl their tons of armor-piercing projectiles five times that distance. Meanwhile the stealthy and prowling enemies of the battleship had likewise grown more deadly. By 1914 the torpedo boat had been largely superseded by the destroyer making 40 knots and carrying six torpedoes capable of sinking a ship five miles away. Submarines had been developed with a greater cruising radius, so that they could lie in wait on cargo routes or sow miles of a vastly increased explosive force in enemy waters.

Nor had the cruiser lagged in the world-wide armament race. The British Committee on Designs which planned the *Dreadnought* also recommended a new type known as the ‘battle cruiser’ which had more speed and striking power than the battleships of a few months before. Although the number of guns and thickness of armor were reduced in the interests of mobility, the *Princess Royal* class of 1910 carried eight 13.5-inch rifles in addition to an anti-torpedo-boat armament of 4-inch guns. In 1912 the *Tiger* class burned fuel oil as well as coal, and the experience of 1914 led to the *Renown* and *Repulse*, making 32 knots and carrying 15-inch guns.

After a decade of such technological advances, Tsushima seemed almost as outdated as Trafalgar. For no admiral in the world could pretend to know all the tactical possibilities of the new naval monsters.” – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), pp. 712-713.

- ✓ Cf. The USS Enterprise (CVN-65) commissioned in 1960 was 93,000 tons, over 1,200 feet long, and had a speed of 33.6 knots, only slightly faster than a WWI British battlecruiser and slower than a WWI destroyer, but BIG and nuclear powered.
- ✓ The USS Gerald R. Ford (CVN-78), commissioned in 2013, is considered the largest aircraft carrier in the world, at 100,000 tons, with two nuclear power plants that have 250% the output of those on the Nimitz Class, it runs at about 1,100 feet long and over 30 knots (actual top speed is surely classified information).

⁵ **Commentary & Citation:** One of the most amusing scenes of the original Battlestar Galactica series was the eye-popping moment when the cocksure Commandant Leiter’s Eastern Alliance destroyer encountered the Galactica (BSG:OS “Greetings from Earth”). The space-going neo-Nazi Eastern Alliance assumed that they were the superior military power in the galaxy until the Galactica encounter, which was not only far more technologically advanced, but also was enormous, such that the Alliance destroyer was set down inside the Galactica’s Viper landing bay.

⁶ **Commentary:** Oddly, it has been reported that the Japanese on the main island heard radio traffic from the attack on Pearl Harbor, which is at least a highly improbable (and perhaps ominous) occurrence. Schumann resonances?

⁷ **Commentary & Citation:** Not all enemies are aliens, as we well know: “We have met the enemy and he is us.” – Pogo Comic Strip, Earth Day 1971, by Walt Kelly.

⁸ **Commentary:** George Oliver Smith wrote a series of short stories between 1942 and 1945 about a Venus Equilateral Relay Station, 3 miles long, located at the L4 point to relay messages from Earth, Venus and Mars to their intended recipients whenever the planets were on opposite sides of the sun, exhibiting a rare understanding of orbital mechanics.

⁹ **Commentary:** In this case (conceding that it is a historical drama), the ‘artillery school’ in Edo was for the pre-Meiji Japanese a sort of Technology Power College rather than Weapons College or Combat College. The dialogue

represents to the viewers in condensed form the coming Meiji Restoration regime's approach to Japan's problem and the fear of change, of disorder, the lack of answers, the seed of what ended the Tokugawa Shogunate.

- ✓ Not coincidentally, building forts along the coast and arming them with modern cannon was China's strategy that led to defeat in both Opium Wars, the second one disastrously. The dialogue thus may have a second layer of meaning – a poke in the eye – in the context of the history between China and Japan.

¹⁰ Citation: “No. Try not. Do or do not. There is no try.” – Yoda, *Star Wars: The Empire Strikes Back* (1980) (you know this scene already).

¹¹ Citation: “As recently as March 24, only a week earlier, the president was equating covid-19, the disease caused by the coronavirus, to the flu: ‘We lose thousands of people a year to the flu. We never turn the country off.’

Or as he put it on Feb. 26: ‘This is a flu. This is like a flu. ... It’s a little bit different, but in some ways it’s easier, and in some ways it’s a little bit tougher.’

Similarly, on March 9, in a tweet: ‘So last year 37,000 Americans died from the common Flu. It averages between 27,000 and 70,000 per year. Nothing is shut down, life & the economy go on. At this moment there are 546 confirmed cases of CoronaVirus, with 22 deaths. Think about that!’

At the very least, Trump's consistent effort over many weeks to portray covid-19 as a type of flu could have created a feedback loop. Trump has the world's biggest megaphone, and his friends may have been regurgitating his message.” – Glenn Kessler and Salvador Rizzo, “Fact-checking President Trump's marathon news conference,” *Washington Post*, April 2, 2020.

¹² Commentary: There is no Conflict Check which reads “(T) Position has not initiated Orbital Bombardment against its own colonies while this Title has been active” (or at any point in the game). That would be too easy, see *Won't Get Fooled Again* commentary in 4 Government Titles, p. 633, *supra*. And bombarding your own people is something beyond a legitimacy question. Sid Barre, the dictator of Somalia, bombed the city of Hargeisa, Somalia (and other areas) containing about 750,000 population, in 1988 because it was a stronghold of and sympathetic to the Somali National Movement. He fled the outbreak of the Somali Civil War in 1991 in a tank, and into exile where he died 4 years later.

¹³ Commentary: Slamfire is a weapons design issue where the weapon can continuously discharge until the ammunition is exhausted, caused by the inertial force of the firing pin hitting the primer as the round is loaded by automatic forward bolt action. It is not the same as a cook-off, which is caused by excessive heat causing the round to fire.

¹⁴ Commentary: “Inglorious Ends” could also (tongue in cheek) describe the sinking of the HMS *Glorious* along with both destroyer escorts by two German battleships armed with 11” guns in June 1940. The *Glorious*, *en-route* to England from Norway, had no CAP and no aircraft ready on deck when the German ships surprised them; a shell penetrated the flight deck igniting an aircraft fuel explosion below. This is only one of two instances where an aircraft carrier (CV) was sunk by gunfire from a battleship (BB) since 1939, the other being the *Battle Off Samar* in 1944, when a force led by the *Yamato* surprised American carriers and destroyers, sinking two of six escort carriers.

¹⁵ Citation: cf. “Those who excel at defense bury themselves away below the lowest depths of the Earth. Those who excel at offense move from above the greatest heights of Heaven. Thus they are able to preserve themselves and attain complete victory.” – Sun Tzu, *The Art of War*, p. 183 (Trans. by Ralph D. Sawyer) (1994).

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See Appendix CEX – Combat Example
See Appendix CST – Combat Shifts & Situations Tables

“Quantum mechanics is certainly imposing. But an inner voice tells me that it is not yet the real thing. The theory says a lot, but does not really bring us any closer to the secret of the ‘old one.’ I, at any rate, am convinced that He does not throw dice.” – Albert Einstein

Making Everyone Happy: Robert Heinlein cleverly created an explanation that would make both empirical scientist and Biblical literalist correct at the same moment. It allowed him to avoid taking sides. But Yahweh doesn’t come out looking good in it.

- ✓ **Rahab:** But notice carefully what I did say. I did not say that the world was created twenty-three billion years ago; I said that was its age. It was created old. Created with fossils in the ground and craters on the moon, all speaking of great age. Created that way by Yahweh, because it amused Him to do so. One of those scientists said, ‘God does not roll dice with the universe.’ Unfortunately not true. Yahweh rolls loaded dice with His universe... to deceive His creatures.

Alex: Why would He do that?

Rahab: Lucifer says that it is because He is a poor Artist, the sort who is always changing his mind and scraping the canvas. And a practical joker. But I’m really not entitled to an opinion; I’m not at that level. And Lucifer is prejudiced where His Brother is concerned; I think that is obvious. – Robert Heinlein, Job: A Comedy of Justice (1984).¹

- **Will’s God:** “Every man who wages war thinks God is on his side, and often I warrant God should often wonder who is on his.” – Oliver Cromwell, Cromwell (1970). If you attribute your victories to God’s will, to what agency do you then attribute your defeats? Your defeats are either God’s will or not; if they are not God’s will, then another agency exists that is at least as powerful as your God and it’s not on your side. Either way, you cannot do anything about it. Or perhaps you think that as long as God is on your side, you cannot be defeated? What does it mean then when you were defeated? That your god is fickle? This is why God has no place in military thinking.
 - ✓ “Chestov is quoted as saying: ‘We address ourselves to God only to obtain the impossible; as to the possible, humans suffice.’” – Erich Kahler, The Tower and the Abyss (1957) quoting Albert Camus quoting Lev Shestov (Chestov).

Basic Combat Procedure: Combat is resolved in rounds. During each round, each side in the combat gets their chance to either attack the enemy or retreat from the combat (if possible). All attacks and defenses in a Combat Round are considered to be occurring *simultaneously* for resolution purposes (not IGO-UGO), although in practice, each is resolved separately. As outlined in *Relativity, 3 Streams of Time*, p. 85, *supra*, Combat occurs and proceeds independently of the progress of the rest of the game; that is, the rest of the game does not stop for Combat; any number of Regular Turns and Turn Cycles, may be resolved during the course of a combat, or even a single Combat Round if the combatants are being dilatory. Forces involved in combat may not do anything else during Regular Turns until either they win or they retreat from the combat.

- ✓ Enemy unit has nothing to do with diplomacy; enemy unit is the one shooting at you.
- **Trading in Fire:** ‘Simultaneous’ combat resolution means that all units on both sides will execute their attacks or attempt other actions, even if they are destroyed during the Combat Round, and that all destroyed units are removed at the *end* of the Combat Round.

- Attackers & Defenders: The side that initiates the combat is the attacker and the poor, hapless victim of the aggression is the defender.² In the rare instance, due to the continuous Turn Cycle of the game, that both positions initiate combat on the same date in the same place against each other via appropriate Combat Power activation, the position that submitted Actions first is the attacker. Any number of positions may participate in any combat; additional forces and positions may arrive during the course of the combat (during Regular Turns) as well, and join the ongoing combat. Each force and/or position joining a combat at any subsequent point, 1) must be capable of initiating combat and 2) must do so by proper activation of the Combat Power. Any side initiating combat *must* submit Combat Orders concurrently or the combat will not be initiated (but Acts and Scenes will still be consumed).

This requirement is for the purpose of game progress. You are either doing it or not. There should be no ‘Phoney War’ or ‘sitzkrieg’ where combat is initiated and nothing happens immediately.

- ✓ There are only two possibilities, either a position is an attacker or a defender. If a position initiates combat against another, they are considered an attacker for GGDM purposes, regardless of when this occurs, who they help or hurt, or what they subsequently do (or who is blamed for the combat). All units belonging to a position involved in a combat share the same designation.
 - ✓ For example, A attacks B, initiating combat via activation of the Combat Power. Therefore A is the Attacker and B is the Defender. After the first Combat Round, a Regular Turn is processed and C arrives via Combat Movement and initiates combat against A and/or B, because C initiated combat, C is also an Attacker and/or A and B are Defenders *as to C*.
 - ✓ Attacker/Defender relationships only exist as to pairings of combatants; in multiparty combats, a side may have different designations as to different opponents. This is important for the Seize the Initiative Combat Power activation, below.
- Capoeira: Each Combat Round, each side must submit Combat Orders to the Concierge. The Combat Round will be resolved when all Combat Orders are received, with two exceptions noted below. When the Concierge receives *any* combatant’s Orders, all other participants in the combat will be asked to submit Combat Orders within one day (24 hours) of the time the Combat Orders were received.
- ✓ If the Concierge does not *timely* receive a defender’s Combat Orders on the *first round* of a Combat, the attacker’s Combat Orders will be executed and the defending forces will attempt to retreat, if possible. Any position initiating combat must send appropriate Combat Orders with the combat initiation notice or Regular Turn Actions.
 - If the defender cannot retreat or does not successfully retreat, the defender will be given an opportunity each Combat Round to submit orders. If no orders are received, the above procedure will be repeated (the Defender who cannot retreat will simply get pummeled) until all Defending units are destroyed or retreat, or until the attacker retreats ending the combat.
 - ✓ If the Concierge does not timely receive a defender’s Combat Orders but has received at least one set previously, the last Orders received for the defender will be repeated to the extent possible. The Concierge will not alter the Orders.

- Thus, the defender cannot hold up the combat by refusing to submit orders. These exceptions, paired with the Seize the Initiative activation (*ut infra*) insure that most combats efficiently proceed to resolution while also leaving the players with some flexibility as to timing of Combat Rounds and Regular Turn processing.
- Seize the Initiative: Generally speaking, the attacker drives the combat; if the attacker is not attacking, the defender does not need to defend (*ut supra*).³ Seize the Initiative allows the defender to flip the tables on a dilatory attacker:

Imagine a game of Chess, or of Checkers. On your turn, you must move a piece. No matter what you think of your current position, you must move a piece, there is no rule that allows a pass, and the mechanics of the games generally would not allow ‘not moving.’ People don’t think about it, we assume it to be the (usually) unspoken rule of any game. Even in multi-player games, such as Monopoly – where there are definitely times when you don’t want to move – when it is your turn, you must shake the dice and pay the man his money. GGDM is more forgiving in that way, if you don’t want to take your turn, or your round, fine, but the game universe (like life) moves on without you, unless you are impeding the progress of combat resolution (akin to impeding an ambulance with sirens blaring).

- ✓ If at the time the defender’s next Regular Turn actions are *received* by the Concierge, an attacker in an ongoing combat has not submitted Combat Orders for three days, the defender in the combat pairing may choose to ***become the attacker*** by activating the Combat Power for the purpose of Seize the Initiative, if the defending forces are capable of initiating combat (i.e. Defense Bases cannot chase enemy warships). The previous attacker is now the defender.
 - Combat Orders must be submitted with the Regular Turn actions to Seize the Initiative (as if initiating combat, *ut supra*); Seize the Initiative can only be done by Combat Power activation on a Regular Turn.
 - Fighter Complements based on a colony are capable of initiating combat and thus may Seize the Initiative for their side.
- ✓ When the defender becomes the attacker by Seizing the Initiative, that Combat Round is treated as if it were the first round of combat, *ut supra*.
- ✓ Because the combatant forces are already locked in combat and cannot do anything else until someone either wins or retreats, Seize the Initiative only requires expenditure of one Act by the defender, and serves to prevent dilatory tactics⁴ and inferior attacking forces from pinning down superior defending forces by not submitting Combat Orders.
- ✓ A Combat Power activation to Seize the Initiative ***never*** (in any context) requires a check to see if the Power Activation is obeyed.
 - The three-day period for the attacker to submit Combat Orders is based on the idealistic time periods for the continuous action of the game presented in Three Daze, 2 The Streams of Time, p. 84, *supra*. It may or may not need to be adjusted if the periods for submitting Regular Turns are extended to accommodate real world schedules.

It is possible for a Colony Combat to go stagnate if the defenders only have Defense Bases and the attacker is not attacking. This becomes a siege (see *Besieged Colonies*, 3 The Side-real Stage, p. 124, *supra*). This situation is not bothersome to the GGDM combat rules because *only the attacker is being inconvenienced by their own inaction*; the defenders are not going anywhere because they are immobile defense bases. See also *Blockade Running*, 4 Commerce, p. 1233, *infra*.

“The enemy will pass slowly from the offensive to the defensive. The blitzkrieg will transform itself into a war of long duration. Thus, the enemy will be caught in a dilemma: He has to drag out the war in order to win it and does not possess, on the other hand, the psychological and political means to fight a long-drawn-out war.”

– Gen. Vo Nguyen Giap, Commander, People’s Army of North Vietnam

Keep Your Friends Close, Your Enemies Closer: Care should be taken against whom combat is initiated, a side may only issue orders to fire at 1) units involved in the combat, 2) belonging to positions against whom they have initiated combat *or* who have initiated combat against them. Combat initiation is between positions, not individual participating units. The position first initiating combat, the attacker, designates the type of combat and the participants – the attacking units, and the targets of the attack.

- ✓ So, if C (in the example above) initiates combat against B only, C cannot fire at A and A cannot fire at C, unless one of them later initiates combat against the other by activation of the Combat Power.

This may seem terribly unfair to the defenders, but it is not inaccurate historically (e.g., WWII was created by the aggressors); the one who starts the fight has control initially of the scope and theatre of the contest. For example, Germany invaded Poland in September 1939, the Soviets invaded Poland a couple of weeks later. Less than two years later in June 1941, the Germans invaded the Soviet Union. German actions created the Eastern Front in WWII; many alternate histories have explored what happens if there was no invasion of USSR.

The defender has options in GGDM that can frustrate the attacker, including attempting retreat on the first round, adding new forces, initiating new combats, or other options to shift the scope and theatre of the contest.

A combat is conceptually a lethal struggle between a set of units in a particular theatre or sphere of operation described by the Combat Type. Thus, Combat Type may be alternately defined as the theatre of operations of the combat, i.e. system space, orbital space, planet surface, corresponding to Ship Combat, Colony Combat, and Ground Combat.

- **Targeting Unit:** The attacker may only initiate combat against units. Pursuant to the discussion in *View from a Height*, 1 Construction, p. 660, *supra*, the units of the game are ships (and system boats) and colonies; thus, there is Ship Combat and Colony Combat. Thus, an attacker cannot initiate a Colony Combat against some of the colony’s Defense Bases and exclude others, as Defense Bases are *enhancements* to the Colony unit (combat in GGDM is between game units). Alternatively, as discussed below, the colony would simply voluntarily join any excluded Defense Bases with their first Combat Round orders.⁵

- ✓ Generally, an combatant can only target (or join) units appropriate to the Combat Type being fought (and each ongoing Combat may be of only one type), thus Ground Units (introduced in 4 Combat, *infra*) cannot be targeted by or joined to a Ship or Colony Combat. It is possible however, for ships and non-Ground Bases to join a Ground Combat if they are at the planet, for the limited purpose of supplying Ground Units (i.e. Log Ships), landing units, or for fire support. They must successfully retreat to exit the combat (*ut infra*, p. 980) before taking any Regular Turn Actions.
 - ✓ Ships that have retreated to the colony previously from a Ship Combat (*ut infra*) may join or be targeted as part of a Colony Combat (therefore they might as well join), and the forces attacking the colony receive one Offensive Shift (*ut infra*) against ships participating in or sheltering at the colony during a Colony Combat.
- **Those Who Stand Looking:** During any combat, there may be other units present that are not part of the combat or involved in the combat, for example, they may be waiting just out of range to do their part or watching from a distance, avoiding being hit. Units which are not involved in a combat may not be targeted by participants (*ut supra*). Thus transports loaded with Ground Units, Carriers with Fighter Complements, Cargo Ships waiting to loot, or Colony Ships waiting to Land or Unload, may be held out of a Colony Combat, but if so, a Combat Power activation will be required for them to initiate any new separate combat. As noted in Move Out! and DefCon 1, 1 Combat, pp. 942, 946, respectively, *supra*, new units arriving via Combat Movement or units on Combat Alert may initiate combat and all friendly units present may automatically join them.
- **Rule 20 Permissive Joinder:** Any participant may voluntarily join (i.e. feed) available eligible friendly units present into an ongoing combat at the beginning of any Combat Round ***after the first*** and those units may fire at the enemy or take other actions, immediately. Joining a combat *does not require a Combat Power to initiate combat* but units joining an ongoing combat must either be able to initiate combat, or must be Logistical Ships, and must be able to join the type of combat that is in progress (i.e. must be able to fight in that sphere, theatre). Since there is no Power Activation, no check is made to see if the units obey.
- ✓ **However**, the attacker in a Colony Combat against a colony that has one or more System Defense Bases may choose to initiate combat (normally or as a follow-on) against only the System Bases. The defender may only join Fighter Complements, and any warships or armed System Boats sheltering at the colony (following a retreat). The attacker is not allowed to involuntarily join any Orbital or Ground Bases by attacking them. On the other hand, if the attacker destroys all of the System Bases, there is no follow-on option against the rest of the colony defenses, rather, a separate Power Activation is required to initiate combat against the remaining defenses, even if that is in the form of other units arriving by Combat Movement afterward.
 - ✓ Tender starships carrying armed System Boats that join a combat should, like a Carrier with Fighter Complements, be considered to join the combat even though a Tender Ship cannot itself initiate combat, it must come close enough to launch the armed System Boats and stay close enough to gather them in later. The Tender Ship may also be considered to be providing sensor and command support for the armed System Boats, and may retreat with or without the System Boats.

Units that join a combat may not do anything else until either they retreat successfully from the combat or the combat ends. There is no rule procedure, other than colony defense, to force uncommitted enemy units to join a combat, and they may not be fired upon. However, it is the nature of combat to draw in all available units.

This is, of course, a way to shoo units into a combat when they failed to obey the Combat Power activation to Initiate Combat (see 1 Combat, p. 944, *supra*). The cost is that they are not available on the first round, *which can be critical*. Though we would not now expect units to disobey an order to initiate combat, everyone knows that in combat, it tends to work this way, crap happens, units underperform or fail to reach battle, and that the first casualty of battle is ‘the plan’; there is some historical basis for this as well:

- ✓ “It required long months of drill to train a soldier for linear tactics, and every attempt to pit novices against regulars in formal battle had led to wild routs. In the end the recruits took matters into their own hands, fighting as best they could; and Carnot saw the germ of an ultimate decision in the ‘horde tactics’ scorned by a disciplined foe. Self-preservation is not a bad foundation for victory, and at Hondschoote most of the French forces showed a marked distaste for coming within range of enemy muskets. Only the more adventurous souls swarmed out in a ragged wave of skirmishers to take cover in ditches and behind hedges.

From such positions they peppered the long lines with a fire which left the enemy helpless. Return volleys were a waste of ammunition, and the, regulars advanced only to find that their opponents had scrambled back to new cover. Less valiant Frenchmen soon saw the advantages of a new military game which promised to be safe as well as interesting. They joined their comrades of the ditches and hedges until the allied casualties grew serious. When enough troops had plucked up courage, their officers ordered an advance; and the recruits surged forward in masses which by courtesy were called columns.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), pp. 454-455.⁶

The victor of the Battle of Hondschoote was executed six months later during the Reign of Terror for cowardice in the face of the enemy despite his victory. His political sponsor had been executed before the battle and during the campaign and battle, the experienced general was overruled several times by Republican monitors, men of revolutionary fervor and extremist ideologies with no military experience and little training. The Republican monitors took his caution as cowardice, despite the victory and he was later tried and executed. This is a casebook example of how revolutionary ideologies and politics spin out of control and destroy the revolution from within.

- Ticky Tock Timing: Since the attacker must submit Combat Orders first and the defender has 24 hours to submit their Combat Orders (*ut supra*), units joining on the attacker’s side will be known to the defender, who may issue orders to fire at them.
 - ✓ The defender should not be able to see the attacker’s Combat Orders, as it may affect decisions to Combat Screen, Retreat, and/or Combat Resupply some units, however, the defender should be informed if additional unclocked or non-Temporal Ship (T-Ship) units have joined the battle, as those units will have approached normally. The only time a unit should be able to join the battle undetected (until it attacks) is if the unit is in Ambush Mode (see Ambush Combat, 7 Combat, p. 1036, *infra*).

On the other hand, friendly units joining the defender's side will not be attacked normally in the Combat Round they join and may get a 'free shot' at the enemy because they were not part of the combat when the attacker issued orders. This sucks for the attacker but is not entirely unrealistic (e.g., the Battle of Austerlitz, 1805).

- ✓ Units joining on the defender's side, however, can still be subject to Interception if they attack a unit that is Combat Screened (see 3 Carriers & Fighters, p. 1067 *et seq.*, *infra*), because the target of the Combat Screen is the unit being protected and interceptors take on whomever tries to attack the protected unit.

The defender is taking a risk intentionally holding out units until the second or third Combat Round so that they can join and get a free shot. Defense is usually an 'all hands on deck' event and units held out by the defender in the first Combat Round may not be targeted by the attacker, but also may not fire. Napoleon mastered this at Austerlitz in December 1805, he deliberately allowed his thinned lines to be pushed back in a slow fighting retreat to lure the enemy off Pratzen Heights; at the opportune moment, he launched an attack at the allied center with up to 20,000 French soldiers that had been hidden in a wooded ravine shrouded by heavy fog. The battle occurred on the 1st anniversary of his coronation as Emperor.

- **Victuals & Vitals:** Logistical Ships must join a combat in order to perform Combat Resupply (see 4 Movement, p. 868, *supra*). Additionally, any Log Ship that provides *Supplies* during a Regular Turn to units involved in an ongoing combat will automatically join the combat *unless* the Log Ship initiates interstellar movement in the same Regular Turn. Log Ships will have to perform a successful retreat to be able to move away. Log Ships are non-warships.
- **The Cavalry:** Units arriving by Combat Movement that join an existing combat do not change their side's designation in existing combat pairings. They may, however, initiate combat against other positions present, if appropriate, and if they are not already involved in combat with the arriving ships' owners (as in the example) or they may initiate new types of combat, as appropriate to the particular circumstances.
 - ✓ Continuing the above example, if the preceding combat is a Ship Combat, warships belonging to A arriving by Combat Movement, may join the existing multi-positional Ship Combat and A may or may not initiate combat against C. However, A could not initiate Ground Combat against a colony owned by D, if A did not bring any Ground Units as that would not be appropriate or possible.

Spock: *He is intelligent, but not experienced. His pattern indicates two-dimensional thinking.*

– Star Trek II: The Wrath of Khan (1982), "Battle of Mutara Nebula" (2285)

Abstract Tactical System: Gestalt-Genesis Day Million uses an "abstract tactical system" to resolve combat: A unit to unit combat system without a map.⁷ In an abstract tactical system, there are no maps or hexes or grids, or movements, maneuvering, speed, or generally, weapons range; rather, the pieces of the sides are lined up and shoot at each other until one side is destroyed or runs away.

The basic abstract tactical system assumes that all units are capable of firing at any other enemy unit in each Combat Round and that units involved are capable of instantaneously closing to firing range in terms of the time period represented by each Combat Round (but this can be changed).

- ✓ Abstract tactical combat should not be envisioned to mean that modern armed units are just, ‘unrealistically,’ standing in a line shooting at each other like Redcoats (however, see next). That would be absurd. Misses in combat can be interpreted as being due to unit maneuvering, bad shooting, bad driving, bad training, being on drugs, marital disputes, prior damage, being distracted by glittering asteroids, avoiding collision with a moon, or just being out of range.

Abstract tactical combat is particularly suitable for three-dimensional space combat as it avoids the fallacies of fighting three-dimensional space combats on a two-dimensional, flat, tabletop game board (or the complexity of those systems that do simulate three-dimensional combat on a two-dimensional surface).⁸ It is also suitable for this level of game where the point of the game is neither combat nor detailed tactical ship-to-ship combat simulation. That said, however, GGDM combat has unexpected depth and complexity for being abstract tactical.

- ✓ Who can forget the outlandish infantry EVA spacesuit, zero-G, above the Earth laser fight between the U.S. Marines from a space shuttle and the defense unit from orbital space station in the James Bond movie *Moonraker* (1979)? Yet, without maps, terrain, or hex or area movement, players might envision GGDM’s abstract tactical combat as being literally like the *Moonraker* infantry combat in space scene.
- **Forward Observation:** GGDM makes the assumption that, other than cloaking and T-ships (see *Ambush Combat* generally, 7 *Combat*, *infra*), all units in a system can be seen by everyone (see also, *One-Way Mirror*, 2 *Information*, p. 1340, *infra*). The assumption is that in-system, nearly-perfect detection abilities (see *Riding the T*, 3 *Temporal Technology*, p. 828, *supra*) are being used in GGDM. This issue is discussed in greater detail in 2 *Information* generally, *infra*. Recall also that units can execute *Interplanetary Movement* instantly (see 2 *Movement*, p. 844, *supra*), thus, within the time periods of GGDM, all units are in range.

“There is only one tactical principle which is not subject to change. It is to use the means at hand to inflict the maximum amount of wound, death, and destruction on the enemy in the minimum amount of time.”

– General George S. Patton Jr.

“In every battle there comes a time when both sides consider themselves beaten; then he who continues the attack wins.” – General Ulysses S. Grant

Combat Resolution: The Concierge resolves all Combat Orders. Each Combat Round, each unit involved in the combat may fire at an enemy unit, attempt to retreat, or do something else (as provided by the rules, read on); basically, in each Combat Round each unit may do one thing, unless otherwise provided. This can be improved, for example, by multi-targeting technology.

If a unit is ordered to do more actions than allowed, the first actions will be processed and all later actions ignored (necessary for game sanity purposes).

- ✓ This is contrary to U.S. Marine Corps training where we were told to follow your last lawful order; the person issuing the order would be responsible if they countermanded or interrupted execution of an order from a superior officer.
- ✓ “In the absence of orders, go find something and kill it.” – Field Marshall Erwin Rommel.

Combat Orders will be resolved generally in the order provided, within the framework of the combat rules; that is, all Fighter attacks are resolved first in the round and all Ship Missile attacks are resolved near the end of the round, before retreat attempts. Within each part, Fighter Attacks, the main combat, then the Ship Missile attacks, then the retreat attempts, the orders will be resolved in the exact order provided by the position. Combat Screening assignments on all sides, however, must be necessarily addressed before the first Fighter Attack is resolved.

- ✓ Since Engaged results can affect the later parts of the Combat Round, Fighter attacks for both sides must be resolved first, after Combat Screening assignments.
- ✓ As explained in *Blacksheep, 2 Carriers & Fighters*, p. 1054, *infra*, Fighter attacks are always resolved first in the Combat Round, therefore, it would not matter if they were placed last in the orders and Ship Missile attacks are always resolved last in the round (but before retreats) and it would not matter if they were placed first in the orders (see *First Fire, 4 Carriers & Fighters*, p. 1079, *infra*).

Enlightenment is assigned to the Combat, not Combat Round, so unused Enlightenment carries from Combat Round to the next Combat Round, until the end of the Combat when it is lost (see *Vampire Suicide and Army of Light, 2 Colleges*, pp. 478-479, *supra*). Enlightenment may be added at the beginning of any Combat Round, however, addition after the first Combat Round may lead to wastage. *Id.*

- ✓ The use of Enlightenment in combats may affect the order in which the side has its units perform actions; for example, it is possible to homogenize the odds of each unit hitting the enemy by having the units with less chance to hit fire first, thus allowing them to benefit from Enlightenment rerolls. This will likely use up Enlightenment before heavier units attack, though. However, as also noted in *Army of Light, 2 Colleges*, p. 479, *supra*, a side may choose not to use Enlightenment in Fighter attacks, and Enlightenment should not apply to Ship Missile attacks.
- ✓ Because retreats are processed last in the round, it is likely, unless the whole side is running away, that Enlightenment will remain to aid the units attempting to retreat.

This resolution of Combat Orders will proceed without interaction between the Concierge and players; this is necessary for batch processing, to keep the game moving along, no matter how many combats are running at any time. Thus, there are limited situations where the Concierge may make some decisions that affect the combat (e.g., see *Combat Screening, 3 Carriers & Fighters*, p. 1067, *infra*). The Concierge will necessarily inform both sides of the results of the Combat Round, but will not inform anyone not involved in the combat unless required, however others may detect that a combat is ongoing (e.g., see *ABBA Arrival and Private Eyes, 2 Information*, pp. 1340, 1342 respectively, *infra*).

- **Firing Solution:** The basic chance that any warship will be able to hit another unit in combat is 10%. The basic chance is multiplied by three for 1st Era Warships, by five for 2nd Era Warships, and by seven for 3rd Era Warships. So a 1st Era Warship has a 30% chance to hit, a 2nd Era Warship has a 50% chance to hit, and the 3rd Era Warship has a 70% chance to hit.
 - ✓ Ground Defense Bases have a basic 20% chance, times the current era of the colony's defense to hit, while Orbital and System Defense Bases have a basic 30% chance, times the current era of the colony's defenses, to hit. Partially completed Era Upgrades (see Colony Defense Era Upgrade, 2 Combat, p. 954, *supra*), count as the lower or last Era completed. In the 3rd Era, bases are more powerful than warships.
- **Combat Shifts:** These basic chances to hit may be adjusted by Combat Shifts to a maximum of 99% chance to hit. A Combat Shift either increases or decreases the chances of the attacking unit hitting the target by 10% per Shift. Shifts that increase the chances of a hit are called Offensive Shifts and shifts that decrease the chance of a hit are called Defensive Shifts.
 - ✓ A unit (including Defense Bases) of a higher Era firing at a target of a lower Era (including Defense Bases) receives one Offensive Shift for each Era difference between the firer and the target. Thus, a 3rd Era Warship has a 90% chance to hit a 1st Era Warship (i.e. basic chance plus two Offensive Shifts), an 80% chance to hit a 2nd Era Warship, and a 70% chance to hit a 3rd Era Warship (i.e. no shifts).
 - ✓ Conversely, equal Defensive Shifts of one shift per Era difference are applied if a lower Era unit is firing at a higher Era unit. For example, a 1st Era Warship has only a 10% (30% - 20%) chance of hitting a 3rd Era unit and a 3rd Era Warship has only a 60% chance of hitting a 4th Era Warship.

Combat Shifts are always applied individually between one attacker and one target in each combat instance (including Probing defensive fire, see Bloody Noses, 2 Information, p. 1346, *infra*), the same Offensive or Defensive Shifts can be applied to several attacks by or against the same unit in the same round and over several Combat Rounds.

- ✓ Heavily armored Orbital and System Defense Bases receive one Defensive Shift in the first combat round of a Colony Combat. Defensive Shifts tend to draw multiple fires in a round...
- ✓ Fighters on FAP assignments (combat reconnaissance) also provide friendly offensive and defensive Combat Shifts, see A FAP in the Night, 7 Combat, p. 1041, *infra*.
- **Civilian Targets:** The Era shifts also apply to non-warship targets: Scouts, Cargo Ships, Colony Ships, Orbital Shipyards, Orbital Cities. Non-warship targets are considered to be at the Era of the Patent that allowed their construction for Era shift purposes; all non-warship targets in the game are initially 1st Era. In addition to Era shifts, combat units shooting at a civilian target also receive two Offensive Shifts (because they are not really combat units).
 - ✓ For example, a 1st Era Warship or Orbital Defense Base attacking a 2nd Era Colony Transport, would have a 40% chance to hit (30% - 10% + 20% = 40%).
 - ✓ If the target is an orbital target (e.g., Orbital City, Orbital Shipyard, incomplete ship) that is *not an Orbital Defense Base*, an additional Offensive Shift is received by the attacking unit (as they cannot run). Thus, a 1st Era Warship firing at a 2nd Era Orbital Shipyard, would have a 50% chance to hit (30% - 10% + 20% + 10% = 50%).⁹

- ✓ Scout Ships receive one Defensive Shift in any combat to help them retreat safely.
- **A Hit:** A hit equals destruction. There are no defensive rolls, or defensive adjustments, or blocks or saving throws, a unit that is hit in combat is destroyed. Positions may develop various defensive measures to increase the survivability of their units in combat through Enhancement and Continuous Operational Technology Patents, and given the lethality of 3rd Era weapons, it is probable that this will occur.
 - ✓ “Force fields or screens? Well, again, they climb in the face of the electromagnetic theory. You can’t make the expanding wavefronts of a wavefront stop expanding. No.” – James Blish, *The Tale that Wags the God* (Kindle Locations 598-599).
 - ✓ Basic combat in GGDM may be analogized in baseball terms to star players and wannabe star players selling out, swinging for the fences at every pitch that is anywhere near the strike zone. All or nothing, homerun or strike out, no base hits. Baseball broadcasters feel like this is the trend in 2019, the ‘homerun era’ of baseball.

Additionally, if a hit equals destruction, then there is no damage and no damaged units and no need for repairs. Any damage sustained by units is assumed to be repaired following combat and/or as part of any resupply, and thus, damage does not carry from combat to combat or turn to turn. If a unit survived the combat, it was not sufficiently damaged to have been destroyed. Don’t give them a medal for it.

- ✓ Automatic ship repair is based on the time periods represented by GGDM turns and the technological capabilities inherent in the setting (e.g., possibly organic hull armor, self-repairing warships), and for ease of bookkeeping in the early parts of the game. The game does not benefit from damage tracking outside of the Combat Rounds.

“The term ‘escape hatches’ is used in Transactional Analysis to describe the idea that when faced with very difficult or trying situations, some people exit the situation by carrying out one of three behaviours. These behaviours are to kill or harm self, kill or harm others or go crazy.”

– Ian Tomlinson, “Is Closing Escape Hatches Always Possible?” Manchester Psychotherapy (UK) website, undated article, captured August 9, 2019

The Heroic & Dismal: Humans prefer games that use chance elements – dice and draws – to resolve critical issues in the game; and nothing is more chance-driven than Combat. One may quibble that strategy choices dictate the chances taken during the game – most strategy, training, organizations, and extra abilities translate basically to improving chances of success and *most strategy in dice or draw games is about stacking the odds in your favor* (i.e. Enlightenment, Combat Shifts, technologies in GGDM):

- ✓ “Three men firing at one man are usually going to win, all else being equal.” – Military Science Fiction (blog), “Types of War,” user Warcat, July 29, 2015.
- ✓ This is the key element in ‘suicide by cop’ situations; by training, the police respond to incidents with overwhelming force against individual threats. This first became necessary with the rise of armed gangs and cartels, but also is now perpetuated by domestic familial violence situations, mass shootings and modern automatic firearms

where someone can kill many in a crowded public space in a few minutes. A situation has been created where one can get the cops to do the job for you.

Still if there is any chance of failure or a chance that a bad strategy can win, it is still a game of chance. There is a chance for the heroic and the dismal.¹⁰ Having an element of chance in a game allows human players a mental ‘out’ if they lose (because it was bad luck) – especially in wargames and in multiplayer games where only one can win – and to express humility for a moment (assuming they have any) if they win (because it required some luck). Each morning that you make it to work is luck – if you think of all of the things that can go wrong, you may even have experience with some (e.g., blue lights from an alien ship that turns everyone into zombies).

Although chess is a very old and intriguing game, and most Westerners have at least a passing acquaintance with chess, few truly love the game where they are solely responsible for winning or losing, one on one, against a computer or another human (losing to a chess computer or program also provides a mental ‘out’ for the human player). Humans would be unhappy in a universe that does not contain an element of chance – it gives us something to complain about, and also provides a basis for the heroic, epic and impossible and hope or dread without certainty for either; as we have learned in the last century that the underlying universe is a statistical probability, it seems probable at least that Asimov’s Robots chose this universe for our best future.

Combat die rolls make possible hope for the seemingly hopeless situation. I have played the GMT board game, *Here I Stand* (HIS, or as the players joke, *Here I Sit*) twice, both as the Ottoman Turks (the Turks cannot affect the English, although that is historically accurate). HIS uses an abstract combat system, ships roll and they either hit or not. In one game, I had a memorable naval battle with the Hapsburgs; I outnumbered the Hapsburgs nearly 2:1 and had activated the Janissaries and had a naval leader – I was rolling over twice as many dice as my opponent. No matter how many dice I rolled, I couldn’t get a hit while my opponent rolled generous hits on my ships. The massive Ottoman and corsair force went down to ignominious defeat. In a second naval battle off the heel of the boot of Italy, with significantly reduced forces, the Ottomans fared little better. Having been ambushed and blocked on the way to Vienna and losing at sea, the superior military of the Turks was neutralized, and military power is the only way the Turks can win in HIS; more so than any other power, the Ottoman Turks win or lose HIS on a few rolls.

- **Expendability:** We are all expendable, for any purpose or no purpose at all. Don’t assume because someone dies there was any greater reason behind it. People get killed whether executing good plans, good strategies, and following good leaders or bad plans, poor tactics, and incompetent leaders. Military personnel understand this, civilians often do not, usually blinded by false ideas that there is some connection or equivalence between moral rightness and combat results, morality and morale. Civilian leaders simply need to understand that military acts are casualties and take public and political responsibility.
 - ✓ **Woman:** What mean expendable? **Rambo**, It’s like someone invites you to a party and you don’t show up. It doesn’t really matter. – *Rambo II* (1985).
 - ✓ “Every man has a final weapon, his life. And if he is afraid of losing it, he throws that weapon away. And that’s what they can’t quite grasp, that I’m not really afraid. And that’s what they must understand, isn’t it?” – General Gordon, *Khartoum* (1966).
 - ✓ “We’re all expendable. We think the world’s going to stop when a pope dies, or a king. And then... life goes on.” – Sylvester Stallone.

“War is something sublime because it forces every man to face the dilemma of choosing between heroism and cowardice, between the ideal and the stomach, between the spiritual instinct to project life beyond the material, and the pure and simple instinct of animal conservation. It is the brutal discriminator that distinguishes man from man, character from character, constitution from constitution: on the one side the cowardly, the soft, the hysterical, the effeminate, the cry-babies, the mommy’s boys; on the other the strong, the aware, the idealists, the mystics of danger, those who triumph over fear and those who are courageous by nature, the hot-blooded heroes and the heroes of the will.”

– Mario Carli, L’italiano di Mussolini (1930), Gazzola Stacchini (1991:494-5)

The Better Part of Valor: A successful retreat ends the unit’s participation in the combat,¹¹ and when all units of a side have retreated or been destroyed, the combat ends. Units that have successfully retreated from a combat are free to execute Actions during the next Regular Turn or join other combats later (or just retire and collect their pensions).

At the end of a combat, regardless of the results, all surviving ships have a chance of some active Constructural Elements becoming inactive. See The B-Team, 3 Disruption, p. 281, *supra*.

- **Operation Unthinkable:** Only units involved in a combat may retreat from that combat. Other units not involved remain present and may have to wait until the next Regular Turn to act. Once the combat ends, the victorious side will need to initiate a new combat to attack other positions or units that were not in the combat (except in automatic follow-through combat opportunities), i.e. they cannot continue attacking units that were not joined in the previous combat, e.g., troop transports. On the flip side, if it is desired that all ships of a side retreat from the combat, all ships of the side must first join the combat, i.e. those troop transports. Units joining a combat may attempt to retreat in the same Combat Round, *ut supra*.
 - ✓ Operation Unthinkable was the code name of the much-debated British plan for an Allied surprise attack on the Soviet forces in Germany on July 1, 1945 to drive them out of Germany. The purported political objective of the operation was to force the Soviets to abide by the terms of the Yalta Agreement with regards to Poland. The Soviet occupation of Eastern Europe was also considered a threat to Western civilization. Later planning instead anticipated Soviet attack.
- **Zigged When He Should Have Zagged:** A unit attempting to retreat from combat *may not do anything else* on the Combat Round in which it attempts to retreat. A unit attempting to retreat from a combat must have the capability of retreating; for example, colony Defense Bases may not retreat from combat (how? where would they go?).¹² The basic chance of a unit successfully retreating from combat is 50% *if it is not destroyed in the same round*. Units that fail to retreat, and are not destroyed, are still in the combat and may try again the next Combat Round or do something else.
 - ✓ Again, two elements come into play in retreats. First, to increase the ship’s chances of retreating, it should be placed near the top of the order so that it may benefit from an Enlightenment reroll if the retreat attempt fails. Second, combat is simultaneous, meaning that a ship might have been successful in the retreat roll, but was hit and/or destroyed by enemy fire before the end of the Combat Round. As noted in Army of

- Light, 2 Colleges, p. 479, *supra*, Enlightenment cannot be used to force enemy units to reroll successes.
- ✓ Fighter attacks are resolved first. The results may make it more difficult for a unit to retreat. Units that are retreating should be Combat Screened if possible, but that is a tactical and circumstantial decision. See Carrier Operations, 1 Carriers & Fighters, p. 1050, and Combat Screening, 3 Carriers & Fighters, p. 1067, *infra*.
 - ✓ For discussion of Carrier-Fighter and System Boat-Tender Ship retreats, see Carrier Operations, 1 Carriers & Fighters, p. 1050, *infra*.
- **Go Speed Racer!:** Unless otherwise provided, ship speed for interstellar travel has no bearing on system combats in the base game rules (or Blockade Running, see 4 Commerce, p. 1233, *infra*). Positions may, through Patents, potentially develop in-system and combat propulsion systems that give a significant edge in closing or fleeing speed and agility to their units in combat. They may also develop Doctrinal Templates to provide better rear guard and a more orderly retreat (see Combat Formations, 4 Colleges, p. 503, *infra*). But as a base-line rule, the game assumes that there is no tactical difference between the in-system and combat maneuver of the units of various positions.
- **Ship Zipped:** A unit that has retreated successfully from a *Ship Combat* without being destroyed must do one of two things:
- ✓ The ship must initiate interstellar movement to a supported system within range of the unit's remaining OSL (if possible) or to a supported system within Short Movement (see Space Hop, 2 Movement, p. 850, *supra*). This movement does not require any separate Power Activation. Retreating units may go to different locations, or to locations other than from where they originated, if they have the OSL or movement range.
 - Retreat to a supporting colony within the remaining OSL must be the first option. If one is not available, then retreat to the closest supporting colony is allowed, taking chances on Supply Rolls in FTL (see Limping Home and The Cold Equations, 3 Movement, pp. 862, 864, *supra*). There may be a few extreme, special circumstances where the Concierge may rule otherwise, but what is stated above must generally be the rule.
 - It is possible, but not likely, that the enemy would be able to know to which system the retreated ships moved; much of it has to do with interpretation of the technologies used and the nature of the Stardrives. Think of it as trying to track which way a flea jumped.
 - ✓ Or, the unit must retreat to a colony that has at least one Orbital Defense Base to cover its retreat (to hide behind!). In these instances, the unit is considered to be *at the colony* (as an enhancement) and *not in system space*. The ship retreating from a Ship Combat may retreat to a colony engaged currently in Colony Combat, and automatically 'joins' that combat as a defender (or maybe attacker). The colony to which the retreat is made does not need to be a sovereign colony of the ship's owner, it may be an **alien colony** if the owner consents to shelter the retreating units. Implicit in any shelter is the idea that the colony will (attempt to) protect the units from pursuit.
 - ✓ Retreating to a colony may trigger the follow-through 'free' combat initiation against colonies (*ut supra*) because the retreated units are *not in system space*. Units that

have retreated to the colony may join any subsequent defense of the colony (if able) and/or may retreat again.

- ✓ If you are wondering about surrender options, well ... that's a whole different issue. See 5 Combat generally, *infra*. But there is a very good argument that ships which cannot safely retreat may fight to the end against *alien forces*.
- **Combat Re-formation:** Attacking units retreating from a *Colony Combat* must retreat either to system space or to a colony in the same system (*ut supra*). Ground Units involved in a Ground Combat may only retreat if they can be lifted from the planet surface to available transports (see Ground Combat Resolution, 4 Combat, pp. 993-994, *infra*). The Concierge may determine that stranded Ground Units have surrendered, attempted to surrender, or scattered (see Win, Place or Show, 5 Combat, p. 1010, *infra*).

“Proportional response only makes sense when the playing field is even. We have a distinct advantage here. Problem is the other side just doesn't realise how wide the gap is. What they really need is a visual aid... Don't worry, there's no threat of residual radiation spreading. It's quick and clean – it's like cutting your enemy's heart out with a scalpel.”

– Daniel Jackson, *Stargate SG-1*, “Absolute Power” (2001)

Endnotes.

¹ **Citation:** “‘And don't tell me God works in mysterious ways,’ Yossarian continued. ‘There's nothing mysterious about it, He's not working at all. He's playing. Or else He's forgotten all about us. That's the kind of God you people talk about, a country bumpkin, a clumsy, bungling, brainless, conceited, uncouth hayseed. Good God, how much reverence can you have for a Supreme Being who finds it necessary to include such phenomena as phlegm and tooth decay in His divine system of Creation? What in the world was running through that warped, evil, scatological mind of His when He robbed old people of the power to control their bowel movements? Why in the world did He ever create pain?’” – Joseph Heller, *Catch22* (1961).

² **Commentary:** Plaintiff Attorneys need Defense Attorneys, Defense Attorneys need Plaintiff Attorneys, see?

³ **Commentary & Citation:** Initiative is a part of morale, see Morale discussion 5 Combat, p. 1006, *infra*. Two extremes of initiative:

- ✓ In the days of Napoleon's stunning victories, commanders from top to bottom displayed initiative and everyone was involved and enthusiastic (near certain victory tends to do that), to an extent unheard of in European armies which had heretofore resembled cattle (the Netherlands taxed Hessian mercenaries as cattle when crossing their territory to seaports). European military professionals aiding the American Revolution noted the difference between European soldiers and American soldiers; the former immediately did as ordered, the latter asked for an explanation why, then did sort of what they were ordered to do.
- ✓ On the other end of the spectrum is the entire underperformance of UNPROFOR in Bosnia-Serbia and in particular the 370 soldiers of Dutchbat III, who stayed in their building and did nothing to stop the genocide/massacres and rapes that they knew were happening at Potočari, that happened right in front of them, *as established by court testimony*. They were not willing to become the modern 300 – whatever their orders may have been – to protect refugees against strong Bosnian Serb VRS forces. This is forever a stain on the army of the Netherlands, which suffered so much under the Nazi German occupation.
 - Cf. Dutchbat III at Potočari to Charles George Gordon at the Siege of Khartoum (1884-1885). His decision to actively resist instead of evacuating (disobeying orders) forced the British government to send a relief force, though they did dally in the task until public opinion forced their hand.

⁴ Commentary: Defense attorneys love dilatory tactics and it is usually the responsibility of the Plaintiff's attorneys to drive the case along, frequently by threatening the file motions with the court. However, sometimes Plaintiff attorneys play the dilatory game hoping for outside events to help their case or because their case has problems.

⁵ Commentary: As mentioned in *Defending the Nothingness*, 2 *Combat*, pp. 956-958, the cordon defense is defeated by the military doctrines of concentration of force and defeat in detail, and this is true of colony Defense Bases. So, theoretically, the approaching attack fleet will only battle a portion of the colony's defenses at a time, but must eventually *battle all of the colony's defenses* to defeat the colony. On the other side of the concept, within the time periods represented by GGDM, this process is abstracted by allowing all units of both sides in a combat to fire each Combat Round, with the note in *Something Here From Somewhere Else*, 2 *Combat*, p. 960, that System Defense Bases, because of their first Combat Round isolation, can be defeated in detail, especially without Fighter support.

- ✓ This is an area where enterprising players could develop Doctrinal Templates (see *Combat Formations*, 4 *Colleges*, p. 503, *supra*) for attack in Colony Combat while the defenders may counter with their own Doctrinal Templates and perhaps enhancements to increase mobility and range of Defense Bases to allow them to counter-concentrate.

⁶ Citation & Commentary: “The influence of the American Revolution is evident in the skirmishing tactics. In addition to Lafayette, Jourdan and Berthier, scores of lesser officers had seen service in Rochambeau's expeditionary force. They returned with enthusiasm for American methods; and as the organizer of early National Guard units, Lafayette included a rifle company in each battalion. The weapon itself does not appear to have been widely adopted in the new French armies, but Hondschoote and later fields indicate that lessons had been learned in marksmanship and taking cover. Most of the Revolutionary tactics, however, sprang from necessity rather than precept or theory. Lacking magazines, Carnot's troops became less dependent on bases and lines of communication. Lacking tents, they learned to bivouac in the field where all units could be readily concentrated. Lacking supply wagons, they marched at twice the speed of better provided opponents. Thus were Guibert's doctrines of mobility put into effect – not through army reforms, as he had hoped, but by dint of military poverty!” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 455.

- ✓ This is one of the many ways in which the American Revolution, half a world away, can be strangely said to have enabled Napoleon's rise (an emergent event), which is, of course, linked to the later Louisiana Purchase (1803) because he needed cash and could not defend New Orleans against the British in any case.

⁷ Commentary: Abstract combat resolution was made popular by the *Axis & Allies* board game in the early 1980s. Note however, that other games, for example, *Stellar Conquest* (1976) were using the same system prior to *Axis & Allies* and its family of similar games (e.g., *Conquest of the Empire*, *Shogun*). The popularity of the *Axis & Allies* style combat system was such that rolling lots of six sided dice to resolve combat between non-unique units became a derisive mark of the late 1980s- early-1990s American board game (e.g., *Shattered States*).

⁸ Commentary: e.g., *Imperium* 3rd Ed (2001) of which many complained that 3-D combat added nothing to the game, or the *Saganami Island Tactical Simulator* (based on the *Honorverse* books) of which I played in a demonstration at a big convention long ago (it was probably the 1st Edition).

⁹ Citation: “In one of the bitterest blows of the Black War yet to befall the Diaspora Sector, Solomani forces launched an attack on Hice's class A starport using thermonuclear weapons. This attack completely destroyed the starport and, it is believed, killed a substantial portion of Hice's populace.” – *Traveller News Service* (*Traveller RPG*), *Imperium Date* 345-1124.

¹⁰ Commentary: In one game of *Red Storm Rising*, a Dutch battalion held off six Soviet divisions for several turns.

¹¹ Commentary: Get your tail section blown away, live to fight another day!

¹² Commentary: That would be an interesting technology: The ability to teleport Orbital and System Defense Bases. A mobile defense base force. In some sci-fi universes, interstellar navies develop heavily armored starfortresses that are slow moving, but serve as the command and logistical center of a fleet position in a ship battle.

- ✓ In *Ender's Game* (movie, 2013) the Formic – a collective, hive intelligence – attack on Earth literally falls out of the sky when the war hero, Mazer Rackham, notices that all of the Formic ships are rotating around a large ship in the center and crashes his fighter into the Queen ship from above. Like an unexpected whack on the back of the head!

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See Appendix CST – Combat Shifts & Situations Tables
See Appendix EPAT1 – The Existential Patents
See Appendix EPAT2 – Existential Patents Quick Summary

“At the outset it was evident that the staggering casualty list had been no accident. Battle losses were bound to be severe when soldiers advanced shoulder to shoulder, halting at the word of command to trade volleys at distances suited to dueling pistols. Only an iron discipline could nerve men to keep reloading and firing while they stood firm amid the heaped-up bodies of writhing and motionless comrades. Only years of drill could school them to close up their tattered ranks and march forward with the bayonet at the slow and solemn pace of eighty steps a minute.”

– Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 336 ¹

Shoulder to Shoulder: Factors of commonly misunderstood 16th-19th Century Linear Warfare:

- ✓ Muskets were heavy, single shot and had about a 20% misfire rate on a *dry day*.
- ✓ Accuracy fell off sharply after 50 yards, thus soldiers lined up shoulder to shoulder.
- ✓ Until the late 19th Century, gunpowder weapons produced a big cloud of thick smoke, thus bright uniforms were necessary to distinguish combatants in a close smoke shrouded battlefield, this also affected command, because once the shooting started, the general on the hill could only occasionally see the unit banners, communication was by messenger or bugle.
 - In the thick shroud of smoke, when figures emerged close in front of you, you had 5-15 seconds to decide friend or foe. Forget all those movies you’ve seen, most are filmed with smokeless powder. Thus bright colored uniforms served to distinguish units in the thick smoke; a Canadian unit wearing green uniforms was fired upon in the thick smoke by a British unit in the War of 1812 because they weren’t wearing red.
- ✓ Europe was by that time mostly cleared and improved farmland, vineyards and small towns, open fields, roads were common, so linear formations were not problematic in Europe (contrast with the terrain of North America).
- ✓ Musket and bayonet replaced pike and arquebus, lines and squares had been the standard military formations for millennia: linear musketry required men to stand close together and advance slowly, stiffly in line to avoid confusion and friendly fire.
- ✓ “They believed that in order to mash your enemy, you had to mass your men, so he lined up shoulder to shoulder and went forward, and a good deal of dependence on the bayonet frightening the enemy into retreating. There were a few bayonet wounds in that war. And this lining up shoulder to shoulder and advancing was the reason for the huge casualties they suffered.” – Shelby Foote undated audio interview, talking about Pickett’s Charge.

“Leave it to the infantry to ruin a guy’s morning.”

– Garibaldi, *Babylon 5*, “GROPOs” (1995)

GROPOs: Ground Units are regular, equipped and trained armed units that do not normally function as police forces. No Patents or special technology is required to build Ground Units, any position or Minor Race can build Ground Units from the beginning of the game.

Ground Unit size is measured in population and RPs. Ground Units are built (or added to) by activation of the Construction Power for the purpose of Colony Enhancement, using one half population factor for each 1 RP added; Ground Unit size for combat is measured in RPs. All colonies on a Balkanized Colony Planet may have their own Ground Units and may peacefully (or not) co-exist. Population Factors in Ground Units on *any* colony count toward the colony planet's Maximum Habitability, do not produce RPs during Taxation, but will grow normally during Census (eating and breeding!)² if on a colony of their Native Population Type.

- ✓ Surface colonies on a Balkanized planet may initiate Ground Combat against each other.
- ✓ “By the following summer universal conscription had increased French numbers to nearly three quarters of a million – the greatest horde ever seen in Europe since the barbarian migrations. ... The last traces of the old regime had vanished along with such famous regiments as Picardie; and all units now wore the blue uniform of the National Guard, being designated by numerals instead of names.” – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), p. 455.
 - This approach can be seen in the movie *Paths of Glory* (1957) where all of the French officers and soldiers wear their regimental number prominently etched into the collar of their uniforms (in the movie ‘701’ is prominently displayed on most of the uniform collars, except the General-grade officers and staff attachés).
- ✓ *The Alterity Factor*: There are communal eugenic creatures on Earth where every individual is both a natural warrior and a worker, for example, ants and bees. It is possible in GGDM to have technologically advanced alien races along these lines which makes the entire population of the colony a single, probably non-divisible, huge Ground Unit that can also produce in Taxation and grow with the Census, if not involved in a Ground Combat. I designed a game like that when I was about 15.
- Ground Units: Ground Units can be distinguished mechanically from Fighter Complements in the following ways: Ground Units are not an Enhancement Technology (there are no Patents required to build Ground Units), and they can exist independently as a unit away from a colony or ship as long as they are supplied by Log Ships. Compare with Fighters, see *On The Flight Deck, 1 Carriers & Fighters*, p. 1047, *infra*. This makes Ground Units a limited unit in the game, not quite like ships or colonies (see *View From a Height, 1 Construction*, p. 660, *supra*), but not always and only an enhancement to a ship or colony, as are Fighters.
 - ✓ *Minor Races*: The armaments of Ground Units from Minor Races probably makes them inferior. I once played in a Traveller RPG game where a Tech Level 8 world (1980s technology) was invaded by a Megacorporation (Megacorporations have private armies and navies in Traveller) using Tech Level 12-14 armies and warbots. Most people with even a passing knowledge of history can picture Era differentials in land warfare, because we are land dwellers. But I would not bet too heavily against 300 Spartans vs. 300 18th Century European line infantry (30% hits at 100 yards, 3 volleys per minute); the muskets will do their damage during the charge, but the guys with bayonets will be in big trouble when the Spartans close for *mano-a-mano*.

- Sepoys in Space: Since Ground Units may be created from Naturalized Colonies, Native Population Type will be a factor.³ Ground Units garrisoning colonies that are not of their Native Population Type are possible trouble.⁴ The Native Population Type of a Ground Unit is also a factor in the Habitability Class of the planet on which they land (*ut infra*).
- Lift & Separate: Ground Units stored in Orbital Cities may not participate in Ground Combat or any other surface activity without being landed. They may be loaded and transported on special transport ships, whose capacity is measured in population of Ground Units that can be transported.⁵ Thus, it is possible through technology to increase the RP cost/value of Ground Units per half-population factor. Ground Units may be split between ships for transportation purposes. Ground Units may be left behind while others are lifted or evacuated. A position may build Ground Units for security without the ability to transport or land them.
- Troop Transport Technologies: Troop Transport ships do not have an Existential Patent, the technology will need to be invented and will probably be a modification of the Colony Transport Existential Patent (if landing troop transports) or the 1st Era Carrier Existential Patent (if using expendable drop ships). Lifting Ground Units should be similar to transferring Fighters between colonies and ships and not like Loading Population to Colony Ships. A large part of what is called *military efficiency* is the ability to move large numbers of persons and specialized equipment quickly and *in an orderly manner over distances* and *keep them in fighting condition*.⁶ Moving military units is not like transporting civilian population; military units are specialized and not self-supporting. And going is not voluntary.

Every rule concerning Ground Units may be altered or enhanced by an appropriate Patent or Doctrine;⁷ Colleges may be established for Ground Combat, Enlightenment may be used in Ground Combat. It is possible to build heavy ground units, fortifications (installations), specialized ground units, and ground units consisting of only droids/warbots.

- Pac Mecha Fever: GGDM does not comment on or make any assumptions as to whether ground combat units are or are not “mecha” units in the classic science-fiction/anime sense. However, for the purposes of ground combat rules, there would be two general types, which could be classified as ground unit mecha, and space-ground unit mecha (the latter being introduced in Macross as “variable fighters”). The former type, ground unit mecha, would consist of mecha units landed, probably via drop ship or drop pods, from orbit and which have only ground and/or possibly ground-air combat capabilities. The latter type would include mecha which are space capable fighters that can land on the surface on their own power and act as ground or ground-air combat units. Only the latter would require any distinction in the game, being treated as Fighter IPs while in space combat (possibly inferior to ‘pure’ Fighter Complements) that can be landed and converted to ground units for Ground Combat purposes.

Participants should consider the additional logistical support burden or requirements of Mecha units if they are developed in-game.

- ✓ “As military units and their equipment have grown more complex, the resulting logistical requirements have grown as well. Not only does new equipment require new supplies and new spare parts to keep it operating, but also new specialists to run it, maintain it, and to fix it when it inevitably breaks down.” – Col. Trevor N. Dupuy, Curt Johnson, David L. Bongard, and Arnold C. Dupuy, How to Defeat Saddam Hussein (1991), Appendix F, p. 192.

- ✓ “Advances in aviation and satellite technology replaced conventional forces and equipment, thereby diminishing the country’s ability to have any number of ‘boots on the ground’ to make a difference in enforcement actions and occupational abilities. Those boots needed to be paid, too. Machines didn’t. But what wasn’t factored into that equation was the huge sums of money needed to *develop* the technology in the first place by a monopolistic and overpriced tech community, keep it maintained, updated, and eventually, replaced. Buy it, use it, scrap it. In the long run, that mindset was ultimately more expensive than keeping the human element – *keeping* being the key word there – especially when it came to loyalty. If you don’t believe in the systems you swear allegiance to, then operating their instruments of destruction becomes a moral conundrum.” – J.A. Willoughby, “The Promised Land,” *This Side of Center* (2014), p. 157.

By developing Mecha units (or actually anything) in game, participants are also saying that they didn’t exist before the game and are thus distinguishable from regular Ground Units.

- Beans, Bullets & Bandages: Troop Transports, loaded or not, will have the same OFL and OSL as any other starship of its position. Ground Units not located at a sovereign native colony require *two Supplies* per Regular Turn to avoid Supply Rolls, whether on a ship or the ground. This is a baseline rule, regardless of unit size, environment and combat activities, but can be adjusted, modified, based on judgment and abilities.

- ✓ “Logistics is the ball and chain of armoured warfare.” – Heinz Guderian.
 - The Battle of Brody, in June 1941, pitted about 3,500 Soviet tanks against 750 German tanks. The battle was a demonstration of all elements, the Soviets had poor logistics, poor mechanical training, poor command & control, and the Luftwaffe savaged the Soviets in all areas, adding to their difficulty. Soviet tanks ran out of fuel, ammo, or had minor mechanical problems and were abandoned, 31 heavy KV Soviet tanks of the 41st division drove into a swamp and were abandoned. Their formations quickly became non-operational and the Soviet command was indecisive.
- ✓ “The full logistical effect of modern weapons made it impossible for an army to carry with it all the munitions it would need for a campaign; it was essential that it be re-supplied continually. When the burden of fuel, lubricants, and spare parts for motor vehicles are added to the increasing quantities of munitions consumed in modern combat, one begins to form an idea of the dimensions of supply required by a modern field army.” – Col. Trevor N. Dupuy, Curt Johnson, David L. Bongard, and Arnold C. Dupuy, *How to Defeat Saddam Hussein* (1991), Appendix F, pp. 190-191.
 - And don’t forget to bring the Bavarian cream donuts!

Ground Units located at a non-Friendly or Naturalized sovereign colony of their native population type (where they have hot chocolate and fresh donuts) require *one* Supply per Regular Turn to avoid Supply Rolls (see *The Cold Equations*, 3 Movement, p. 864, *supra*). Ground Units on an empty planet may attack any **alien colony** that is Landed there by a Combat Activation. Ground Units *probably* should never be able to be converted into a colony.

- ✓ On this latter point however, consider the Roman Danube River colonies of Vin-dobona (modern Venice) and Carnuntum. They began as legionary camps, which

were then fortified and given permanence (Carnuntum was on the Amber Road running from the Baltic Sea to the Roman Empire). Both of these places did become colony cities and Carnuntum became the capital city of Pannonia Superior, a Roman Emperor lived there for three years, and a historic political conference was held there in 308 A.D. But these all occurred after regular Roman population migrated to the camps (initially, wives, camp followers, attendants and families), including some wealthy individuals, traders, retirees or exiles from Rome, mixed with the local Celtic-Germanic population and retired Roman soldiers living on land grants. The ‘*probably*’ means that the Concierge must exercise judgment on the issue, based on history, milieu and species’ involved.

For *game convenience*, Colony Ships’ (whether loaded or not) OFL/ OSL is the same as for other ships and the same should be true of Troop Transports whether loaded or not. Log Ships, however, cannot carry enough to Supply Colony Ships (see Empty Cans, 3 Movement, p. 861, *supra*), but can supply Ground Units on the surface or in ships (*ut infra*) **because it is necessary for the game**.

The *per-day* consumption of a modern combat division that is doing nothing is staggering, and there are many military studies and articles available on the internet, for example, Peter Hoy, “The World’s Biggest Fuel Consumer,” *Forbes*, June 5, 2008. The issue comes to the fore most often in terms of the cost of keeping U.S. combat units in Iraq and Afghanistan.

- ✓ “Even in reserve and out of combat, an armored division consumed 136 tons and an infantry division consumed 111 tons each day. Consumption rates have risen still higher since then, as those 1953-era units were equipped mostly like their World War II predecessors.” – Col. Trevor N. Dupuy, Curt Johnson, David L. Bongard, and Arnold C. Dupuy, How to Defeat Saddam Hussein (1991), Appendix F, p. 192.
 - Pogeys, check. Doritos, check. Mt. Dew, check. Gaming supplies, check. Girlfriend? ... she left an hour ago.
- Landing Craft: Landing craft (aka Drop Ships, Flying Saucers, TARDIS) are not existential technologies; positions must develop their own Landing Craft technologies. Landing craft technologies may be different for each Habitability Class. They may also become quite advanced and elaborate; the bottom line measurement of Landing Craft will always be how many RPs of Ground Units can they land? Possibly, Landing Craft, like Colony Ships, will be consumed in the landings.⁸ But then how do you evacuate?
 - ✓ One of the best landing combats I have seen on sci-fi television was the Wraith attack on Atlantis (Stargate Atlantis, “The Siege” (2005)) where the Wraith fighters swooped in, but instead of bombing, they beamed groups of Wraith warriors onto or into the target (*à la* Star Trek). The Planetfall Defense Bots used in the Andromeda episode, “The Prince” (2002), were also very sophisticated and interesting units, commanded by the ship’s AI avatar.
- Resist et Mords: Colonies that have Ground Units *might* not surrender after losing a Colony Combat (however, see occupation, *ut infra*). Colony surrender, which is a dramatic issue, is discussed in the next section, 5 Combat. Conquered or Converted Colonies will not automatically revert when no enemy warships are present, if they are occupied by sufficient Ground Units. The Concierge will determine whether or not a colony reverts in these situations,

which implies a revolt and that the extant occupying Ground Units were either destroyed, or marginalized to areas where they cannot control the colony.⁹

- ✓ “No matter our fighting, The numbers will still count, We’re outgunned and few in numbers, We’re doomed to flag of fail. We were told to hold the border, And that is what we did, Honored were our orders, In despite of our foe.” – Sabaton, “Resist and Bite,” their 2014 song about an isolated company of the *Chasseurs Ardennais* of the Belgian Army in 1940.

The Chasseurs Ardennais motto is *Resist et Mords*, resist and bite, which appears on their wild boar-head unit logo. Had the Germans won WWII in complete world-conquest fashion, the stand of the Chasseurs Ardennais would not be celebrated in song; it would be necessary for the Reich and its descendants to paint their foes as weak, ineffective, corrupt and the German total victory as brave but inevitable and all things justified.

*“And the Anzio Bridgehead was held for the price
Of a few hundred ordinary lives.”*

– Pink Floyd, “When the Tigers Broke Free” (1982)

Ground Combat: Ground Combat is fought between sovereign standing armies on the surface of a planet. Ground Combat may be initiated by any activation of the Combat Power that initiates combat, as appropriate to the circumstances and if the attacker has Ground Units at the location. During a Colony Combat, the attacker may initiate Ground Combat on the second Combat Round or later as a follow-on Combat requiring no Power Activation to land troops, 1) if the attacker has Ground Units present on ships and 2) they join the Colony Combat on the *previous* Combat Round (planetary approach time).¹⁰ If the ships carrying the Ground Units join the Colony Combat, they may be targeted by the colony defenders (the defenders have many critical tactical decisions to make at this point) and may be Combat Screened while in space.

- **Chain Guns:** It is possible to initiate Ground Combat at the end of a Combat Movement if, upon arrival in the destination system the attackers have Ground Troops on ships, there is an enemy colony, and there are no other warships or colony defenses to impede the landing of Ground Units. Just like any Earth alien invasion movie.
 - ✓ It is possible to chain three combats together in a follow through, ships victorious in a Ship Combat may immediately follow through with an attack on a colony (see Panic Bells, It’s Red Alert, 2 Combat, p. 960, *supra*, no additional Combat Power Activation necessary), and on the second Combat Round, the attacker may land Ground Units to initiate a follow-through Ground Combat (if they joined in the first round).
 - ✓ There are tremendous opportunities for operational luck and timing in these follow up combats, as Combat Rounds run independently of Regular Turns.
- **Fire at Will:**¹¹ Ground Units may only initiate combat against other Ground Units, Ground Bases or undefended colonies and may fire Close-in Defense against Fighters that attack them during Ground Combat. Ground Units are not (normally) able to attack orbiting warships and Orbital Defense Bases even if they fire at the Ground Units (via Orbital Bombardment). But such an ability could be developed via new technologies... Fighters that are present on a colony with no friendly Ground Units or Ground Bases will be eliminated at the

end of the first Combat Round if enemy Ground Units initiate Ground Combat against the colony, unless they can retreat somewhere else.

- Unenlightened Activity: During a Ground Combat, the status of the Epistemological Constructural Element of the defending colony is used to determine whether or not the colony's Defense Bases, Ground Units and Fighter Complement can benefit from the application of Enlightenment (see Skool Tyme, 2 Constructural Elements, p. 190, *supra*) or NSF acting as Faculties (see The First is Last, 3 Colleges, p. 493, *supra*) during the combat. If the Colony Combat lasts to the next Regular Turn, the owner of the Colony may attempt to reactivate an inactive Epistemological Constructural Element at the colony by Cohering (see 5 Culture, p. 421, *supra*).
 - ✓ The attacker's Ground Units will use the Constructural Elements status of either their Transport Ship (as of the beginning of the combat) or the colony on the same planet from which they launched their attack, for the purposes of Enlightenment.
- Dropping In: Attacking Ground Units landing to initiate Ground Combat may not fire at the Defenders during the first Combat Round – the landing is their only action for that Round. Enemy Ground Units landing on a Colony may be attacked once during the landing round by any Ground Bases (as if acting as Ground Units, *ut infra*) or Fighters based on the Colony. Landing Ground Units *may not fire* Close-in Defense at defending Fighters during landing, but any escorting fighters from ships in orbit may engage the Colony's Fighters in a Dogfight Combat. The only way to prevent an enemy Ground Unit from landing is to destroy it; all surviving Ground Units (or parts of) will land on the colony planet. Warships may not Combat Screen Ground Units during landing operations; only Fighters can escort them to the surface. See 3 Carriers & Fighters, p. 1067, *infra*, regarding Combat Screening.
 - ✓ “Fighting soldiers from the sky, Fearless men who jump and die, Men who mean just what they say, The brave men of the Green Beret... Back at home a young wife waits, Her Green Beret has met his fate, He has died for those oppressed. Leaving her his last request, Put silver wings on my son's chest...” – SSgt. Barry Sadler, “Ballad of the Green Berets” (1966).
 - ✓ In 1945, 2,500 Army paratroopers of the 503rd dropped on tiny Corregidor Island from 500 feet without reserve parachutes – they wouldn't have time to use them if the main chute failed. Dazed, surprised defenders killed some dropping troopers.

These rules also apply to all subsequent landings. The combination of population, and attacking and defending Ground Units may temporarily exceed the Maximum Habitability of the colony planet until one side prevails – not to mention the damage they will do to the planet during the combat which may reduce Habitability Class.

- ✓ If the landing is being conducted against a Minor Race, the Concierge will need to decide whether the Minor Race has any ability to resist the landing on the first Combat Round. For example, the natives of the moon Pandora (movie Avatar) or planet Naboo (Star Wars) were unable to resist the initial landings, but fought later. In May 1513 A.D., the Calusa tribe in Florida met Ponce de León's ships in costal sea canoes full of warriors armed with long bows, and drove them off. It is clear from several accounts of expeditions that the natives of Florida already knew about the Spanish and were hostile. The Spanish had depopulated several Bahama Islands with slaving

raids and Ponce de León was not the first Spaniard in Florida; others had come raiding for slaves to sell in Spanish territories.

- ✓ Having the ability to ‘drop’ units on a hostile enemy colony planet via control of orbital space following Colony Combat – does not automatically allow the attacker to learn the size of the Ground Unit on the colony. There is, therefore, always a risk involved in invading an **alien colony**. Surveillance and Information Operations (Special Operations spying) may be used to learn generally the size of the opposing Ground Unit; Probing actions probably will not be effective for this task. See Taking It All Down and Information Operations, 2 Information, pp. 1343, 1349, *infra*.
- ✓ Though the Ground Combat landing rules are phrased in terms of a single attacker landing, Ground Combats on surfaces can be fluid and protracted situations where both sides land forces. A historical example is the Battle of Guadalcanal, from August 1942 to January 1943, where both Allied and Japanese forces landed on the island many times, while the sea and air battles raged over and around the islands, with neither side able to establish permanent control of the approaches. Guadalcanal was the most evenly matched and fought Air-Land-Sea (ALS) campaign between the war machines in the Pacific during WWII, the result of which (in combination with the Japanese carrier losses at Midway) gave the Allies the permanent strategic initiative. The Japanese were able to evacuate their troops by forming a naval corridor.
 - *Thoughts of an intergalactic mercenary after a hot combat landing:*
“Clean job my ass. A sixty-two percent loss is thirty-seven, hell-trained men. Men who will never get to spend the money they died for. Thirty-seven men and not one a friend. You don’t make friends in this business ‘cause it is too painful to see a friend’s burnt guts sprayed across the dirt by a rygon beam.” – B.K. Taylor (story) and James Fox (art), “Retrospect,” *Epic Illustrated*, Vol. 1, No. 4, Winter 1980.
- Soft Landing: Ground Units unloaded on their owner’s colony do not automatically initiate, and may not, during transfer, initiate combat against other positions’ Ground Units on a Balkanized Planet. It is possible to unload Ground Units on your own colony, then later initiate Ground Combat against another colony. However, if the owner of the Ground Units is currently involved in a Colony Combat against any other colony on the planet, the transports must join the Colony Combat even to land troops on their own colony – as it is most certain that the defenders will see the approach of troop transports as an intent to land Ground Units on their colony. However, as no Ground Combat is being initiated by the landing, the defenders cannot fire at the Ground Units during landing on their own colony.
- Razor Rain: Generally speaking, the Orbital Bombardment discussed In This Dust That Was a City, 2 Combat, p. 961, *supra*, is a mostly indiscriminate bombardment of urban areas, installations and government facilities with the intent of maximum destruction of population and causing the collapse of civilization, with little regard to damage to the planet. It can be described as being like a full thermonuclear war in 1983, either with nukes, beam weapons, or rocks thrown down from orbit.¹²

As such, it is not suited generally to strategic or tactical support of Ground Units engaged in combats. If the intent was to Orbital Bombard the planet in this way, why were Ground Units inserted on the surface?¹³ However:

- ✓ Should the situation arise where an Orbital Bombardment of a planet is ordered where there are Ground Units, either friendly or enemy, all units will suffer damage proportional to the loss of population. It is of course, possible to just Orbital Bombard a colony that has defending Ground Units without initiating a Ground Combat or before initiating a Ground Combat (see Something Here from..., 2 Combat, p. 960, *supra*).
 - ✓ It is possible for positions to develop technologies (Patents) and doctrines that will allow for ‘close’ Orbital Bombardment by orbiting warships and Orbital Defense Bases that tactically and strategically supports Ground Units in combat on the surface, which may or may not mean orbital launched MIRVs with tactical nukes (perhaps similar to 155mm nuclear artillery shells¹⁴) or conventional explosives, or damage to the planet.
- Ground Combat Resolution: Drumroll please? Each Combat Round, each Ground Unit on both sides must be designated to either attack or defend. This is independent of their side’s overall status as the strategic attacker or defender in the Ground Combat.
- ✓ Ground Units initiating Ground Combat by landing on the planet may fire in the second Combat Round. Attackers already based on the planet may fire in the first round.
 - ✓ Ground Units either attack or defend in a Combat Round as their action.
 - ✓ Attacking Ground Units must be given a single enemy Ground Unit as the target; Ground Units designated to defend in the Combat Round do not have targets assigned and do not attack. A side may designate all of its Ground Units to defend in a round.
 - ✓ Ground Units may be Combat Screened by other Ground Units, Combat Screened Units and those providing the Combat Screen may not be designated to attack in the Combat Round. Ground Units may not be Combat Screened by Fighters against other Ground Units, but can be Combat Screened against enemy Fighters.
 - ✓ Ground Units may be attacked by more than one enemy Ground Unit each round.
 - ✓ Each attack is resolved *individually*, one attacker vs. one target unit. One ten sided die is rolled for each 10 RPs of the attacking Ground Unit’s size and the results are added. If the die roll result or total falls within the *absolute value* range of the attacker’s total RPs minus the defender’s RP size, the attack has been successful.
 - For example, a 10 RP Ground Unit attacks a 3 RP Ground Unit (the target), the difference is 7, any result less than or equal to 7 on a ten sided die will mean the attack was a success. One die is rolled, the attack roll result was 5.¹⁵
 - Flip the script. The 3 RP unit attacks the 10 RP unit. Because absolute value is used here, 3 minus 10 is negative 7, but the die roll result for a successful attack is still less than or equal to 7.
 - ✓ A successful attack is not like a hit in Ship or Colony Combat; the defending unit is not instantly destroyed. Instead, Ground Units are reduced by RPs damage. For each RP lost, the *one half population factor* is also lost (*ut supra*).
 - ✓ If the attack was a success, take the result of the attack roll and subtract the target unit’s size in RPs from the die roll, and if positive the difference is the damage in RPs

that is inflicted on the target. If the result is a negative number, that damage is done to the attacker instead *if the target unit was designated to defend in that turn*.

- Continuing the example above, the target unit's size of 3 RPs is subtracted from the die roll result of 5, a difference of 2; the target unit takes 2 RPs damage and survived the round with 1 RP left.
- If the attack roll had been a 1, the result would still have been a successful attack (result ≥ 7), however, if the target unit (above) had been designated to defend in the Combat Round, the attacking unit would have taken 2 RPs damage instead ($1 - 3 = -2$), despite the successful attack roll.
 - Flip the script, Part 2. If the 3 RP unit attacks a 10 RP unit, there is no successful attack die roll that will inflict damage on the larger defender because the defending unit is larger than 7 RPs. That is unfortunate, but historically, forces that were outnumbered more than 3 to 1 were usually defending, with very rare and historically notable exceptions. If the 10 RP unit had been designated to defend, the attacking 3 RP unit could be wiped out. It is obviously best in this case for the 3 RP unit to defend and hope the 10 RP unit attacks and has bad luck.
- ✓ A Ground Unit designated to defend in a round may do damage to multiple enemy Ground Units if attacked multiple times and has good luck.
- ✓ Ground Units which lose their last RP are eliminated. Ground Units at a friendly colony could be reinforced during Regular Turns by adding RPs and population from the colony. Ground Units that have landed on an enemy planet can generally only be reinforced by landing more units but not added to until they reach a friendly colony.
- ✓ A Ground Combat will end if all of the attacking Ground Units are either eliminated or retreat from the planet (they must be lifted, if they can't they are stuck, do or die).
 - At the end of a Ground Combat won by the defender, the defending colony has a chance of some active Constructural Elements becoming inactive (as in panic in the streets). See *The B-Team*, 3 Disruption, p. 281, *supra*.
- ✓ A Ground Combat will also end if the colony is 100% occupied by the attackers and all Ground Bases are destroyed (*ut infra*); think of Germany in May 1945. The defenders can never retreat from a Ground Combat, so the only way to win is 100% victory, but defending Ground Units may remain for a short time.
- Vac-Suits: Ground Units may not initiate combat on a planet that is Unpleasant, Hostile, or Uninhabitable to their Native Population Type unless they have Controlled Environment Technology. Ground Units designated to attack on a planet that is Unpleasant to their Native Population Type add 2 to their attack die roll result and 4 if the planet is Hostile or Uninhabitable to their Native Population Type.¹⁶ If the planet is Unpleasant to the target unit, subtract 2 from the attack die roll result, and if it is Hostile or Uninhabitable to the target unit's Native Population Type, subtract 4 from the attack die roll result. Adjustments can cancel out.

- ✓ Imagine two human armies fighting on Venus, or Mars, or the Moon? Artifact (1980) was a Metagaming ‘microgame’ about lunar surface combat between U.S. and Soviet forces (and later alien forces) over an extraterrestrial artifact discovered on the Moon. It featured scientists and astronauts/cosmonauts in hard vacuum suits and moon buggies armed with mortars and rockets (there was a similar scene in the movie *Ad Astra* (2019)). I had a copy when I was young and spent many hours playing it. It seemed like the alien artifact was bait and we were invited for dinner by the aliens. Maybe it was just a cosmic fishing expedition and they reeled us in?
- ✓ The most famous and protracted hostile environment battle in modern history is the Chinese attempt to surround and eliminate the 1st U.S. Marine division and army detachments strung out along the road to the Chosin Reservoir, North Korea, in 1950. In the extreme bitter cold and restrictive terrain, the Marines, with clear air superiority, struggled to extract themselves to the coast for naval evacuation.

At no time prior to 20th Century technological warfare would such a battle have been fought (there is a doubtful or greatly exaggerated claim of a Battle of the Ice between Teutonic Knights and the army of Novgorod in 1242 A.D.). In the end, two Chinese divisions together could muster only 200 men, and one of the final dawn assaults to clear the road was met with eerie silence; the Marines trudged up the hill to find that a platoon-sized contingent of Chinese defenders (remnants of a battalion or regiment) had all frozen to death in their foxholes during the night.

- ✓ Later, in 1984, the Indian Army fought the Pakistan Army over the Siachen Glacier, at altitudes of between 19,000 and 12,000 ft., the world’s highest battlefield. Occupation by Indian Army posts is quickly degrading the glacier environmentally with heat, pollution and chemicals.
- Collateral Damage: Additionally, the colony’s population and the planet’s Maximum Habitability are both damaged by one population factor for each result of 7 or higher rolled by either side during a Ground Combat. Loss of population in this way may trigger Disruption effects (see *Rousing the Rabble*, 2 Disruption, pp. 271-272, *supra*).
- ✓ Consider what happened to the cities of Hue, Hamburg and Mosul. During the Tet Offensive, 80% of the City of Hue was destroyed by U.S. air and artillery strikes as we sought to push the NVA out of the city. We destroyed the city to liberate the city. The City of Hamburg was 90% destroyed by allied air raids during the entire course of WWII; the post-war aerial photos show that the entire center city area was leveled. The 2017 liberation of Mosul from IS forces is similar to Hue (noting that IS destroyed the Grand Mosque themselves); modern panoramic pictures speak volumes of the devastation of roads, buildings, and infrastructure. Mosul was ‘liberated.’
- ✓ The early darling of military science-fiction writers were ion, plasma and fusion weapons. Traveller RPG in the 1970s and 1980s had Plasma Gun, Man Portable (PGMP) and Fusion Gun, Man Portable (FGMP) as the main infantry armaments. The main sidearm in *Babylon 5* was the Phased Plasma Gun (PPG) or “plasma pistol/rifle” and the show had a neat visual special effect when they were fired. Plasma, with the spread of flat screen ‘plasma television,’ has lost some of its exotic charm, but undoubtedly, early science-fiction writers were thinking of hot plasma states, such as hydrogen plasma in the sun – fusion and plasma guns imply a controlled form of

the hydrogen fusion bomb – or maybe they envisioned lightening plasma. Lightning plasma can approach 20,000 °C or 50,000 °F and of course, plasma for solar or nuclear reactions is very much hotter.¹⁷

If GGDM Ground Combat is envisioned as being fought by legions of battle armored infantry firing hot plasma, fusion or other hot death-ray type weapons, backed by hover tanks and air power and tactical nukes, what is the effect on areas where they fight?

- **Air Attacks in Ground Combat:** Fighter Complements from orbiting warships and fighters from the defending colony may attack opposing Ground Units; this combat action is resolved as if they were attacking other fighters ('dogfighting') so that the damage result is expressed in RPs of damage to the Ground Unit.¹⁸ Fighter Complements from the defending colony may also attack enemy ships in orbit and those ships may be Combat Screened by other ships and complements. See Combat Screening, 3 Carriers & Fighters, p. 1067 *et seq.*, *infra*.
 - ✓ Fighter Complements of either side may Combat Screen Ground Units against other fighters only. All interception attempts by Complements attacking or screening Ground Units are automatically successful and result in a Dogfight. Complements that breakthrough the Dogfight may then attack opposing Ground Units with whatever they have left using Raid Combat procedure.
 - ✓ Ground Units may not Combat Screen other Ground Units against Fighters.
 - ✓ Ground Units attacked by Fighters while on a planet may fire Close-in Defense.
 - ✓ Fighter Complements on the surface of the planet may not be attacked 'on the ground' (i.e. at their airbase) by Ground Units unless there are no friendly Ground Units or Ground Bases remaining. If a Fighter Complement is attacked by a Ground Unit it is eliminated (e.g., 11 MiGs were destroyed on the ground in Entebbe Raid).
 - ✓ It is assumed in GGDM that ship-based Fighters attacking a colony are being launched from safe orbital distances; *however*, should a circumstance occur where it is deemed that a ship has launched Fighters from a low point over the colony (*a la* the Adama Maneuver¹⁹), any remaining Ground Bases (even if involved in a Ground Combat) may fire – in Ground Combat – at the ships launching the Fighters, attacking as Ground Bases. Effectively, by lowering themselves close to the surface to launch Fighters, the ships have temporarily become part of the Ground Combat.

“You may have turned your planets into fortresses, but this won't help if they are infected by nanobots that eat defenses from the inside out, or if your opponent is impolite enough to drop an asteroid on your favorite colony.”

– from Armada 2526 game official webpage

Fortress North America: When Ground Combat is initiated, any Ground Bases of the defending colony become Ground Units in the defense, and may not attack further in any Colony Combat, but still may be targeted as Ground Bases from orbit and are destroyed if hit.

Ground Bases can still fire Close-in-Defense at attacking Fighters when acting as Ground Units, and attack with a +2 modifier to the die roll (not good at attacking) in Ground Combat. Ground Bases acting as Ground Units take damage as any normal Ground Unit, except that there is no

loss of population with loss of RPs. Ground Bases are eliminated when they have lost their last RP. Twilight’s Last Gleaming: “This is Lawrence Dell, and we have taken control of Silo 3.”

- ✓ Ground Combat can be initiated between colonies on the same planet or during the second round of any Colony Combat (*ut supra*), so there could be many Ground Bases involved.
 - ✓ Fortress North America was a concept for the final defense of the U.S. and Canada during WWII and the Cold War if the rest of the world was lost to fascist or communist forces. It couples with the North American nuclear umbrella to protect against ICBMs and bomber penetration. If you thought the title referred to the 1986 classic board game, Fortress America, yeah, I’ve played that game a few times over the years, but have never played its predecessor, Invasion America (1976).
- Verdun: First Era Ground Defense Bases become 10 RP Ground Units during Ground Combat, while 2nd Era Ground Bases become 17 RP Ground Units, and 3rd Era Ground Bases become 30 RP Ground Units. Ground Bases damaged as Ground Units, do not revert to being Ground Bases after Ground Combat until all RP damage is repaired (via activation of the Construction Power for the purpose of Colony Enhancement).²⁰ Repairing RPs on damaged Ground Bases does not require expenditure of population factors.
- ✓ [Interview] “In this sense, Verdun was one of the great, terrible, appalling battles of The First World War, just as Stalingrad became one of the terrible, great battles of the Second World War. In fact, the two have been compared as examples of terrible sacrificial battles which went on and on, which were a new hallmark in terms of the awfulness of war.” – Malcolm Brown (author of Verdun 1916 (1999), 50+ pages available free on Google Books), Under Siege television series (documentary, 2008), Ep. 4.
 - ✓ [Interview in French with English Subtitles] “Verdun was the first great industrial battle. It was there that for the first time in the history of humanity, man has numerous types of weapons at his disposal, weapons of mass destruction. Artillery, of course, but also poison gas and flamethrowers. Verdun was also the great aviation battle, it was here in the skies of Verdun that for the first time, the importance of a fighter force was realized and demonstrated.” – Antoine Rodriguez, Cultural & Communications Director, Mémorial de Verdun, Under Siege television series (documentary, 2008), Episode 4.

“At this date it remained a tactical mystery of World War II that no army had yet made any extensive use of poison gas. Never in history has a proved weapon been discarded for ethical reasons, and it may be concluded that all armies dreaded a return to the immobility of 1917.”

– Lynn Montross, War Through the Ages (3rd Ed., 1960), pp. 875-876

NBC – Nuclear, Biological and Chemical Warfare: Any country that can make beer can make chemical weapons.

- ✓ “...fertilizer and beer brewing equipment can be converted to make chemical weapons...” – Zak Karamally, Export Savvy: From Basics to Strategy (1998), p. 88.²¹

Ground Combat is the most likely opportunity in GGDM for the use of tactical nuclear weapons, biological weapons and chemical weapons. It is, of course, possible to use these weapons strategically during Orbital Bombardment and Raid Combat, but that's a different issue.

- ✓ In L. Ron Hubbard's novel Battlefield Earth (1982), the alien attacker simply teleported in a large airborne drone that began circling the Earth emitting a poison gas that wiped out humanity (I have never seen the 2000 movie which received awful reviews). The desperate late 20th Century defenders hit the drone with a nuclear missile over Europe but did not stop it; when the drone was found centuries later, it had a dent and a scratch from the nuclear detonation. There was little resistance when the alien infantry arrived, the aliens just moved in and took over the planet. The last organized body of humanity retreated to Scotland and laid a line of nuclear land mines across the neck, but they were irrelevant.²²

GGDM makes no assumption as to whether or not Ground Combatants are using tactical nuclear, biological or chemical weapons. If in 1960 and later, the U.S. had 155mm nuclear artillery shells and the 122mm recoilless Davy Crockett nuclear warhead, it may be assumed that the infantry in GGDM might have shoulder-held nuclear missile launchers (as in the 1976 Avalon Hill Starship Troopers board game). By 1976, we had 'dial-a-yeild' nuclear warheads (e.g., the W-80).

Their use may be assumed to occur on a local scale during Ground Combats, or their use can be an issue for separate play and News Events, depending on the sensitivities of the participants.²³ However, the Collateral Damage rule (p. 995, *ut supra*) suggests that some really nasty weapons are being used in Ground Combats; the threshold damage die roll can be adjusted up or down depending on arms conventions and how the participants envision air-ground warfare in the game.²⁴ See also, EN 15, p. 1003, *ut supra*, regarding issues with troops wearing chemical protective gear (MOPP suits).

- ✓ It is probably possible for a side to determine/declare that they are not using weapons in a Ground Combat that will damage the planet. This the defenders might do if they are concerned about the long term damage to their colony world. Presumably however, the side that restricts their use of weapons is at a grave disadvantage against a side that ruthlessly uses every weapon they have available. The Concierge may impose combat penalties on the side trying to avoid Verdun- or Hiroshima-like results. A side may also develop weapons that are less damaging through technology and doctrine that are just as effective as less environment-friendly weapons.²⁵
- Battle of the Somme: During the weeklong preparatory bombardment before the Battle of the Somme in 1916, the allied artillery fired chlorine gas shells to force the German infantry to abandon their trenches and deep bunkers. For the record, the bombardment and the chlorine gas were largely ineffective, the British took horrendous casualties crossing no-man's land on the first day. The use of chemical weapons makes sense in the context of WWI stagnate trench warfare, but was rarely effective over the long term and was not the solution to the WWI military problem. WWI however created a particular public and military sensitivity to chemical weapons warfare; chemical weapons have killed far less people than bombs, bullets and missiles, but there is something particularly offensive about their use: one suggestion is that it is because they poison the air and ground and soldiers have no chance against them (as opposed to bombs, bullets, and missiles, sort of a leftover Chivalric code).

- ✓ It is important to understand that modern casualty figures, especially those during and after WWI arise not only from technological weapons' destructive capabilities, but also from universal conscription and the ability (and national will) of modern industrialized nations to concentrate large masses of humanity and equipment in combat theatres and sustain them for long periods of time. This creates a completely different operational zeitgeist than previous ages; additionally WWII was waged exceptionally as total war (e.g., the Potsdam Declaration). Dispersion is the answer to destructive area weapons, concentration is necessary for effective attack against a line or point.
- ✓ See the poem, "Dulce et Decorum Est," by British soldier and poet, Wilfred Owen, written in 1917-1918, and published posthumously in 1920. He was killed on the Western Front on November 4, 1918, one week before the Armistice. The poem is widely available online.
- Bug Spray: Science-fiction stories, except for post-Apocalyptic, rarely mention chemical weapons. In the 1989 board game Red Storm Rising, the East German troops will leave the game if the Soviets initiate chemical warfare, a situation that probably indicates that the Soviet offensive has stalled and the front has become stagnate (which makes East Germans cannon fodder). Chemical weapons are less effective in mobile warfare, except as persistent area denial weapons. The 1976 Avalon Hill board game Starship Troopers (not to be confused with the 1997 and later games that were published to merchandise the movie) in my youth featured *shoulder-fired nuclear missiles*,²⁶ *psychic talents*, and a *chemical weapon* – Heavy Nerve Gas – which was dropped into Arachnid tunnels through bore holes from the surface. Neither the later 1997 movie nor the CGI animated series (Roughnecks: Starship Troopers Chronicles, 1999)²⁷ was like the Avalon Hill board game due to production costs.
 - ✓ The issue of psychics being used as weapons, is at the core of the later Babylon 5 television series (1994-1998).
 - ✓ The first recorded instance of biological warfare occurred at the Siege of Caffa in 1346 A.D. when besiegers catapulted bodies of those who had died of the plague over the walls into the city. What happened following this local incident is what terrifies us now; Genovese ships fleeing Caffa brought the plague back to Europe, which became the Black Death (see Mark Wheelis, "Biological Warfare at the 1346 Siege of Caffa," Emerging Infectious Diseases Journal (of the CDC), Vol. 8, No. 9, September 2002). Just as any country that can make beer can make chemical weapons, any combatant that has a diseased dead body can locally attempt biological warfare; truces are often arranged in long intense battles so that the sides can remove the bodies (e.g., Gallipoli, Monte Cassino). What makes Caffa the first recorded instance of biological warfare is the intent, the clear intent, and the implication of some rudimentary understanding of the spread of disease.
 - Historians may quibble over whether Caffa was the first such intentional attempt at biological warfare; there may be other recorded instances from times ancient of which I am not aware. The reason, of course, that we have focused on Caffa is because of its link to the Second Pandemic.
 - The 1918 Spanish Flu Pandemic may have been caused/enhanced by WWI; this is relevant to GGDM as a potential aftermath of Ground Combat.

Fat Man from *Beneath the Planet of the Apes* (1970):

“You don’t understand, Mr. Brent. The Bomb is a holy weapon for peace.”

Occupation: Ground Units occupying and/or defending a colony 100% occupy and control the colony for military purposes. On the Regular Turn in which Ground Combat is initiated, the invading or attacking Ground Units gain 15% control of the colony by virtue of being there. At the end of each Combat Round, control of the colony may change:

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- ✓ If the attackers did more damage than the defenders in the round, the attackers gain control percentage equal to the total RPs of their Ground Units divided by the *total RPs* of all Ground Units involved in the Ground Combat.
- ✓ If the defenders did more damage in the Combat Round, they gain control percentage equal to the total RPs of their Ground Units divided by the total RPs of all Ground Units involved in the Ground Combat.
 - For example, in a combat where the invaders have 30 RPs of Ground Units and the defenders have 8 RPs of Ground Units at the end of the Combat Round. If the attackers did more damage during the round, they gain 79% control of the colony. If the defenders did more damage in the Combat Round, they gain 21% control of the colony.

The attackers can never have less than zero percent control. If the attackers ever gain 100% control of a colony **and** eliminate all Ground Bases, they have captured the colony (see Surrender discussion, 5 Combat generally, *infra*). This does not mean the Ground Combat has ended, however.

- ✓ Ground Units are there to defend their colony and all of its outlying resources, territory, and infrastructure, not to defend their planet. Colony and planet may or may not be congruent. They aren’t Flash Gordon!
- **Rebel Lines:** Whenever either side has lost control of the colony (have 0% control), the Ground Units may continue fighting as long as they can remain supplied. Thus, the Ground Combat can continue until the units run out of supply and fail Supply Rolls.
 - ✓ In the early part of the Siege of Budapest, Hungarian defending units obtained intelligence by telephoning houses of residents who were behind the Soviet front lines. Imagine your phone ringing with enemy troops outside? This clever idea worked until January 1945 when the telephone network had been destroyed by fighting.
- **Fait Accompli:** If Ground Combat is initiated against a colony that has no Ground Units or Ground Bases, the colony is 100% occupied at the end of the first Combat Round, even if it has a Fighter Complement. The Fighter Complement may do their damage for one Round.
- **Combat Construction:** When a colony is being defended in a Ground Combat, the owner receives the proportional benefit of whatever part of the colony they control during any Power Activation. For example, if the defenders retain 43% control of the colony, then during Taxation, the colony will produce 43% of what it would normally have produced, during Construction activation (probably to reinforce defending Ground Units), the colony has 43% of its GDP available, and during Census, population growth is 43% of what would be normal.

“After almost a month of intense fighting, local units of Strephon’s Imperium surrendered to Lucan’s forces here on Phaln. There was little joy among Lucan’s command staff, who have lost over 350,000 men in the fighting. Although the Strephonists fared little better, their stiff resistance has blunted the two-pronged Gushemege campaign, which Lucan’s general staff has dubbed the ‘Extermination Offensive’ (referring to its intended objective of eliminating Strephon’s Imperium).... There are also unconfirmed rumors of disproportionate losses in TankRon assets. These various factors suggest that the recent decline in the pace of the Extermination Offensive may in fact portend a complete standstill. If this were to be the case, it is unknown how long Lucan’s forces could remain on site, given their already overextended logistical situation.”

– Traveller News Service (Traveller RPG), Imperium Date 352-1121

Endnotes.

¹ Commentary: Discussing the Battle of Seneffe (1674), where both sides suffered 17% casualties in 10 hours of fighting using muskets, cannon, bayonets and sabers in close formations (Hint: Unless your name is Hannibal, trying to envelop an enemy army that is 50% larger than yours is a risky proposition). In recent years, many films have been produced that accurately portray 17th and 18th Century European warfare, including early 17th Century pike and arquebus formations. One of the earliest accurate depictions of linear advance at 80 steps per minute is seen in Stanley Kubrick’s classic movie, Barry Lydon (1975), in the battle at the crossroads orchard. Except there would have been a big thick cloud of smoke over the French line after the first volley, and that’s not good for filming.

² Commentary & Citation: In human terms, during the mid-18th Century, Great Britain had 1 soldier for every 310 citizens, whereas Prussia had 1 soldier for every 28 citizens (3.5% of the population). Hesse-Kassel became the leading prosperous mercenary state of Germany (source of the famous Hessians), with 5.2 to 6.7% of its population in the army, 1 in every 4 households had someone in the army. Citizens, of course, includes everyone, whereas only males of military age – a much smaller population pool – were allowed (or compelled, tricked by crimps) to serve. Such was the ultra-masculine militarism of Prussia that it was commonly said that Prussia was not a state with an army, but rather an army with a state. It is thus that the Concierge may judge large standing forces of ground units to be a sign of a militaristic society.

- ✓ According to [globalfirepower.com](https://www.globalfirepower.com), in 2018, the United States has a population of 326M, of which 145M is “manpower available,” while 120M are “fit for service,” and 4.2M are reaching military age in 2018. Continuing, the United States has just over 2M military personnel, of which 1.2M are on active duty in 2018. The current US military ratio is then about 1 soldier (including reservists) for every 157 citizens, and 1 soldier per 57 “fit for service,” which unlike in the 18th century, includes the entire military age population of both sexes. The number reaching military age in 2018 is twice the entire size of the military. Captured April 11, 2018 from https://www.globalfirepower.com/country-military-strength-detail.asp?country_id=united-states-of-america.

³ Commentary: This is how the Roman military grew, they eventually needed non-Roman and even non-Italian units. At first, those units were auxiliaries, but gained equal status. This is how every Empire in history has grown.

⁴ Commentary: The Soviets always exploited ethnic hostilities by stationing units in other ethnic regions on the theory that they depend on the Soviet national government and will not become too friendly with the local population.

⁵ Commentary & Citation: In Alfred Coppel’s unusual 1950 short story “The Rebel of Valkyr” (see top feature quote, 1 Stardrive, p. 779, *supra*), feudal knights with horses were loaded into the holds of ancient starships for transport. The starships landed outside the city walls at the destination and it took hours to unload the feudal army.

⁶ Citation: “In spite of suffering from a fever, Pope Pius II left Rome for Ancona in the hope of increasing the morale of the crusading army. However, the crusading army melted away at Ancona for want of transport, and when at last the Venetian fleet arrived, the dying Pope could only view it from a window.” – from Wikipedia article, “Pope Pius II,” captured July 4, 2020.

⁷ Commentary: My senior drill instructor at Parris Island said, “If you get killed by an obsolete weapon system, guess what? You are still dead. And I have to write a letter to your mother. And I hate writing letters!”

⁸ Commentary: If the Allied Forces had not landed at Normandy in June 1944, the Soviets may have liberated Paris. It would have taken longer for the war to end, but there is no reason to think that the Germans could have won against the Soviet Red Armies in 1944 while keeping sufficient units in France to guard against invasion, while being bombed day and night from the air, and while propping up the Italian front. It is possible that in 1945, the Allied Forces may have been required to invade Calais or some area where they could race against the Soviets for Paris and to create an allied enclave in Northern France and Belgium. And there is no reason to think that the Soviets would have stopped at the German-French border. History in the balance. Conversely, had the Russians not smashed the German Army Group South in the Korsun Pocket in early 1944 – which was only possible after stalemating the Germans at Kursk in mid-1943, if neither of those events happened, the Allied Forces may have liberated Berlin and headed for Krakow and perhaps reached Warsaw or Prague. The Allied Forces would not have stopped at the German-Polish-Czechoslovakian border.

- ✓ The Battle of Kursk, routinely called the largest tank battle in history (may not have been, see Battle of Brody, 1941) featured the first time that an entire armor formation was destroyed by airpower alone.

⁹ Commentary: The classic historical holdout in siege warfare is the citadel. Often times, after the capture of a city or castle, the last remaining defenders held out in the citadel, while the attackers had effective control of the city and surrounding countryside. These situations could go on for a while, with the attackers being forced to keep troops around the citadel and to watch for approaches of relief forces or escape attempts, while the shut in defenders’ food and supplies dwindled along with hopes of escape, break out or rescue.

¹⁰ Commentary: The infantry combat scenes in the original Star Wars movies were awful. Clearly Lucas and his team had no actual understanding of weapons or combat. The combats, especially the corridor fights, were unimaginative, competent Rebel defenders would have held out longer and inflicted greater losses on the attackers (Storm Troopers can’t hit anything!). But Lucas did understand what was important to make a convincing movie scene, flashing lights, people getting hit, fatal bravery, giving the impression of a fierce fight and moving the story along.

¹¹ Commentary: You know the joke.

¹² Commentary & Citation: The few times that the Star Trek OS USS Enterprise fired at a planet surface (e.g., “The Alternative Factor” (1967)) were unimpressive, although it is implied strongly (probably bluffing) in “Taste of Armageddon” (1967) that the Enterprise could destroy an advanced planetary civilization from a distance.

¹³ Commentary & Citation: This issue was discussed in Robert Heinlein’s 1959 novel, Starship Troopers: If the Terrans have the planet-destroying Nova Bomb, why does the infantry have to land and fight the Arachnids on the surface? The basic conclusion of the long argument was: “There can be circumstances when it’s just as foolish to hit an enemy with an H-Bomb as it would be to spank a baby with an axe.” – Robert Heinlein, Starship Troopers. The Nova Bomb – the proxy for the collective power of the world’s nuclear arsenal in Cold War science-fiction – was probably invented in Starship Troopers and was used in later science-fiction, e.g., Andromeda television series.

¹⁴ Commentary & Citation: The smallest ‘nuclear’ weapon ever developed was the Davy Crockett nuclear warhead which was designed to be fired from a 122mm recoilless anti-tank gun. It was available in the late 1950s, with a yield of just 10 or 20 tons of TNT (.02 Kt.) and was intended to be used in defending Korea and the Fulda Gap in Germany. There is a government video on YouTube with Pres. Kennedy watching from about 1960 demonstrating the M-29 150mm 1 Kt. version in a tactical situation, the explosion barely looks like a nuke (cf. the 15 Kt. yield bomb at Hiroshima). See “M388 Davy Crockett Operational Test,” posted by jaglavaksoldier, February 22, 2010.

- ✓ This weapon is also sometimes called the M65 recoilless nuclear rifle. So, nukes can be really small. Since at least 1960, a tactical nuke could be carried in a suitcase (i.e. ‘suitcase nukes’) or in special backpacks. Most have a yield of 1 Kt. (kiloton) or less. In the rise of terrorism in the 1970s someone realized what a terrorist could do with a suitcase nuke; once again, the arms race produced a genie (the Special Atomic Demolition Munition, SADM) that could not be put back into the bottle. We’ve been lucky so far.
- ✓ The W48 155mm Nuclear Artillery Shell was available after 1963, and had a yield of .072 Kt. There was also a shell for the 203mm (the Marines had M110 Self Propelled 203mm howitzers) called the W33. The W48 was replaced by the W82 with a yield of up to 2 Kt. According to UPI, by 1981, scientist had developed a neutron warhead for the 155mm howitzer, see Richard C. Gross, “Scientists have developed a neutron warhead for the 155mm...” UPI Archives, December 11, 1981 (available free online).
- ✓ The W23 was a nuclear shell designed to be fired from the 16” naval gun of the Iowa-class battleships that were still in service in the early 1950s. It had a yield of 15-20 Kt. making each the equivalent of the bomb

dropped on Hiroshima, with a range of 23 miles. The implications of this were horrific for coastal cities. The big battleships were retired in the early 1960s, but brought out again briefly in the early 1980s.

- ✓ Small linear implosion weapons of this sort require twice or three times as much material, making them very costly. Still, in terms of resources available in GGDM and technology we know already exists, it is not inconceivable that small nukes could be the normal munition in planet surface battles; consider Steve Jackson's Ogre game (which has also spawned fan fiction, e.g., Joshua Megerman, "The Rise and Fall of Pittsburgh," February 23, 2019, found on Steve Jackson Games website) where Davy Crockett-like *nuclear rounds* are the standard munition of the game.
- ✓ The Davy Crockett was mentioned in Billy Joel's "We Didn't Start the Fire" (1989). Everything mentioned in the song happened between 1949 and 1989 so Davy Crockett would seem to be out of place, unless you know the reference. Some think the reference is to a 1955 Disney TV series, but the nuclear reference makes much more sense and was public knowledge in 1989. My impression of the song in 1989 was quite different than others who focused on trying to figure out all the dizzying references; my interpretation of the meaning of the song rested on the chorus lines: Americans were fed up with being blamed for what was wrong with the world, being abused for trying to help. Also, History Channel has an episode on it.

¹⁵ Commentary: Historically, unit sizes and composition are cultural and historical artifacts; in WWI, a U.S. Division was equal to a European Corps in size and equipment. Since WWII, most Western national armies' divisional sizes, compositions and equipment have standardized (under NATO especially), but the Korean War showed that this was far from global, as Chinese unit sizes and compositions were significantly different than the West.

¹⁶ Commentary: In training a couple of times, we had to shoot our M-16 combat rifles while wearing gas masks. You can't hit anything with a gas mask on. I do not believe we ever fired howitzers with gas masks on; the risk would be too great because of the way the optical sights work. In the summer of 1986/1988, in Okinawa, Japan, we had to evacuate our howitzers after firing while wearing MOPP 4 gear – the full chemical attack suit from head to toe, gas mask, overalls, boots and gloves – in 90 plus degree heat. Afterward, we pulled out onto the road, went a short distance, then sat there on our trucks for over an hour until the all clear. I have never been so hot in my life. These personal experiences always come to mind (not to mention all the trips to the gas chamber) whenever I read about offensive chemical attacks, or certain post-apocalyptic settings, or combat operations in hostile environments.

¹⁷ Commentary: A recent conversation with a Traveller RPG aficionado at the monthly game club confirmed as I believed all along that Plasma Guns in Traveller were hot plasma and not lightening plasma. He further pointed out that in holding and firing this weapon unprotected, the heat would probably kill you (or at least you'd be severely burned); thus Imperium troops wore battle armor to protect themselves from their own weapon. This is the best case to be made for collateral environmental damage, with tens of thousands of such heat discharges in a battle.

¹⁸ Citation: **Capt. Harris**: Be advised. We've got zips in the wire down here. **Phantom Pilot**: Roger your last, Bravo Six. Can't run it any closer. We're hot to trot and packing snake and nape, but we're bingo on fuel. **Capt. Harris**: For the record, it's my call. Dump everything you've got left on my pos. I say again, expend all remaining in my perimeter. It's a lovely fucking war. Bravo Six out. **Phantom Pilot**: Roger your last, Bravo Six. We copy. It's your call. Get them all in their holes down there. Hang tough, Bravo Six. We're coming cocked for treetops. – Platoon (1986).

¹⁹ Citation & Commentary: Battlestar Galactica television series, "Exodus, Part 2" (2006). Note that the Galactica took considerable damage in the maneuver (going to FTL in a planet atmosphere, think about that!)

²⁰ Citation: "I got no delusions about you or your men's democracy Jones. We are gonna refortify this shit hole and protect it like it was your daughter's cherry. I ain't gonna die here." – Sgt. Maj. Hafner, Siege of Firebase Gloria (1989).

²¹ Citation: "BTW [biological and toxin weapons] agents would be relatively easy and inexpensive to produce for any nation that has a modestly sophisticated pharmaceutical or fermentation industry. Indeed, mass production methods for growing pure cultures are widely used in commercial production of yogurt, yeast, beer, antibiotics and vaccines. Nearly all of the equipment needed for production of pathogens and toxins, is dual use and widely available on the international market.... In contrast to chemical warfare (CW) agents, no specialized starting materials are required for production of biological and toxin agents except for a small seed stock of disease-producing organism. Nutrients such as fermentation medium, glucose, phosphates ... are widely available and routinely imported by developing countries..." – Technologies underlying weapons of mass destruction, p. 86, U.S. Congress, Office of Technology Assessment, December 1993 (DIANE Publishing).

- ✓ As noted in the Farhad Manjoo feature quote in 1 Patents, p. 727, *supra*, the Congressional Office of Technology Assessment was defunded (i.e. shut down) by the Gingrich Republicans in 1995. Congress has since then proceeded without an unbiased, organic technology assessment staff; technology assessment has shifted instead to the U.S. Government Accountability Office, which is also technically part of the legislative branch. This is the usual way it is done, a mistake is made, and rather than admitting to and reversing the mistake, the services are quietly transferred to and taken up by another initially less-qualified agency. Some information from Wikipedia article, “Office of Technology Assessment,” December 28, 2018.

²² Commentary: In the Babylon 5 movie, A Call to Arms (1999), the Drakh (former minions of the Shadows) sacrificed a planet killer and an entire fleet in an attack on Earth just to release a biological weapon to poison the Earth and kill humanity (they were really mad at us). This was the bridge-pilot movie for the short-lived spin-off TV series, Crusade (1999), which like the early 80s anime series, Star Blazers (1979-1984), was premised on finding a cure and returning it to the poisoned Earth before time ran out for humanity.

²³ Commentary & Citation: At the end of the Cold War, historical conferences were held to reexamine the Cuban Missile Crisis. The conferences revealed that local Soviet commanders had pre-delegated authority to use tactical nuclear weapons and that a Soviet submarine commander had been prevented from launching a nuclear armed torpedo at U.S. Navy ships that were shadowing the submarine. Some felt that the conference organizers overstated the revelations for publicity purposes, see Mark Kramer, “Tactical Nuclear Weapons, Soviet Command Authority, and the Cuban Missile Crisis: A Note,” *The International History Review*, Vol. 15, No. 4 (Nov., 1993), pp. 740-751.

- ✓ Less widely publicized or noticed was the revelation that U.S. President Eisenhower had pre-delegated authority to certain commanders to use nuclear weapons in defined extreme situations (apparently, the conditions precedent of this pre-delegation were narrower than the Soviet pre-delegation) and that this policy continued long after Eisenhower left office. See, “First Documented Evidence that U.S. Presidents Predelegated Nuclear Weapons Release Authority to the Military,” National Security Archive, <https://nsarchive2.gwu.edu/news/19980319.htm>, March 20, 1998.
- ✓ The conceptual importance of such pre-delegation to the military is the perceived erosion of the nuclear firebreak; *a local commander under pressure from the enemy will make decisions differently than top civilian authorities* and might unleash global thermonuclear holocaust (paraphrasing McGeorge Bundy).

²⁴ Commentary & Citation: But as stated in *The Come As You Are Party*, 1 Combat, p. 932, *supra*, if one side has a weapon, the other side must have an equal or better weapon, or they lose, unless no one is willing to use the weapons. There must be retaliation threat.

²⁵ Commentary: One day while training at Twenty-nine Palms, a Lt. told us to dig a hole to bury the trash. Three Marines with shovels took to the task, and within minutes, had a respectable hole dug. The Lt. came running back and told us to stop; he had been informed that we were not allowed to bury ☐. He looked at us, looked at the hole we dug, then told us to go back to our gun positions and give him a shovel, he took care of filling in the hole.

²⁶ Commentary: In bootcamp, I heard a serious mention of man-portable nuclear missiles; I do not know if such a thing exists, but I would not be surprised if it did. In 1987, I was invited to attend nuclear artillery school. Yes, 155mm nuclear artillery shells are real. It was common lore among the artillery men in my unit that firing a nuclear artillery shell was a suicide mission. One gun, one powder, one shell. I declined. The reasons I gave at the time, though not stated in the correct terms, amounted to a type of firebreak argument-conscientious objection. I am sure this destroyed my chance of meritorious promotion as the one who did go was promoted to Corporal shortly after.

- ✓ The existence of these nuclear artillery shells is not secret; if I recall correctly, my copy of Sir John Hackett’s *The Third World War: August 1985* (1978), which I had and read somewhere around the mid-1980s, discussed nuclear artillery shells and provided a number of how many shells NATO forces had in Germany.

²⁷ Commentary: Both the 1997 *Starship Troopers* movie and the 1999 CGI animated series, *Roughnecks: Starship Troopers Chronicles*, were produced and directed by Paul Verhoeven, but have *opposite* tones and outcomes. In the movie, the Bugs home planet is destroyed with a Nova Bomb (background to a romantic kissing scene), while in the animated series, the Terran government is an oppressive military dictatorship, and the Bugs take over and infest Hawaii, genetically adapting humans to their purposes, then attack the West Coast, implying the fall of humanity.

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See Appendix CST – Combat Shifts & Situations Tables

“The action, the impact of flesh and bone, the clash of steel upon steel – all these are but the leverage used by generalship to release far more powerful moral forces. Even in ancient times, when it may be supposed that instincts were more primitive, few warriors fought for the love of fighting. The large majority fought to win, and their will to struggle waned at the moment when victory was apparently snatched out of grasp.

The test may be found in statistics indicating that most armies lose aggressive spirit before their casualties have reached 30 percent. They are not physically crushed, since seven men out of ten are still able to bear arms. They are not necessarily overwhelmed, since the survivors may still be more numerous than the enemy’s whole force. They are simply convinced! The threat of ultimate defeat has convinced them, and it is the business of the tactician to supply the threat. If this can be accomplished by means of a military illusion, so much the better. Armies of superior numbers have been put to flight before one man out of ten has fallen. They were not beaten by blows which became more than flesh could bear. They were beaten in spirit according to laws as old as the human heart, and the victor is the one who can best apply those laws.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 36

Professional Soldiers: The Roman legionnaires were professional soldiers (not warriors, which is a somewhat derogatory term in military thinking, despite the common vulgar perceptions), in addition to superior armor, weapons and kit, they also had better unit cohesion, purpose, will, leadership and were known to be very tenacious in the fight. These latter counted far more.

- ✓ [Narrator] “Conflicts usually took the form of minor skirmishes between neighboring tribes and featured little in the way of tactics; two armies would meet and exchange a hail of javelins, at which point both sides would charge one another and engage in a chaotic melee. *Individual heroism was valued over unit cohesion, and it was not uncommon for warriors to seek one-on-one combat during the heat of battle.* As Etruscan society evolved, so did its military. As a byproduct of trading with the Greeks, the Etruscans slowly developed a distinctly Hellenic style of arms, armour and warfare. ... More disciplined than their Villanovan ancestors, the Etruscan hoplites fought primarily in a phalanx, protected on the wings by cavalry, a universally effective formation that even the Romans used before the adoption of the maniple.” – András Szente-Dzsida (narrator), “Etruscans: Italian Civilization Before Ancient Rome,” Kings and Generals YouTube Channel, February 20, 2020 (emphasis added).
- ✓ [Interview translated from French by English subtitles] “In fact, the tactic of the Gauls, the warrior practice of the Gallic War, consisted of attempting to achieve victory and then leaving. It was not a flight, but a departure once they had confronted each other and could not achieve victory. There are many examples of this in the Gallic War, and when they saw that they could not gain victory after the third battle, the Gauls departed, abandoning Vercingetorix and his men in the citadel.” – Professor Yann Le Bohec, Sorbonne, Under Siege series, Episode 1 (documentary, 2008).

As one commentator noted in relation to the First Punic War – and I am sorry that I do not remember where I heard this exactly – the Roman leadership was willing to gamble all to win big or lose everything – thus tenacity of purpose was an important trait – and this set them apart from other kingdoms of their time who always sought dynastic self-preservation first and generally took lesser risks.

- ✓ Without a doubt, morale was one of the major differences between the Romans and the Gauls in the Gallic Wars. Time and again, it is disappointing to see the Gauls abandon good positions or fail when they had superiority. The Romans campaigned in the Gallic tribes' home territory and were able to move at will, burn farm fields, and destroy villages, retaliating directly against tribes that joined the insurrection.

Morale in GGDM Combat: Morale is a fickle subject – filling tens of thousands of pages of military discourse¹ – that is best left to the sound discretion of the Concierge. But this is perhaps a good starting point:

- ✓ “One field-grade deserter expressed the feelings of many: ‘What’s the point of going home if you’re just going to get sent out to fight again?’” – Traveller News Service (Traveller RPG), Imperium Date 083-1122.

However, the GGDM setting, and science-fiction or space-opera settings in general, present unique questions when considering morale in combat with aliens, whether the humanoid kind (i.e. Americans in rubber suits) or in cases of extreme alterity:

- ✓ Is this an existential situation for the species? ^{2,3}
- ✓ Do the **aliens** have the concept of surrender and will they understand the attempt to surrender?
- ✓ Because of physiological differences, will the aliens be able to provide sufficiently for their captives? Would they even try?⁴ This is especially important in Ground Combat situations.
- ✓ In Colony and Ground Combat, retreat for certain units is not possible.⁵
- ✓ If you are on a ship, where are you going to run? The crew goes where the ship takes them and that is in the hands of the bridge crew.
- ✓ If you are on a fighter, where will you land if you flee? Where would you go?
- ✓ If you attempt to retreat from a combat in space, you might die anyway.
- ✓ If the attackers in a Ground Combat are attempting to retreat, do they have the ability to retreat from the planet surface? Or is landing a one way ticket?
- ✓ Is this the type of situation where surrender or retreat is even an option? If not, what are the options if the situation seems hopeless?

Inexperienced military leaders will generally think their situation is worse than it actually is and the enemy's situation is better than it actually is. Civilian leaders may see the opposite. Both are a sort of Dunning-Kruger effect in military thinking and civilian leadership. Neither is helpful.

- ✓ “For a strong adversary (corps) the opposition of twenty-four squadrons and twelve guns ought not to have appeared very serious, but in war the psychological factors are often decisive. An adversary who feels inferior is in reality so.” – Field Marshal Carl Gustav Baron Von Mannerheim, “Father of Modern Finland.”
- ✓ “Since the 1942 campaign was Hitler’s own, any criticism ultimately devolves to some description of his character and ability. He certainly had a retentive memory, an appreciation for technology, some flair for operations at approximately corps level, and an extremely strong will. With more military experience and more self-restraint, he might have become a competent corps commander, but he was a hopelessly inept strategist. He was incapable of adapting his plans to an objective reality of space,

time, and opposing forces. Instead, he retreated into an infantile dream world where his will alone was decisive. Because he refused to admit restraint on his own will, Hitler vastly overestimated the role of morale in warfare.... Hitler found it easy to make any demands because he had no real sympathy or affection for the soldiers whose lives he recklessly sacrificed.” – The Second World War: Europe and the Mediterranean, The West Point Military History Series, Dept. of History, U.S. Military Academy, West Point, NY (1989), p. 135.

- On the latter point, the editors echo Albert Speer’s book Inside the Third Reich (1969).⁶
- “[Gen. Henry H.] Arnold [USAAF] recorded in his diary ‘Our secret weapon is Hitler, hence do not bomb his castle. Do not let him get hurt, we want him to continue making mistakes.’” – from Wikipedia article, “Bombing of Obersalzberg,” citing to Despina Stratigakos, Hitler at Home (2015).

There are two situations in GGDM where “morale” is out of the hands of the Concierge: First, positions may choose to retreat from combat (or in the opposite, no retreat option exists for System Boats and Defense Bases), and second, the larger issues of when positions decide to stop fighting, concede territory and/or submit to demands of other positions, all are story arc events.⁷

- ✓ “As the German shells rained down on the French positions, Napoleon III wandered aimlessly in the open around the French positions. One officer of his military escort was killed, and two more were wounded. A doctor accompanying him wrote in his notebook, ‘If this man has not come here to kill himself, I don’t know what he has come to do. I have not seen him give an order all morning.’ ... After the war, when he [Emperor Napoleon III] was accused of having made a ‘shameful surrender’ at Sedan, he wrote: ‘Some people believe that, by burying ourselves under the ruins of Sedan, we would have better served my name and my dynasty. It’s possible. Nay, to hold in my hand the lives of thousands of men and not to make a sign to save them was something that was beyond my capacity....my heart refused these sinister granddeurs.’” – from Wikipedia article, “Napoleon III,” captured November 2, 2018.⁸
 - German artillery bombardment at Sedan seemed to have this effect on Napoleon III (*ut supra*). Napoleon III was defeated psychologically.
- ✓ “The real target in war is the mind of the enemy command, not the bodies of his troops. If we operate against his troops it is fundamentally for the effect that action will produce on the mind and will of the commander; indeed, the trend of warfare and the development of new weapons – aircraft and tanks – promise to give us increased and more direct opportunities of striking at this psychological target.” – Captain Sir Basil H. Liddell Hart, 1944.

In addition to the above, each soldier or warrior brings everything civilization provides:⁹

- ✓ “Throughout the film, Wings [Hauser] displays a worrying enthusiasm for machine-gunning ‘dinks’ (as they’re charmingly referred to) at every opportunity. It’s meant to portray patriotic fervour, but more readily suggests an urgent need for psychiatric care.” – Jafo, review of Siege of Firebase Gloria (1989), explodinghelicopter.com, May 25, 2016.

The Concierge should be aware of and weigh each position's Fundamental Realities, Enlightenment, Writs, Meanings, and any other factors relevant to morale 'on the ground.'¹⁰

- ✓ “Moltke was the first great captain to break with the past. In his emphasis on planning, he located his headquarters far back in the rear, leaving the supervision of the fighting to subordinates. And since there is no more convincing justification than victory, the method gained converts as armies swelled in numbers. In some respects the benefits were apparent. Modern staff work can hardly be said to have begun until after Moltke showed the way. Military cartography developed into a science, while precision and coordination improved in every army which followed the Prussian model. Yet in his genius for specialization Moltke went to such lengths as to create a gap between staff and regimental officers – a tendency which his imitators accepted along with the tactical virtues. Obviously the generalissimo of several million troops cannot charge at the head of his men in the eighteenth-century manner. But when even the divisional staffs of 1917 sought comparative comfort and safety, combatants felt that they were being thrust and not led into battle. Resentment of such conditions ate like a canker at the fighting spirit of every World War army; and to complete the sad paradox, most of the commanders were too far removed from war's realities to know the truth.” – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), pp. 729-730.¹¹

See previous discussion in *Interdisciplinary Approach*, 4 Colleges, p. 507, *supra*. Moltke's stark stratification of officers between army HQ staff and tactical command simply finished a process that had begun centuries earlier. HQ staff is the bridge over the gulf between the political power and combat command.

- Morality vs. Morale: The very first concept that must be shed is the idea that morality is morale, the juvenile fiction idea that the good guys, the morally right, the righteous, will be victorious in combat. It arises from the erroneous idea that the man who knows he is morally right or is convinced of his righteousness will not quit and thus will always be victorious. I shed this Saturday morning cartoons delusion when I was about 13 or 14 years old, I think Montross or Summers discussed it somewhere.

- ✓ There came a day when I was perhaps in my late teens or early 20s (most likely the latter) when the realization dawned on me how close we were to losing WWII in 1940. Once I got past the patriotic 'rah-rah, we're the good guys and we won' that is the common view taught in public schools, once I understood the situation, I remember the flush of sudden understanding in that moment. Our leaders almost blew it. Japan's attack on Pearl Harbor in December 1941 may have sealed Germany's fate. That year and a half in between was a twilight, by December 1941, the Germans had failed to encircle and capture Moscow and their initial onslaught had petered out.

The juvenile fiction and Saturday morning cartoon ideas are related to another much older idea: That victory in combat (or any struggle) is confirmation of moral rightness or divine sanction (e.g., Trial by Combat). That is, that the man who is not on the right side of the dispute will lack will, is weaker (dumber), will not receive divine assistance or good luck. See *Might Makes Right* discussion, 2 Government Titles, p. 590, *supra*.

- ✓ If you think that being 'right' or on the 'right side' will give a man moral courage not to surrender or flee, then what about all of the Allied units that surrendered during

WWII, especially those who were defending their homelands (e.g., France, Russia?). We teach that we (and the Allies) were on the morally right side, right? Bataan Death March.

It has been said many times, but probably not better:

- ✓ *Thoughts of an intergalactic mercenary after a hot combat landing*: “They sit in their hallowed halls of government and talk of righteous causes but in the white heat of combat, good and bad, right and wrong melt away. Only the money keeps you going. Yet now, for me, the tide has turned and the one grim reality of this profession seals my fate... that all of the fortunes spent on death cannot buy me one more breath of life.” – B.K. Taylor (story) and James Fox (art), “Retrospect,” *Epic Illustrated*, Vol. 1, No. 4, Winter 1980.
 - Cf. “And all your money will not another minute buy.” – Kansas, “Dust in the Wind” (1977).
 - See also related Expendability discussion in 3 Combat, p. 980, *supra*.
- **Naval Combat**: Most of the crew in a naval combat have no idea what is going on; most are below deck with no view of the outside, each has a specific job to do, nowhere to run, with the captain in control of the ship, and they have to keep on doing their job, knowing that each second, a shell, missile, torpedo or bomb could come crashing through the ship’s armor. *There is no reason to believe that spaceship combat will be any different, whether in our solar system or in a space-opera setting.* Star Trek DS9 fans will recall that Nog was counseled to not worry about the enemy ships, but to just concentrate on doing his specific job during the coming battle (“Sacrifice of Angels” (1997)). They were outnumbered 2 to 1 and Nog knew it only because he was on the bridge, the rest of the ship crew probably did not.

“A relief force consisting of the 36th and 84th Fleets, with attached reserve squadrons, arrived today to engage Lucan’s forces here. Lucan’s fleet retreated with minor casualties, leaving behind the ground forces it had landed more than a week before. With assistance from close orbital bombardment, Belumarese defenders easily overcame the abandoned ground forces, who surrendered en masse before planet dawn.”

– Traveller News Service (Traveller RPG), Imperium Date 088-1118

Surrender at Planet Dawn: In GGDM terminology, the Ground Units were left on a hostile planet without a Log Ship to supply them each Regular Turn and without fighters for Combat Screening against enemy fighters. With low morale, a stalling offensive, and no reason to hang on, it took only one more push from the defenders to cause surrender (at Concierge discretion).

- ✓ The Traveller RPG civil war was between humans on mostly Earth-like planets, both sides using the same technology, equipment and organizations. This is very different from most situations in GGDM.
- ✓ “Historians relate that the French garrison, feeling abandoned by an uncaring Republic, gradually abandoned the high standards of conduct and service characteristic of the French Revolutionary Army. Many soldiers refused to renew their oath to the Republic, or did so half-heartedly.” – from Wikipedia article, “Siege of Alexandria.”

No Surrender, No Retreat: Within the scale of GGDM and space-opera fiction in general, ground combat (on a planetary surface, that is, planetary invasion) is very similar to Pacific Island combat during WWII.

The Japanese were able to extract their ground forces from Guadalcanal because they still had transport capability and retained enough control of the seas to create and maintain a corridor for evacuation; as is well known from history, in later battles, Japanese troops were trapped on small islands unable to be extracted and with nowhere to retreat except into tunnel networks. With their refusal to surrender, defender casualties were usually 95%.

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Perhaps more on point as to planetary invasion, paratrooper units (and special forces) that are inserted have no way out other than linking up with friendly ground forces, or being extracted. In WWII, extraction by helicopter was not available, thus situations occurred like those at Crete, D-Day and Arnhem. At the invasion of Crete, the Fallschirmjäger were victorious but took heavy losses, at D-Day, the paratroopers linked up with invading ground forces and were extracted to the rear, at Arnhem, such was not the case, the red berets took a beating, the town was partially destroyed, they withdrew across the river under heavy fire, leaving the wounded to be captured.

In February 1943, Orde Wingate's Chindits marched overland into Japanese-occupied Burma on Operation Longcloth to test long range penetration missions and had to make their own retreat out; a year later, Merrill's Marauders hiked over 1,000 miles into Burma over a mountain range *with no extraction plan*. The Marauders were disbanded in August 1944, having been reduced to 130 men from 2,997 that entered Burma six months earlier.

- **Win, Place or Show:** Ground Units on the surface of an enemy planet have nowhere to retreat if they cannot be extracted from the surface to transports and there is no friendly colony on the planet (as may occur on Balkanized Planets). Without transports, Ground Units are usually stranded and must win, die or surrender, even if they can be supplied by Log Ships.
 - ✓ “A little religious communication might not be a bad idea at this stage of the game. Now myself, I don't take any chances, I talk to Mohammed, Buddha, Mr. Jesus H. Christ Himself and any other religious honchos I can come up with.” – Sgt. Maj. Hafner, Siege of Firebase Gloria (1989).

As detailed below, the Concierge, taking the view of the local commanders and not the interstellar governments represented by the players, will determine realistically if and when stranded Ground Units surrender or scatter, *after* formal surrender demands are made.

“I, Arvast Nade, Commander Battle Fleet IV, hereby demand your immediate surrender. Failure to comply within one hour, your time, following receipt of this ultimatum, as determined by my communications center, will open your planet to pillage by my troops. Any attempt at resistance will be crushed without mercy, and your population decimated in retaliation. Any damage, or attempted damage, by you to goods or facilities of value on the planet will be avenged by execution of leading citizens selected at my command. By my fiat as conqueror, your status, retroactive to the moment of transmission of this ultimatum, is that of bond-sleg to the conquering race. Any lack of instantaneous obedience will be dealt with accordingly. Signed, Arvast Nade, Battle Fleet Commander.”

– From “The Claw and the Clock,” by Christopher Anvil (1971)

Over My Dead Body: A colony that surrenders to the attacker becomes a Conquered Colony and is transferred from its previous owner's Public Space to the new sovereign's Public Space (see Conquered Colony, 2 Order, p. 539, *supra*). Determination of if or when a colony surrenders is at the discretion of the Concierge.¹² The most relevant factors will be whether the colony has any remaining defenses:

- ✓ If the colony has lost the Colony Combat and has no Ground Units, it will probably surrender under threat of occupation by Ground Units or Orbital Bombardment.
- ✓ If the colony has lost the Colony Combat, but has Ground Units, they may conclude that there is nothing they can do if the enemy wants to Orbital Bombard the colony, but if the enemy wants to rule them, they will need to send down troops and fight.
- ✓ Or the threat of Orbital Bombardment may cause the defending Ground Units to surrender to avoid massive civilian casualties.
 - In an Orbital Bombardment, possibly no one will be left in charge to surrender. Or as Capt. Moreau said in *By Dawn's Early Light* (1990), when ordered to the Grand Tour, "You do not kill the enemy's leaders, we know that, they know that, somebody's gotta be there to turn it off!"
- ✓ A colony most likely will surrender if 1) the attackers are not an existential threat, 2) the colony's defenses have been significantly reduced, and 3) the attackers have occupied most of the colony (e.g., Germany, May 1945). If any Ground Units remain and they are disbanded by the new sovereigns, the population in those units is released and the RPs lost or transferred.
- ✓ A colony which is 100% occupied by enemy Ground Troops (see Ground Combat Resolution, 4 Combat, p. 993, *supra*) has no choice but the surrender (or alternatively, their surrender is irrelevant at that point).
 - In March-April 1945, Heinrich Himmler attempted to surreptitiously negotiate a surrender of Germany through the Swedish Red Cross. Although Germany did eventually formally surrender on May 8, 1945, it was at that point nearly *completely occupied*; thus in March-April 1945, the Allies were certain of victory – what leverage did Himmler have in his attempted negotiations? See further 3 Order, EN 6 discussion, p. 562, *supra*.

Other factors may include the Native Population Types of the attackers and defenders, Habitability Classes, fear of the unknown, fear of death, the reputation of the attackers for cruelty or kindness, the apparent intent of the attackers, the loyalties and responsibilities of the defending colonial government, self-interests and cultural issues, and the possibility/expectation of rescue or relief or being held responsible later by the population or the interstellar government.¹³

- ✓ We have come to take for granted – because it is actual history and because of frothing-at-the-mouth Nazi stormtrooper stereotyping – the German refusal to surrender in the face of massive and overwhelming Soviet attacks on central Berlin in the last two weeks of April 1945, but one has to wonder at the stoic resolve of the individual soldiers defending the Kroll Opera House, the Reichstag, and the Brandenburg Gate. They could not have thought that somehow heroic defense would lead to German victory in the war – Germany had lost too much, even if the Germans had won the Battle of Seelow Heights, the outcome of the war would not have been changed. Did they think they simply had no other choice no matter how grim the outlook? It is also

what makes Hitler's refusal to surrender, refusal to be held personally accountable in the end (along with the Goebbels killing their own children), so poignantly irresponsible. Eventually, after the commander and most of the troops evacuated the Reichstag, about 100 remaining German defenders, out of ammunition, surrendered after Hitler had committed suicide. There are many factors to consider in whether beleaguered defenders surrender, what they might do if given opportunity or if death is pointless.

History is full of surprising surrenders when it seems the defenders could have held out, and others where defenders have held out against great odds either until they were relieved¹⁴ or until they surrendered and sometimes marched out with their colors and arms intact. Or until they were overrun and massacred, or taken prisoner, enslaved, or paroled or committed suicide.

- ✓ “On 2 February 1943 the remainder of Sixth Army capitulated. Upon finding out about Paulus' ‘surrender,’ Hitler flew into a rage and vowed never to appoint another field marshal again. He would, in fact, go on to appoint another seven field marshals during the last two years of the war. Speaking about the surrender of Paulus, Hitler told his staff: ‘In peacetime Germany, about 18,000 or 20,000 people a year chose to commit suicide, even without being in such a position. Here is a man who sees 50,000 or 60,000 of his soldiers die defending themselves bravely to the end. How can he surrender himself to the Bolsheviks?!’ Paulus, a Roman Catholic, was opposed to suicide.

During his captivity, according to Gen. Max Pfeffer, Paulus said of Hitler's expectation: ‘I have no intention of shooting myself for this Bohemian corporal.’ Another general told the NKVD (the public and secret police organisation of the Soviet Union) that Paulus had told him about his promotion to field marshal and said, ‘It looks like an invitation to commit suicide, but I will not do this favor for him.’ *Paulus also forbade his soldiers from standing on top of their trenches in order to be shot by the enemy.* Shortly before surrendering, Paulus sent his wedding ring back to his wife on the last plane departing his position. He had not seen her since 1942 and would not see her again, as she died in 1949 while he was still in captivity.” – from Wikipedia article, “Friedrich Paulus,” captured June 11, 2019 (emphasis added).

- Massacres: Surrenders sometimes result in massacres, even in ages that consider themselves very civilized. At the Battle of Fort Griswold in 1781, a **British** force led by Brigadier General Benedict Arnold – the infamous traitor – attacked and captured Ft. Griswold held by Connecticut militia, which they outnumbered 6 to 1. The American commander, Lt. Col. Ledyard attempted to surrender the fort when the Redcoats had entered the fort and opened the gates. One of the two British captains present took Lt. Col. Ledyard's sword offered in surrender and killed him with it. A confused situation ensued in which the British killed nearly all of the militiamen in the fort in the next several minutes. Various explanations have been offered. Benedict Arnold excluded the massacre from his initial report, was not present when it occurred, but was criticized for the British casualties in taking the fort. The Battle of Fort Griswold was both the last battle commanded by Arnold and the last British land victory.

- ✓ Players should avoid thinking that because *they* wouldn't do it, it *wouldn't happen*.

The only explanation necessary in GGDM is a Concierge Intervention; situations such as the Nanjing Massacre (1937) can be (unfortunate) story events introduced in appropriate circumstances (see discussion of bad events in Entropy is Not Constant, *et seq.*, 1 Entropy, pp. 214-

216, *supra*). The Japanese considered themselves very civilized, as did the Europeans before them (whom the Japanese considered barbarians); the rest of the world did not agree.

- ✓ [Narrator Jack Fortune] “The fight for Ciudad-Rodrigo was over, and the town was Wellington’s. Victory didn’t mean an end to the bloodshed, however, and the conquering army rampaged through the town on a sustained orgy of rape, looting and violence. ... [Interview with Miguel Martin Mas, Curator, in Spanish, translated in English subtitles] ‘For us, the Spanish, it is very painful to remember the scenes after the siege, and there is still some resentment against England for Ciudad-Rodrigo and Badajoz. Once the soldiers passed the breach, they were out of control and the first thing they did was look for alcohol. They were looking for warehouses stocked with cognac and brandy; food and women as well. This led to the rape of a vast number of the civilian population. This was very sad for the Spanish because these were the people who had defended the city against the French two years previously. It was very, very unfair.’” – Under Siege series, Episode 2 (documentary, 2008).¹⁵

- Flag of Truce: At any time during a siege, Colony Combat, or Ground Combat, the attackers may transmit to the defenders (the position that currently owns the colony) and to the Concierge, a surrender demand (see *featured example*, above). The Concierge may not, except in extreme circumstances, consider whether or not the colony will surrender until a demand is received; that is, the Concierge will not spontaneously decide the colony surrenders when no demand has been made by the attackers (or offer by the Defendants).

- ✓ Of course, in alien Earth invasion movies, the humans never surrender, no matter what the cost. In fact, it is not even clear how we could signal surrender in most movies; the alien invaders rarely communicate with us and never ask for surrender. Most alien attackers of the Earth seem to regard us unconcernedly as insects.

Conversely, if no surrender demand is made, the attackers may not accept any surrender attempt. The position that owns the colony may or may not choose to respond to a surrender demand, and the Concierge may take that into consideration, along with the demand, in the whole context of the situation.

- Battles Without, Battles Within: The attacker and defender both represent the wishes and will of their position’s *interstellar government* and to a larger extent, their civilizations. As such, in many games, the attacker and defender would act unrealistically in the view of the people on the ground, especially in certain old games where population is just numbers to produce warships. The Concierge in this situation must think about and represent the people on the ground, the *local view* of the situation, their own capabilities, what they believe to be true or likely, and to a larger extent, consider the story arc of the game.
- Armistice: One or both sides can call an armistice during any ongoing combat situation by submitting Combat Orders to do nothing on their side. Orders to not attack in a combat are risky, because the other side could still fire and do other actions in the Combat Round. The Concierge will not enforce any supposed armistice by refusing to process firing orders or other actions; the armistice – whether unilateral or agreed – is the problem of the players. Units which are not given orders will still defend themselves against Fighters and Missiles and are not automatically hit by enemy attacks (they can still dodge and maneuver). Ground Units may be considered to be still defending.

- ✓ Orders to do nothing are still orders, therefore, this would prevent the defender from activating the Combat Power to Seize the Initiative (see 3 Combat, p. 971, *supra*). The Concierge may need to adjudicate if this is being abused or doesn't make game sense. Units ordered to do nothing still need supplies and that could be a factor.
 - ✓ Nearly 3,000 Americans were killed on the Western Front between 5:10 a.m. November 11, 1918 when the Armistice was signed and 11:00 a.m. when it went into effect. Notification of the Armistice to local commanders left ambiguity on what they should do until 11:00 a.m. Ambitious officers continued attacking in the early morning fog. See Joseph E. Persico, "World War I: Wasted Lives on Armistice Day," *MHQ: The Quarterly Journal of Military History*, Winter 2005 (reprinted on History.net).¹⁶
- **Unconditional Surrender:** For game purposes, colony surrenders are assumed to be unconditional and will be treated that way by the Concierge. If the parties made some agreement limiting the conditions of the surrender, it is up to them to do or not do, to enforce or try to cajole or threaten each other to obtain compliance with the terms of the surrender. This is consistent generally with the way diplomacy is handled in GGDM, see Greys Diplomacy, 1 Diplomacy, p. 1097, *infra*.

Surrender of colonies in GGDM should be and *must be considered unconditional for game purposes*. With the history of the early 20th Century well behind us, there should be no question what unconditional surrender means.

- ✓ "We call upon the government of Japan to proclaim now the unconditional surrender of all Japanese armed forces, and to provide proper and adequate assurances of their good faith in such action. The alternative for Japan is prompt and utter destruction."
– Potsdam Declaration, July 26, 1945.

Such demands may prolong resistance. But of course, there can still be an insurgency and resistance on the ground. Are they terrorist or freedom fighters?

"After ten years of fighting, the Kalderans had nearly driven the Vedrans out of the entire Magellanic Cloud. The war ended abruptly when the Vedrans viciously bombed the Kalderan capital, Kalderash from orbit with atomic weapons, turning most of a continent into an uninhabitable wasteland. Shortly after the bombardment, the Kalderans surrendered and the Kalderan people and their government became part of the Vedran Empire. While the Kalderans may have lost the war, it was the first time in history that any species provided real resistance to Vedran imperialism. It was a sign of the discontent that was felt for the Vedran Empire by the entire galaxy.

The wounds left by the Kalderan-Vedran war took centuries to heal and in some ways they never have. When the Vedran Empire was transformed into the Systems Commonwealth, one of the Commonwealth's first acts was to launch a restoration effort to the Kalderan homeworld Kalderash which still bore the scars left by the Vedran's atomic attack thousands of years before."

– from Andromeda Wiki article, "Kalderan-Vedran War," captured August 10, 2019

Kalderan Surrender: The preceding commentaries only apply to specific, point-in-Galactic Space instances of morale and planetary surrender.

The Concierge cannot – and will not attempt to – make a position surrender or become a vassal to, or be annexed by another position. These are larger game story arc issues for the position players; positions may sue for peace or continue fighting until extinction, none of which requires

any communication with, involvement, or Intervention by the Concierge. Positional morale is the state of the players.

- ✓ Peace happens only when one or both sides of a conflict can see no better alternative; prior to that point, it's all posturing and propaganda.
 - “Just last week Griffiths had welcomed what he described as ‘one of the quietest periods of this conflict,’ in a briefing to the UN Security Council in which he warned the lull could not be sustained without political progress.” – AFP, “More than 100 killed in Yemen missile, drone attack,” January 19, 2020.
- ✓ Admittedly however, there is a point in game circumstances at which the two possibilities could merge: That is, if the last world owned by a position were under attack, and the decision by the Concierge as to whether the colony surrenders is also a decision as to whether the position becomes politically extinct (see *Countdown to Extinction*, 1 Resolution, p. 1462, *infra*) in the game. Theoretically, positional extinction should have no bearing on the Concierge's appreciation of the plight of the colony.
- Beating the Machine: It is difficult to hold or prevail against a position that has dedicated everything to warfare. It may seem hopeless, the enemy has superior forces, a combat college, planning, the initiative, and possibly surprise. World War II, well-studied and dissected, provides an example, especially the Soviets, of how to defeat a war-machine position. Time and space are the enemies of aggressive war machines, each movement, each colony to be conquered or obliterated, takes Acts, Scenes, Regular Turns, no matter how small the colony. The Russians survived both Hitler and Napoleon because of their vast geography and time, willingness to take losses and endure, to trade hits with the enemy even when they were sure to lose. Time was key for production and other events to take effect. The only caveat to this argument is that in GGDM, superior technology, the material superiority, and non-material abilities of a true war machine could be very problematic for the defenders to endure.
 - ✓ “Mommy's alright, daddy's alright, they just seem a little weird. Surrender, surrender, but don't give yourself awayyyy...” – Cheap Trick, “Surrender” (1978).
- Sorry, Not: There is always a lingering suspicion where the losing side is the initial aggressor that the losers are sorry only for the fact that they lost. Female aviation pioneer and top test pilot for the Third Reich, Hanna Reitsch said in a 1981 interview with Ron Laytner:
 - ✓ “I am not ashamed to say I believed in National Socialism. I still wear the Iron Cross with diamonds Hitler gave me. But today in all of Germany you can't find a single person who voted Adolf Hitler into power ... Many Germans feel guilty about the war. But they don't explain the real guilt we share – that we lost.” – *The Deseret News*, February 19, 1981, Page 12c (available on Google newspapers).

This is the same suspicion that bedevils the *Conversos* and any forced religious conversion, marital disputes, childrearing, and pre-sentencing apologies of convicted criminals, our inability to determine the absolute truth or falsity of *apparent* contrition. Within GGDM, this may be an issue considered by the Concierge for example, in Naturalization of colonies.

This suspicion continues to affect current events, from the motive questions behind the admission of immigrants and refugees to Germany under Angela Merkel, the German-backed bailout of Greece, to reaction to Japan's recent turn to militarization, foreign military support deployments and historical revisionist ultra-nationalist groups in both countries.

“They [the Mongols] attacked Russia, where they made great havoc, destroying cities and fortresses and slaughtering men; and they laid siege to Kiev, the capital of Russia; after they had besieged the city for a long time, they took it and put the inhabitants to death. When we were journeying through that land we came across countless skulls and bones of dead men lying about on the ground. Kiev had been a very large and thickly populated town, but now it has been reduced almost to nothing, for there are at the present time scarce two hundred houses there and the inhabitants are kept in complete slavery.”— Giovanni de Plano Carpini, 1246 A.D.

Surviving the Horde: The Republic of Novgorod holds the unique historical record of having preemptively surrendered to the Mongols in 1241, without resistance and before the Mongols had even come close to the Republic’s borders. As a result, Novgorod was never besieged or attacked by the Mongols (avoiding the usual savage results), most of the Republic’s lands were untouched by the Mongols, and Mongol census and taxation officials didn’t arrive in Novgorod until 18 years later. The Prince of Novgorod became the Khan’s tax collector in the area, but the city retained its religion, culture, and was mostly independent as long as they paid the annuals.

The eventual fall of Novgorod in 1478 coincides with the military growth of the Grand Duchy of Muscovy and the decline of the Hordes; the Grand Prince Ivan III of Muscovy stopped paying tribute in 1476 and ‘defeated’ the Tarter Khanate in 1480 (the Russian guns blocked all crossing attempts, the two armies stared at each other across the Ugra River for a month, then both retreated in early winter ending the Tarter domination of Muscovy) and established the full independence of Muscovy and all of the adjacent lands it had annexed in 1478 and 1485, or over which Ivan had dynastic control or influence due to inheritances.

- ✓ By comparison, Kiev surrendered to the Horde after a siege in 1241, followed by a massacre, was ‘liberated’ and ruled by Lithuania from 1362 to 1471, then was transferred to the Crown of Poland in 1471 to 1686, when it was finally ceded to the Tsar of Russia, and was fully absorbed by Russia in 1775.

“The contact was immediate and shocking. One of the rebel ships lumbered into the path of the interceptors, spraying fire from what seemed as many points as a man has pores. The Service ships promptly riddled it and it should have drifted away – but it didn’t. It kept on fighting. It rammed an interceptor with a crunch that must have killed every man before the first bulwark, but aft of the bulwark the ship kept fighting... It was a pounded tangle of wreckage, and it had destroyed two interceptors, crippled two more, and kept fighting. Finally, it drifted away under feeble jets of power.... It was going somewhere – The ship neared the thin-skinned unarmored, gleaming hospital vessel, rammed it amidships, square in one of the red crosses, and blew itself up...”

– Cyril Kornbluth, “The Only Thing We Learn” (1949)

Endnotes.

¹ **Citation:** “You are well aware that it is not numbers or strength that bring the victories in war. No, it is when one side goes against the enemy with the gods’ gift of a stronger morale that their adversaries, as a rule, cannot withstand them. I have noticed this point too, my friends, that in soldiering the people whose one aim is to keep alive

usually find a wretched and dishonorable death, while the people who, realizing that death is the common lot of all men, make it their endeavour to die with honour, somehow seem more often to reach old age and to have a happier life when they are alive. These are facts which you too should realize (our situation demands it) and should show that you yourselves are brave men and should call on the rest to do likewise.” – Xenophon, The Persian Expedition.

² Citation: You know what’s coming ... “We shall not go quietly into the night!” – President Whitmore, Independence Day (1996) from Dylan Thomas’ 1951 poem, “Do Not Go Gentle Into That Good Night” and/or from any of Churchill’s famous speeches and broadcasts in the summer of 1940 (what <http://allthetropes.wikia.com> calls ‘The Eternal Churchill,’ as seen in Independence Day and The Return of the King speech at the West Gate of Mordor).

³ Commentary: At the end of Mike Resnick’s 1982 book Birthright: The Book of Man, at the end of 18,000 years of galactic rule, the last humans are stranded on a distant backwater planet surrounded by hostile alien fleets. The humans threaten to blow up the planet if the aliens land. My recollection is somewhat hazy, but I recall that the planet somehow blew up, eliminating the last of humanity, leaving the post-human galaxy to the aliens.

⁴ Commentary: e.g., scene in Space: Above and Beyond (1995-1996) where the Marines capture a Chig warrior. Assuming that the one thing they have in common is the need for water, they attempt to give it water. The Chig dies quickly afterward. The Marines either accidentally killed the Chig or inadvertently assisted it in committing suicide.

⁵ Citation: “As to what happened next, it is possible to maintain that the hand of heaven was involved, and also possible to say that when men are desperate no one can stand up to them.” – Xenophon, Hellenica Bk. 7, as translated by Rex Warner in A History of My Times (1979), p. 398.

⁶ Citation: “Karl Brandt and his wife Anni were members of Hitler’s inner circle at Berchtesgaden where Hitler maintained his private residence known as the Berghof. This very exclusive group functioned as Hitler’s *de facto* family circle. It included Eva Braun, Albert Speer, his wife Margarete, Theodor Morell, Martin Bormann, Hitler’s photographer Heinrich Hoffmann, Hitler’s adjutants and his secretaries. *Brandt and Hitler’s chief architect Albert Speer were good friends as the two shared technocratic dispositions about their work. Brandt looked at killing ‘useless eaters’ and the handicapped as a means to an end, namely since it was in the interest of public health. Similarly, Speer viewed the use of concentration camp labor for his defense and building projects in much the same way.*

As members of this inner circle, the Brandts had a residence near the Berghof and spent considerable time there when Hitler was present. In his memoirs, Speer described the numbing lifestyle of Hitler’s inner circle, forced to stay up most of the night listening to the insomniac Nazi leader’s repetitive monologues or to an unvarying selection of music. Despite Brandt’s closeness to Hitler, the dictator was furious when he learned shortly before the end of the war that the doctor had sent Anni and their son toward the American lines in hopes of evading capture by the Russians. Only the intervention of Heinrich Himmler, Speer, and the direct order of Admiral Doenitz after Brandt had been captured by the Gestapo and sent to Kiel in the war’s closing days, saved him from execution.” – from Wikipedia article, “Karl Brandt,” captured May 17, 2020 (emphasis added).

⁷ Commentary & Citation: Why Not is implicit in any direct threat. The Why Not question was used to great effect by Delenn in Babylon 5, “Severed Dreams” episode (1996): **Delenn**: This is Ambassador Delenn of the Minbari. Babylon 5 is under our protection. Withdraw or be destroyed! **Earth Force Commander**: Negative! We have authority here. Do not force us to engage your ship. **Delenn**: Why not? Only one human captain has ever survived battle with a Minbari Fleet. He is behind me. You are in front of me. If you value your lives, be somewhere else!

⁸ Commentary & Citation: Why civilian leadership doesn’t go to the front: “After the outbreak of the Franco-Prussian War in 1870, Eugenie remained in Paris as Regent while Napoleon III and the Prince Imperial travelled to join the troops at the German front. When the news of several French defeats reached Paris on 7 August, it was greeted with disbelief and dismay. Prime Minister Émile Ollivier and the chief of staff of the army, Marshal Leboeuf both resigned and Eugenie took it upon herself to name a new government. She chose General Cousin-Montauban, better known as the Count of Palikao, seventy-four years old, as her new prime minister. The Count of Palikao named Maréchal Francois Achille Bazaine, the commander of the French forces in Lorraine, as the new overall military commander. Napoleon III proposed returning to Paris, realizing that he was doing no good for the army. The Empress responded by telegraph, ‘Don’t think of coming back, unless you want to unleash a terrible revolution. They will say you quit the army to flee the danger.’ The Emperor agreed to remain with the army. With the Empress directing the country, and Bazaine commanding the army, the Emperor no longer had any real role to play. At the front, the Emperor told Marshal Leboeuf, ‘we’ve both been dismissed.’” – from Wikipedia article, “Eugénie de Montijo,” captured November 1, 2018.

- ✓ Napoleon III had maneuvered himself into limbo. If he did not have the ability or intent to assume command, he had no business at the front, and further, was risking his entire dynasty by taking his under-aged son along. His futility was a metaphor for the French defeat at Sedan in 1870.

- ✓ The Prince Imperial, born in 1856 and the only son of Napoleon III by the Empress, was killed in 1879 serving as a British officer during the Zulu War; his recon party was ambushed in an abandoned village.

⁹ Commentary: Exhibit A to any modern argument about material vs. morale is the shameful performance of the new Iraqi army in early 2014 where heavily armed divisions fled before highly mobile, light-armed, and motivated ISIL forces probably numbering no more than 800 fighters on pick-up trucks. Iraqi army commanders fled, leaving their soldiers without direction; in June 2014, ISIL captured the major city of Mosul, looting banks and capturing stores of tanks, vehicles, missile launchers, and other Iraqi army-abandoned expensive U.S.-supplied equipment.

¹⁰ Commentary: Morale in the real world. The Pittsburgh Pirates are a team that has enough talent to be competitive for most of the first half of the season. They are a team that must live on the edge in the edgy NL Central, if they play hard and all the guys are there, all in, they might just have a magical season. But when injuries take players out of the game, and early-inning pitching isn't quite performing like it used to, and as the season wears on with the gap widening, an observer can easily see that despite pride and brave talk, the team just isn't quite there anymore, the focus and discipline fades, errors pile up, base running mistakes happen more frequently, more caught stealings as they press for little advantages, strikeouts pile up, batting averages don't produce key hits, homeruns fall off. The effects snowball into a 14GB deficit. At some point, they are just playing it out. If the Pirates won 20 games in a row – almost unheard of in modern baseball, they would just be at .500 for the season. When paired with another team in the same situation, it is no surprise – it is sad, but it is no surprise – that brawls broke out between the Pittsburgh Pirates and Cincinnati Reds in April and July 2019, the latter leading to many suspensions and fines.

¹¹ Commentary: This frustration is also what it's like when you are pressing the wall. Anyone with ambition or a goal knows this experience. And you resent it, it's like an isometric exercise in your mind, on a sit 'n spin, you think you are working, but really just going in circles. Being thrust, but not leading anywhere. I had to read The Scarlett Letter in 11th Grade, I was determined to finish the book (one of the few school reading assignments I honestly finished); I was laying on my bed, pressing to the end, I thought I finished the book, then woke up with the lights still on, and discovered I had 30 pages to go. I had dreamed I finished it.

¹² Citation: **Capt. Flanagan**: What kind of animal are you!? **Cpl. DiNardo**: Animal? Lady, do you have any idea what Charlie would do if he came in here? He would rape you and your nurses until you're all dead! But you know what? They'd have to kill me first. Animal? I'm no animal. – from *Siege of Firebase Gloria* (1989).

¹³ Commentary: The anime series *Crest of the Stars* begins with a planetary surrender. Rock Lin, the father of the main character Jinto Lin, is the president of planet Martine of the Hyde star system. The Abh fleet arrives and demands surrender of the world. People on the ground wanted to resist, despite their weak defensive capabilities (they had 10 missiles and some police forces); the Abh are not interested in planetary occupation, but seek to control space routes, leaving planets to govern themselves. Jinto's father went up to meet with the Abh and subsequently surrendered the planet to the Abh Empire, accepting a hereditary title of Count of Hydal. Jinto was spirited off the planet to avoid angry mobs. Later, Jinto's father was executed for treason by the Hyde parliament after the planet was 'liberated' by the Four Nations alliance (like Soviet liberation) while Jinto served with the Abh armed forces.

¹⁴ Citation & Commentary: [Narrator Jack Fortune] “The history of man's inhumanity to man has many dark chapters, but none worse than the war on Germany's Eastern Front. ... Army Group North was ordered to destroy a strategically important city high on the Baltic coast. Hitler was intent on obliterating it at all costs and ordered that its inhabitants be shelled and starved to death. The siege that ensued lasted nearly 900 days and cost the lives of nearly 1 million civilians. But the city would not yield to the mighty force at its gates, Leningrad, 1941. ... [introductory theme music & scenes] Having reverted to its old imperial name, St. Petersburg is once more a vibrant, beautiful city, which boasts a rich cultural heritage. It is perhaps difficult for the contemporary visitor to imagine the horrors that took place on its streets just six decades ago. But they are etched on the fabric and consciousness of the city, many of whose inhabitants are able to recall them all too vividly.” – *Under Siege* television series (2008), Ep. 5.

The Siege of Leningrad from September 8, 1941 to January 27, 1944, is considered the costliest and most destructive siege in history. The German commanders were ordered to reject any negotiation on surrender of the city:

- ✓ “Subject: the future of the City of Petersburg: The Führer is determined to erase the city of Petersburg from the face of the earth. After the defeat of Soviet Russia there can be no interest in the continued existence of this large urban centre. Finland has likewise shown no interest in the maintenance of the city immediately on its new border. It is intended to encircle the city and level it to the ground by means of artillery bombardment using every calibre of shell, and continual bombing from the air. Following the city's encirclement, requests for surrender negotiations shall be denied, since the problem of relocating and feeding the population cannot and should not be solved by us. In this war for our very existence, we have no interest in maintaining even a part of this very large urban population.” – Hitler's directive to Army Group

North, September 29, 1941, reprinted by Anna Reid in Leningrad: Tragedy of a City Under Siege, 1941-44 (2011), pp. 134-135 (from free copy on Google Books).

- ✓ “Hitler – ‘the hardest man in Europe’ as he liked to call himself – was only irritated by this ‘sentimentality.’ ‘I suppose,’ he declared over supper on 25 September, ‘that some people are clutching their heads trying to answer the question – How can the Führer destroy a city like St. Petersburg? Plainly I belong by nature to quite another species!’” *Id.*, p. 134, probably from Hitler’s Table Talk recorded by his private secretaries and published in 1951.

The Soviets were desperate to hold it, tying up 26 German divisions and aircraft and to prevent Army Group North from circling behind Moscow, survivor interviews in Under Siege (2008), Ep. 5 indicated that they never entertained the idea of surrendering to the Germans, and thus, no offer was made. Many of the Soviet divisions were militia divisions. The Soviets however, were able to keep a narrow strip of coastal land along Lake Ladoga open and also to supply the city by flotilla, and when it froze over, to drive trucks across the lake on the “Road of Life.”

¹⁵ Citation & Commentary: [Narrator Jack Fortune] “The French defeat had also yielded some 1,300 prisoners. What Wellington did with these men was to prove very costly. The convention of siege warfare was that those defenders who were captured should be put to death. In another break with convention, Wellington decided to spare the men, a move that he later deeply regretted. [Interview with Ian Fletcher] ‘If you were a garrison, if you were inside a fortress, and the walls were breached and the breaches were deemed to be practical, i.e. they were indefensible in many ways, then you were summoned to surrender, and you were allowed to march out with all the honors of war. Now, of course, if you chose to fight even though you knew the breaches were practicable and indefensible, then you effectively waived all rights to mercy. By allowing the garrison to get off scot free, certainly, the garrison at Badajoz would look at this and say, hey, we can defend these walls without fear of retribution afterwards. The same happens at Burgos and, of course, at San Sabastian. Now Wellington knew this problem, and years afterward he wrote – after Badajoz, he certainly was moved to write in a private letter. He said that if I had slaughtered the garrison of Ciudad-Rodrigo, I would have saved myself the flower of my army at Badajoz, which is where, of course, they got really butchered.” – Under Siege series, Episode 2 (documentary, 2008).

- ✓ This issue is still in debate – there are plenty of loot-motivated conquerors through history who committed massacres, sacks and mass executions for terror effect – but the official position of the U.S. armed forces, and which was drilled into our consciousness starting in boot camp at Parris Island in 1985, is the opposite of that expressed by Wellington and explained by military historian Ian Fletcher in the interview above:

The U.S. government teaches that if the defenders know they will be executed after surrendering, why would they surrender instead of fighting to the death? Thus it is believed that lives on both sides are saved if the enemy knows they will not be killed or mistreated for surrendering. This then creates a curious question: Why did the French defenders of Ciudad-Rodrigo lay down their arms in the market square if they believed that they would be executed afterwards as part of the normal convention on prisoners captured during a siege? Why would they not resist to the last bullet, the last man, street to street, house to house? Certain death vs. probable execution? Still, the U.S. armed forces don’t want enlisted men on the ground debating this point, so the official policy is stated unequivocally and forcefully backed by conventions signed by the United States and ratified by the Senate.

 - I believe that the Ian Fletcher interviewed in Under Siege is the military historian who writes popular books on the Napoleonic Wars for Osprey books. He is described in an article for the Independent as “a 38-year-old, self-taught historian with nearly a dozen works of popular history to his name. They come with titles like In Hell Before Daylight, The Waters of Oblivion and Fields of Fire. (He financed the writing of his first book by working as a motorbike dispatch rider.) With only a couple of O-levels to his name, Fletcher is the sort of historian regarded with considerable sniffiness by the academic branch of the profession. He worked for 13 years carting books around the British Library for other scholars, and has learned history the hard way.” – Matthew Gwyther “Meeting their Waterloo (again),” July 9, 1995 (article is still available online in 2019).
- ✓ In the case of Benedict Arnold at Ft. Griswold, the issue that caused him to omit the massacre from the initial reports may have been that technically, those killed were still English citizens, even if considered treasonous and in armed rebellion, who had surrendered and had been killed without due process.
- ✓ Within GGDGM, the Concierge may sometimes need to decide how the issue is viewed by those involved with regards to possible surrenders.

¹⁶ Commentary: In total, about 11,000 were killed that day between all sides. Pvt. Gunter was killed at 10:59 a.m.

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See Appendix CST – Combat Shifts & Situations Tables
See Appendix ORD – Conversion & Pacification Examples

“We need to grasp security as pacification... whereas for most people ‘pacification’ is associated with the actions of colonizing powers, has a close connection to counter-insurgency tactics and is therefore widely understood as the military crushing of resistance, an examination of the theory and practice of pacification reveals a far more ‘productive’ dimension to the idea. ‘Productive’ in that what is involved is less the military crushing of resistance and more the fabrication of order, of which the crushing of resistance is but one part.”

– Mark Neocleous, “The dream of pacification: Accumulation, class war, and the hunt,”
Socialist Studies / Études socialistes, Winter 2013
(<https://socialiststudies.com/index.php/ss/article/viewFile/23516/17401>)

Making War Through Peace: Pacification Combat, which I wrote into the game rules perhaps in or before 2002 (colony conversion existed in the ancestral Stellar Conquest board game *published in 1976*), seems to accord with what is now called Pacification Theory. Pacification Theory is a post-millennial reworking of some elements of Marxism:

- ✓ “...serving an essential component of pacification is its immediate connection to making subjects economically ‘productive’ both historically within the plans of military and colonial overseers and by contemporary police actions, both domestic and international. Neocleous has characterized this process as making war through peace.” – from Wikipedia article, “Pacification Theory,” August 3, 2018.

This spot on describes Conversion attempts and Pacification Combat in GGDM, as described in 3 Order, p. 554 *et seq., supra*. Thus, participants should recognize that Conversion and Pacification Combat in GGDM is inherently based on capitalist accumulation/bourgeois ideologies in the Marxist view. Stellar Conquest (1975) had Pacification Theory before it was a theory. 😊

“Both Hitler and Himmler saw a twisted logic to press-ganging ex-convicts into policing, bullying and terrorising the populace of their newly conquered lands – utilising the useless dregs of their jails to instil order through fear.”

– Tim Williamson, “Oskar Dirlewanger: The SS Butcher of Warsaw,” History of War (UK), April 16, 2015

Making War for Peace is like...:¹ As mentioned in Converted Colony, 2 Order, pp. 539-540, *supra*, there are three processes for converting a Conquered Colony: Conversion via activation of the Order Power for that purpose, and Pacification Combat or Orbital Bombardment, or a combination of both. Pacification Combat requires:

- 1) Ground Units on,
- 2) A Conquered Colony, and
- 3) Activation of the Combat Power for the purpose of Initiate Combat at that location.

In order to be a Conquered Colony, the colony must have surrendered and been 100% occupied ... we’ve already discussed that.

- ✓ Merriam-Webster online dictionary at *pacification*: **1:b** the act of forcibly suppressing or eliminating a population considered to be hostile.

It is thus that, from the perception of the colony population, it seems that the conqueror has continued to make war on the colony after surrender. This then makes Naturalization of the colony (see 3 Order, p. 557, *supra*) much more difficult later. Although the United States was not in any way trying to ‘naturalize’ Iraq (in GGDM terms), the history of, sometimes fatal, cultural misunderstandings, negligence, and crassness and carelessness by U.S. forces contributed to the perception of a hostile occupation, oppression and ongoing conflict. This recent history should make clear generally the spirit of the GGDM rules on this issue.

- ✓ Ships and Ground Units that participate in Pacification Combat or Orbital Bombardment have a chance of *apostasy*, see Alienev Apostasy, 3 Disruption, p. 283, *supra*.
- Tar Baby Pacifier: Armies are built for winning battles against other armed forces. There are limits to what they can do beyond that;² the purpose of the Pacification Combat is to eliminate or marginalize all active armed resistance and discourage future armed resistance, to restore order, civil control and basic functions of civilization. Armies are less effective at winning the hearts and minds of the population, especially *alien* population.
 - ✓ Suppose that the Japanese had defeated the United States and occupied the West Coast of the United States – a situation featured in many WWII alternate history fiction. In the eyes of the conquerors, everything about their culture and militant, nationalistic aggression would have been vindicated and to an equal extent, the culture and institutions of the conquered would have been devalued. It would certainly have been a complete clash of cultures between the occupiers and the conquered population (because American culture is European descended), there would have been resistance, reprisals, and exploitation of the circumstances. Neither side would have been restrained from the most extreme and brutal measures.

The first problem of pacification by occupying forces *is that the military forces must act as police forces*, a task for which they are less than suited (e.g., Iraq, etc.), and the population of the occupied areas becomes naturally the enemy (see Alex Abad-Santos feature quote and Roslin Maneuver, 2 Government Titles, pp. 590-591, *supra*).³ The more that military forces diverge from simple occupation, the more a ‘tar baby problem’ pacification becomes.⁴

- ✓ The state police of Rio de Janeiro actually have ‘pacification units’ (*Unidade de Polícia Pacificadora*) – heavily armed paramilitary elite police units stationed in the city’s favelas and who engaged in firefights with drug gangs that control the favelas before, during and after the 2016 Summer Olympics. State bankruptcy and political scandal threaten to curtail operations and wipe away all gains after the Olympics.
- Peace in Our Time: Due to the time periods represented by GGDM Regular Turns, Pacification Combat can only be initiated on the Regular Turn *immediately following the surrender* of the colony. The decision must be made, troops present. Each colony may only be subject to one Pacification Combat each time it is conquered. The Order Power *may not be* activated at the colony for the *purpose of Conversion* on the same turn as the Pacification Combat. The Pacification Combat lasts one round, is one sided, and no Combat Orders are required.
 - ✓ Pacification efforts form a significant part of military history. Arguably, the English required four centuries to ‘pacify’ Scotland, this process becoming entangled in the personal union of the crowns, and with the War of the Roses, the English Civil War, and various attempts by exiles in France to usurp the throne of England (last time in

the 1745 Jacobite Rebellion led by Bonnie Prince Charlie). In ancient empires in the Middle East, there are records of campaigns to the same areas every 10 or 20 years due to uprisings, which were usually entangled with proxy wars and palace intrigue. Unhappy subjugated population or client states are always fodder for palace intrigue and usurpers; Mark Anthony went to Egypt to get an army and navy and some

- Resistance is Futile: There are three steps to resolving a Pacification Combat. The first step is to determine the Suppression Value. Suppression Value is the total RP value of the conqueror's Ground Units that are occupying the colony, plus half the value of all supporting Fighter Complements on Carriers in the system, plus 1 for each 1st Era Warship, 4 for each 2nd Era Warship and 9 for each 3rd Era warship of the conqueror in the system, *not* counting Carriers as warships in this case.
 - ✓ For example, the conqueror has 15 RPs of Ground Troops, 30 RPs of Fighters, two 2nd Era Warships and a 1st Era Warship. The Suppression Value is 39.
- You Will Be Assimilated: After determining the Suppression Value, the Concierge must assign a Resistance Value. The Resistance Value is the total population remaining, divided by 10, plus one half for each defending Ground Unit that remained at the time of surrender or occupation, and total number of remaining Fighters at the time of conquest divided by 10.⁵ To this, the Concierge will add a number between 1 and 10 based on judgment, where 1 represents little will to resist, and 10 represents fanatical resistance. Factors include cultural and political considerations of the two cultures, attitudes, possibility of later liberation, and events of the recent combat, such as urban destruction, Orbital Bombardment, how long the Ground Combat lasted, etc. Again, the Concierge is in the position of *representing generally, the people on the ground*.
 - ✓ Continuing the previous example, the colony has 90 population factors after a massive battle; there were more before the battle. $90 \div 10 = 9$. There were also two defending Ground Units remaining, which adds 1, and 10 RPs of Fighters remaining, which adds 1 for a total of 11.
 - ✓ Population released from disbanding defending Ground Units counts for both the total population and for the extra resistance value from defense veterans.⁶
 - ✓ Fractions are rounded up.
 - ✓ The Concierge then determines that 4 is a good number here, so the Resistance Value is 15 ($11 + 4 = 15$).
- Fabrication of Order: There are three possible outcomes to a Pacification Combat, determined by the final number.
 - ✓ If the final suppression number is less than (but not equal to) *one third* of the population, an *insurgency* has developed on the colony.
 - ✓ If the final suppression number is greater than or equal to *two thirds* of the population, the colony has been successfully converted and becomes a *Converted Colony*.
 - ✓ Any result between these two is a suppression result. Put another way, if more than two thirds of the population are against the conquerors, there is an insurgency, if two thirds of the population accept the conquerors, the colony is Converted, any other result is a suppression.

- I have read a few times over the years that approximately one third of the colonial population supported the American Revolution, one third either opposed it or supported the crown, and one third were undecided. It is well known that after the war, there was an exodus of Tories to Canada, the Caribbean, and some to England.

An insurgency result has no immediate effect, but the colony is tagged with an insurgency and the Resistance Level assigned by the Concierge (e.g., Insurgency-8). The insurgency level will decrease by one per Turn Cycle under normal circumstances but may gain levels by Interventions or subsequent player actions; the insurgency is a story element which provides opportunity for Concierge Interventions, and possibly affects subsequent Special Operations Black-ops and Counter-Operations at the colony (e.g., Irish Republican Army-Abwehr collaboration 1937-1943).⁷ A suppression result means that armed resistance has been militarily crushed, aiding later Conversion attempts (see Conversion, 3 Order, p. 554, *supra*).

- ✓ The 2009 Age of Conan board game is the only one I know that has a post-conquest pacification mechanic. After a territory is ‘conquered,’ additional combats through various terrain types (probably representing attempts to subdue native tribes) on the same or following turns is required before the territory is fully controlled – one may conquer the main city in the territory, but not control the plains and forests around it.
- Occupation of Haiti: The Suppression and the Resistance Values are converted directly into population factors that have taken, passively accept or are sympathetic to each side.⁸ It is irrelevant if the two numbers add up to more than the total population of the colony.
 - ✓ Continuing the previous example, the Suppression Value of 39 means that 39 of the 90 population factors have been suppressed at this point; while the Resistance Value of 15 means that 15 population actively resist or are sympathetic to the resistance.
 - ✓ This means that 36 of the population have not sided ($90-39-15 = 36$) or at least, have not been actively suppressed (e.g., passive-aggressive resistance).

Thereafter, random numbers are separately determined (i.e. dice are rolled), the first between 1 and the Suppression Value – which is added to the suppressed population, and the second between 1 and the Resistance Value – which is added to the Resistance Value – the total of which is then subtracted from the total suppressed population.

- ✓ Continuing, a random number between 1 and 39 is generated for the conqueror, the result is 26, which is added to the Suppression Value of 39, meaning that 65 population have been suppressed.
- ✓ A random number between 1 and 15 is generated for the resistance, the result is 9, which is added to the 15 Resistance Value ($15+9 = 24$) and the total is subtracted from the total suppressed population of 65, leaving 41 population suppressed.

The Final Number, representing the amount of population that has been pacified, is then compared to the population of the colony to determine if the Pacification Combat results in a Conversion, suppression or insurgency (*ut supra*).

- ✓ In the example, 41 population out of 90 have been suppressed, thus less than two thirds, but more than one third, of the colony’s 90 population factors have been suppressed, the final result of the Pacification Combat is a *Suppression*.

If the resistance had rolled a 15 and the conquerors had rolled a 1 ($1 + 39 = 40$), the conquerors would have lost suppression on 30 population, reducing their share to 10 population, an *insurgency* result. If the conquerors rolled a 30 and the resistance rolled a 1, the conquerors would have gained 29 population to 94 population suppressed (the entire colony), an *automatic Conversion*.

- Not Occupying Haiti: There are alternatives to the alternatives given in GGDM. The baseline game rules in GGDM are for *the game to proceed smoothly and naturally* from turn to turn; however, GGDM is a wide open sandbox for (almost) anything the participants are willing to imagine and work for in the game.
 - ✓ For example, in Timothy Zahn's 1983 novel, *The Blackcollar*, and the 1986 sequel, *The Backlash Mission*, the alien Ryqril conquerors pacified Earth by loyalty-conditioning human administrators and security personnel ("Collies," from collaborator, also implying dogs), backed up by small contingents of Ryqril soldiers isolated in their habitats. The loyalty conditioning is not explained exactly, but involves drugs, and apparently before surrender, the Terran Democratic Empire had developed a chemical counter, "Whiplash" that is effective in overcoming the Ryqril loyalty conditioning in some people, but not everyone. Once drug-conditioned, psychological factors, fear and habit of obedience also take effect. The side effect of the loyalty conditioning is a lack of creativity, ambition, and other emotional abstract thinking.
- See-Through Fabric: If the majority of the units present used to calculate the conqueror's Suppression Value have their Epistemological Constructural Element currently inactive, Enlightenment may not be used in the Pacification Combat. The Conquered Colony never receives the benefit of Enlightenment in the Pacification Combat (i.e. the former owner cannot supply Enlightenment).
 - ✓ [Narrator] "They call this rampage 'mopping up,' putting the uprising completely to rest, ending the pretense of ruling by consensus, where the chiefs had some say, instead, they were now determined to rule by force." – from *Bhambatha: War Of The Heads* (documentary, 2009).⁹

*"Machiavelli's ideas are basically sound ones for the Nietzschean People.
Unfortunately, he was an optimist."*

– Opening lines, *Andromeda*, "Double Helix" (2000) ¹⁰

Genocide: It is an open question in GGDM whether Pacification Combats can convert a colony where Conversion Attempts would be blocked by the Concierge due to *acute alterity* (see *Incurable Acute Alterity*, 3 Order, p. 556, *supra*). In terms of timing, Pacification Combats occur before regular Conversion Attempts, and thus a ruling may not have been made by the Concierge; however, rulings may have been made previously and precedent may dictate that the target colony may not be Converted. In order to initiate a Pacification Combat, however, the colony must have either surrendered or been 100% occupied; if the former is the case, it may indicate some level of understanding and less acute alterity. If the colony has simply been 100% occupied – for example, humans storming a giant beehive (to loot the honey!), then it may be determined that Pacification Combat is also blocked from either suppressing or Converting the colony.

- **Speciesism:** This is the point at which we arrive at genocide in a space-opera setting and *intentionalism vs. functionalism* Holocaust arguments. Genocide is a GGDM story arc event. If the Conquered Colony can never be converted, what was the reason for landing there?

But if the situation ever should occur, it may be to destroy the colony with Ground Units instead of planet damaging Orbital Bombardment (*à la Starship Troopers*). In these cases, the final suppressed population in a Pacification Combat may be considered to have been killed/destroyed. However, Pacification Combat only lasts one Combat Round, and it must therefore be assumed that any surviving population has fled, scattered on the planet (refu-bees!), and the colony is permanently in an insurgency (since they can never be Naturalized).

This should not, however, be construed to mean that genocide can only occur in cases of *acute alterity*; rather, it is possible between any two species, or even among the same species, as we have witnessed too many times on Earth (e.g., the Armenian Genocide, the Holocaust).

- ✓ It is claimed by Plutarch that up to 1 million Gauls may have been killed by Caesar during the Gallic Wars (58-50 B.C.) and another million enslaved. This was about one fifth of the Gallic population, completely disrupting the demographics.

Acute alterity simply brings the matter to the point of discussion in GGDM. Thus, any Pacification Combat could intentionally or unintentionally, partially or in the whole, turn into a genocide or massacre. This is territory for Concierge Interventions. If a normal Pacification Combat attempt is underway, any population factors killed in the genocide or massacre should both reduce the entire population of the colony and still count for the resistance.

- **Brandenburg Tor:** Science-fiction writers have developed a number of reasons for planetary genocides, from the alien-invaders-hate-humans movies to more sophisticated stories.^{11, 12} In the Andromeda television series, the Sack of Brandenburg Tor, where 3 billion out of the 5 billion human population were killed in five days by Magog, is a central issue. The Magog, a species created to serve the Spirit of the Abyss, reproduce by laying their eggs in other living creatures (like some human-detested creatures on Earth) and are cannibals; and thus, their ‘genocide’ is the use of others for reproduction that always results in their deaths.¹³

GGDM could include different sorts of sci-fi situations (like the Alien movies) that lead to genocide for non-human purposes. The vaguely humanoid Magog represent a case of less acute alterity; they can communicate and comprehend concepts, they had previously entered into a treaty with the Systems Commonwealth.

“The Ottoman defenders were too few to defeat the landing but inflicted many casualties and contained the attack close to the shore. By the morning of 25 April, out of ammunition and with nothing but bayonets to meet the attackers on the slopes leading up from the beach to the heights of Chunuk Bair, the 57th Infantry Regiment (Ottoman Empire) received orders from Kemal ‘I do not order you to fight, I order you to die. In the time which passes until we die, other troops and commanders can come forward and take our places’ and every man of the regiment was either killed or wounded.”

– from Wikipedia article, “Gallipoli Campaign,” December 28, 2018

Suicide Attacks: The 57th Regiment was never reconstituted or recreated in the Turkish Army.

A suicide attack can be defined in modern terms as any attack in which the death of the attacker is inseparable from the anticipated results. Or, put another way, a suicide attack is one in which the attacker has no expectation of survival, regardless of the results of the attack. A suicide attack necessarily implies the foreknowledge, understanding of the certainty of their demise and a fatal decision. Arguments on this usually compare Japanese *banzai* charge (i.e. a human wave attack) to Japanese *kamikaze* attacks in WWII; the participant of a *banzai* charge has some expectation of possible survival, while the *kamikaze* pilot has no expectation of survival.¹⁴

- ✓ “The establishment of a suicide squadron (*staffel*) was originally proposed by Otto Skorzeny and Hajo Herrmann. The proposal was supported by noted test pilot Hanna Reitsch. The idea proposed was that Germany would use volunteers as suicide pilots in order to overcome the Allies’ numerical advantages with their fanatic spirit. The idea had roots in German mythology that was glorified by Nazi propaganda. Hitler was reluctant, but eventually agreed to Reitsch’s request to establish and train a suicide attack air unit, with the proviso that it would not be operated in combat without his approval. The new unit, nicknamed the ‘Leonidas Squadron,’ became part of KG 200....” – from Wikipedia article, “Leonidas Squadron,” captured November 3, 2019.

It’s a thin line however, as others have argued that with machine guns and automatic small arms, the *banzai* charge is effectively a suicide attack (and the historical results support this assertion, the last and largest attack occurred at the Battle of Saipan, July 1944; it was forbidden by some Japanese commanders). A modern suicide attack – whether as a military human wave attack, suicide bomber, or attack using a machine – is also usually a form of ritual suicide.¹⁵

- ✓ “In the last seven years, 14 per cent of all suicide bombings – one in seven – have been by children.” – Iain Overton, “The price of paradise: 82 facts you didn’t know about suicide bombers,” The Irish Times, April 8, 2019.

It also should be noted that for 99% of human history, human wave attacks (i.e. shock attacks, charges to melee¹⁶) were the main military attack, and continued long after the widespread use of gunpowder weapons (early World War I was particularly disastrous); thus, the concept of a suicide attack is mostly a *modern construction* arising from post-WWI sensibilities about technological warfare. A forlorn hope (*enfants perdus*) is not a suicide attack as the object is to survive.

- ✓ On August 24, 1942, the 2nd Squadron of the Italian *Savoia Cavalleria* regiment wound around to the left, emerged from a gully, and charged on horseback with sabers and hand grenades, the entrenched riflemen of the Soviet 812th Siberian Infantry Regiment. Upon reaching the Soviet entrenchments, the horses leapt over and the 2nd Squadron was carried into the rear of the Soviet regimental position by the momentum of their charge. The Soviet riflemen were still entrenched firing at the backs of the 2nd Squadron when the dismounted 4th Squadron attacked the line, overrunning it. The 3rd Squadron then hastily, without cover, attacked the center of the Soviet Siberian line. In the end, the Soviet Siberian Regiment retreated with heavy losses, but the Italians were unable to pursue. Against modern weapons, cavalry charges were increasingly suicidal attacks; the *Savoia Cavalleria* got lucky, it was great propaganda for the Italian Fascists, and the Izbushensky charge is considered the last major action in history. Information from Wikipedia article, “Charge of the *Savoia Cavalleria* at Izbushensky” and History Channel article, “Remembering History’s Last Major Cavalry Charge,” retrieved November 15, 2018.

- Go Tell the Spartans: GGDM *does not prohibit suicide attacks* either by regular forces or by insurgents/resistance forces, as long as the attacks are legitimately based on the culture of the Native Population Type in the game and circumstances, and not merely on the desires of the position players at the moment. This will be a determination for the Concierge to make *as representative of the local commanders* in the story. This determination can be made in any combat situation or in Special Operations Black-ops or Counter-Operations. If positions wish to employ suicide attacks in GGDM, they must build a political-ideological culture that supports it, as the Meiji regimes did, with all the consequence that entails.
 - ✓ “Because the battle consisted of a small force holding a piece of fortified territory against a vastly larger invasion for three days at great cost before being annihilated, Wizna is sometimes referred to as the ‘Polish Thermopylae’ in Polish culture. One of the symbols of the battle is Captain Władysław Raginis, the commanding officer of the Polish force, who swore to hold his position as long as he was alive. When the last two bunkers under his command ran out of ammunition, he ordered his men to surrender their arms and committed suicide by throwing himself on a live grenade.” – from Wikipedia article, “Battle of Wizna,” captured August 10, 2019.¹⁷

Of necessity, this discussion only applies to suicide attacks, and not desperation defenses or the choice to die rather than surrender or flee. The distinction easily becomes fuzzy, but rarely are *suicide defenses* discussed in the same manner as suicide attacks, rather, they are praised as *heroic last stands*, for example, the 21 Sikhs who refused surrender and defended a signal post in Afghanistan against thousands of Pashtun tribesmen in 1897, the Swiss at the Battle of St. Jakob in 1444 (a foolhardy 1 vs. 15 attack that turned into a famous 15 vs. 1 last stand), or the Polish at the Battle of Wizna (1939). By definition, a ‘last stand’ requires that the defenders are annihilated (or nearly so, as a unit), a fatal form of propaganda of the deed.

- ✓ Example of how the distinction can become fuzzy: As part of the American defense against a surprise Japanese attack at the Battle off Samar (the center column action of the Battle of Leyte Gulf), four American destroyers charged at flank speed against a massive Japanese Force of four battleships, eight cruisers and eleven destroyers to cover the escape of the escort carrier group. The captain of the destroyer USS Samuel B. Roberts “told all hands via bull horn that this would be ‘a fight against overwhelming odds from which survival could not be expected.’” (from Wikipedia article, citing C. Vann Woodward, The Battle for Leyte Gulf (2007)).
- ✓ Thus, although the American force was the defender in GGDM terms, the ferocious and dogged attack of the four American destroyers was a suicide run and they knew it. Three of the four American destroyers – the USS Johnston, USS Samuel B. Roberts and USS Hoel were sunk, while the USS Heerman was damaged. Two of the six American escort carriers were sunk, three were damaged.

Of necessity, this discussion applies only to sapient opponents; that is to those who can consciously choose to be solely famous for dying. If a bee stings you, it will die. Almost all bees are females (except the few drones) and the female reproductive organ evolved into the stinger, because the Queen Bee produces all the young (i.e. they are eusocial). The stinger breaks off when the bee stings and the bee dies. Bees are always stinging creatures against which they would have no chance otherwise. No one thinks that a bee makes a conscious decision required for a suicide attack. No one thinks a bee has a concept of its own death.

“We all put up with Bob anyway because he was, after all, one of us – a gamer. Besides, Bob was a player, too, and seeing Bob play sort of made up for his being a GM. I was running a TRAVELLER game in which the group was fleeing a space battle when Bob’s character, a scout with his own 100-ton scoutship, showed up to join the fun. The enemy forces were escaping battle in a 30-ton lifeboat and the players were happy to let them go, but Bob wouldn’t think of it. ‘I want to ram their ship!’ Bob announced. He obviously assumed that starships and ancient galleys were built alike. ‘You’re sure about that?’ I asked.

Everyone else stopped talking and looked on in horrified fascination. ‘Sure!’ Bob said. ‘I have the bigger ship!’ I had Bob roll his character’s Piloting skill, and he made the roll. Bob’s 100-ton scout plowed into the 30-ton lifeboat at a speed of tens of miles per second, normal orbital velocity. Both ships were instantly reduced to clouds of scrap – Bob’s character, too. It was the shortest character lifespan in any game I’d ever run, about one minute. ‘Your man’s dead,’ I told Bob. ‘Kaput. Gone. He blowed up.’ A look of total confusion crossed Bob’s face. ‘What?’ he asked. ‘How?’ I have no idea where Bob is these days, but despite everything I still wish him well.”

– Roger Moore, Editor, “A little of Bob in all of us,” Dragon Magazine #196, August 1993 (all caps in original)

For the Babylon Bobs: Occasionally, video sci-fi (e.g., Babylon 5) still has cringe-worthy intentional ramming scenes in ship or fighter combat, like ancient or medieval galleys or American Civil War ironclads. Ramming in space is a suicide attack; it is the captain and helm crew’s choice and everyone else onboard has no say. All of the instances of ramming in Babylon 5 – I can count three without thinking too hard – were treated as a suicide attack.

- ✓ “Ram it? I had always thought of that as poor taste. Ramming is the last resort.” – Maj. Genadi Osipovich, pilot of the Su-15 interceptor that shot down Korean Air Lines Flight 007 in 1983, from interview with Michael R. Gordon, “Ex-Soviet Pilot Still Insists KAL 007 Was Spying,” New York Times, December 9, 1996.
- ✓ Seven hours *after* a ceasefire order on November 22, 1948, Israeli Navy explosive motorboats rammed the Egyptian flagship *El Amir Farouq* (sloop) and sank it, also damaging a tanker. The explosive motorboats were purchased in Italy, and were the same motorboats used in the Italian Navy attack on Souda Bay in 1941 that sunk a British heavy cruiser and a tanker. *Neither instance was a suicide attack*, all motorboat sailors ejected and survived. An Italian sailor trained the Israelis in Galilee. The explosive motorboat is the asymmetrical naval war successor to the fireship of old.¹⁸

GGDM makes no provision for and does not envision ramming combat, but it might be possible as described above, whether as a suicide attack or eject-and-pick-up (e.g., like Lee Adama in Battlestar Galactica, “Resurrection Ship, Pt. 2” (2006)). If it occurs in the game, the participants will need to ‘wing it’ on the rules and the Concierge should only allow it to occur if it fits the story and the position’s civilization (e.g., Kamikazes). It cannot occur out of the blue...

- ✓ In 1602, a moonlit running battle occurred between six oar- and sail-powered galleys carrying reinforcements and treasure from Spain to the Spanish troops in Netherlands and a combined English and Dutch sailing naval force of nine galleons, carracks, and

galiots in the narrow part of the English Channel off Dover. On 3 October, the English sighted the Spanish galleys in the moonlight and engaged with broadsides while the galleys tried to evade. Some galley slaves jumped overboard and swam to shore, a strong gale came up behind the English ships driving them forward in pursuit, and the Dutch tacked in from the other direction when they heard the English guns. In an odd turnabout of the usual tactics, the Dutch sailing ships fired upon then *rammed* and sunk two of the Spanish galleys, two more sinking galleys were intentionally grounded and the crews escaped, one galley wrecked near Calais, and the last galley, with the commander and thirty-six chests of gold, ran through a gauntlet of Dutch warships and escaped into Dunkirk.

GGDM makes no provision for ship boarding combat either. Of course, *à la* Star Trek, Babylon 5, Andromeda, Star Wars, etc., technology and abilities may develop that would potentially allow ship-boarding combats. If a boarding situation arises in the game, I suggest it be handled as a Black-op (see 2 Special Operations, p. 1297, *infra*) within the ongoing Combat where the SOMs and operational expenditure represents special boarding teams and equipment. In short, GGDM often has better provisions for a special or unusual action in Special Operations.

Note however, that nearly all shipboard fights in video science-fiction are between humans – i.e. members of the same race – or humanoids at least, with technology and physiology similar to humans (in this, the Aliens franchise stands out as different), so everyone is breathing the same air.

Boarding alien ships for combat would be a completely different matter, like fighting on a Hostile Habitability Class planet; the attackers would need to be suited and bring their own air. Just for starters. And in truly smart sci-fi stories, warships evacuate all air before combat to avoid explosive decompression, but not in most TV or movie sci-fi. In the Babylon 5 episode “Severed Dream” the station was boarded by Marines using special pods to punch through the hull; with 250,000 civilians, human and alien, on the station, it would have been impossible to evacuate the air. So it’s a judgment call by the Concierge and participants.

And after they win, could they operate the alien ship? If not, then what was the point of the boarding fight? Reverse Engineering (see 3 Technology, p. 712, *supra*) is a possible motivation.

- ✓ The most famous naval boarding incident of the 20th Century was German U-boat *U559* in the Mediterranean in October 1942 by three British sailors. *U559* had been damaged by depth charges and forced to the surface where it was then fired upon by 20mm guns. It was floundering and the German seamen jumped into the sea in haste. They failed to open the seacocks to scuttle the ship and they failed to destroy the Enigma code books on board. There was no boarding fight, the three British seamen recovered the code books, but two of them drowned as *U559* sank. The capture of the code books broke the Kriegsmarine coded communications for the rest of the war.

The Doctor: *What’s an Osterhagen Key?!*

Martha: *There’s a chain of twenty-five nuclear warheads. Placed in strategic points beneath the Earth’s crust. If I use the key, they detonate and the Earth gets ripped apart.*

The Doctor: *What?! Who invented that – well, someone called Osterhagen, I suppose. Martha, are you insane?! – Dr. Who, “Journey’s End” (2008)*

Osterhagen & Corbomite: That’s funny coming from the guy who destroyed Pompeii, claiming these were decisions he had to make regularly! Who’s insane? Sadly, Star Trek appears to have introduced ship self-destruct sequences into the science-fiction vocabulary.

It is also possible within the technology milieu of GGDM for civilizations to develop planet self-destruct; the current incarnation of the idea comes from Dr. Who in 2009 (i.e. the Osterhagan Key), but I am sure that is how Mike Resnick’s 1982 book *Birthright: The Book of Man* ended, so the idea may have been out there previously. Given the threat of global thermonuclear apocalypse, the idea has not been popular even in science-fiction literature.

Whether and when either occurs in the game is at the discretion of the Concierge (but must be initiated by the position players), taking into account the story, plus relevant political and cultural factors of the position; it should never be an easy decision.

- ✓ I recall reading a sci-fi short story where an outpost sentinel space station detected an incoming human fleet, reported it, then disintegrated itself before it could be captured to protect the location of the home planet. Unfortunately, the humans had developed technology to counter this self-disintegration. I do not know the name or date of the story, but it may have preceded or been concurrent with the concept in Star Trek.

“As German casualties escalated with the combination of Operation Bagration and the Lvov-Sandomierz Operation in the east, and Operation Cobra in the west, members of the Hitlerjugend were recruited at ever younger ages. By 1945, the Volksturm was commonly drafting 12-year-old Hitler Youth members into its ranks.

During the Battle of Berlin, [Artur] Axmann’s Hitler Youth formed a major part of the last line of German defense, and were reportedly among the fiercest fighters. Although the city commander, General Helmuth Weidling, ordered Axmann to disband the Hitler Youth combat formations, in the confusion this order was never carried out. The remnants of the youth brigade took heavy casualties from the advancing Russian forces; only two survived.”

– from Wikipedia article, “Hitler Youth,” captured August 9, 2019

Child Soldiers: Surrender is one of the toughest ethical dilemmas common to military, religious, and civilian leaders in history.

- ✓ “Axmann avoided capture by Soviet troops and lived under the alias of ‘Erich Siewert’ for several months. In December 1945, Axmann was arrested in Lübeck when a Nazi underground movement which he had been organising was uncovered by a U.S. Army counterintelligence operation. In May 1949, a Nuremberg denazification court sentenced Axmann to a prison sentence of three years and three months as a ‘major offender.’ He was not found guilty of war crimes. On 19 August 1958, a West Berlin court fined the former Hitler Youth leader 35,000 marks ... about half the value of his property in Berlin. The court found him guilty of indoctrinating German youth with National Socialism until the end of the war in Europe, but concluded he was not guilty of war crimes.” – from Wikipedia article, “Artur Axmann.”

The Germans in particular were criticized for the use of Hitler Youth in 1944-1945. There are two particular instances that stand out: The formation of the infamous 12th SS Panzer Division in 1944 from Hitler Youth Brigades, the majority of the soldiers were under 18, the division

committed war crimes on the way to fight in Normandy, and took 80% losses at the Battles of Caen. The second instance is the Hitler Youth in defense of Berlin in March-April 1945, boys from 14 to 17 years old being sent to stop overwhelming, veteran Soviet forces, they were nearly annihilated.

- ✓ In the Wikipedia article, “Merrill’s Marauders,” is a photo of a boy in uniform captioned, “A 10-year-old Chinese soldier from a unit of the X Force, placed under Merrill and Charles N. Hunter’s command, after the capture of the Myitkyina airfield.” He does not have a rifle or any weapons apparent in the picture but does have kit.

This criticism of the use of child soldiers reflects modern *sensibilities* just as the concept of chemical warfare as ‘dirty’ or less honorable is a result of WWI or the concept of suicide attacks as ‘wrong’; the Germans certainly were not the first (or last) to use males under 18 in combat. For example, the VMI cadets who participated at the Battle of New Market were as young as 15 and most were between 17 and 21 years old (see VMI official website, Battle of New Market FAQ). Most recently, during the final stages of the Siege of Kobanî (‘Syria’s Stalingrad’), media reporting, quoting a local Kurdish commander, suggested that the Islamic State had committed as their final reserves underage units that were still in training.

- ✓ I sensed, as did most observers, that the Islamic State had just mortgaged the future of the Caliphate to secure one victory of questionable value. Those youth units and the Lions of the Caliphate were supposed to be the future, the next generation. What began as a relatively small fight became one where the Islamic State leadership could not admit loss. The Caliphate was already far down the wrong road by that time; a little diplomacy and restraint after their initial victories would have gone a long way toward securing long-term self-determination. Instead they offended everyone and got the apocalyptic war their ideology demanded. The Caliphate did not survive their own radical ideology (and neither did the Axis Powers); what did they offer future generations but endless strife? *Players should heed recent history.*

I was 17 years old when I graduated boot camp, but I turned 18 before the end of the year, when I was in artillery school. Use of child soldiers has been endemic in Africa and South-East Asia.

- ✓ In premodern times, boys around age 15, such as Kunta Kinte, the main character in the *Roots* novel and mini-series (1977), were taken away for manhood training by tribal elders (often including circumcision), where they learned to use weapons, fight, forage, hunt, and sing the songs and oral history of the tribe, after which they were men, warriors and could marry (this is possibly related to life expectancy of the time, like infant baptisms, see *The Black Death*, 1 Disruption, pp. 252-253, *supra*).

And this is where is found the edge of it: To say that these are modern sensibilities is not wrong, or not that it makes them wrong or that what was done in the past ‘right’: In the sense of pragmatic ethics (see 3 Order, 1 Beginnings, and 1 Writs, *supra*), it can be asserted that the modern sensibilities are a result of moral learning by civilization. But only after enough stupid, bad things have happened; pragmatic ethics are the ‘moral of the story’ in history and fiction.¹⁹

- ✓ Notably, science-fiction literature rarely touches the issue of child soldiers, sometimes touches the issue of suicide attacks (such as suicide bombing through Stargates, see SG-1 episode, “The Warrior” (2002)), frequently discusses biological warfare (in the tradition of H.G. Wells *War of the Worlds* (1897), e.g., *Babylon 5 A Call to Arms*

(1999)) and the main instance I know if where chemical weapons are mentioned in sci-fi is Starship Troopers (1959) (or at least the Avalon Hill board game from 1976).

- Pragmatic GGDM: GGDM makes no assumption (*how many times have you read that already?*) on the age (or relative species maturity level) of warriors or soldiers being led or sent into combat. To do so would require that GGDM assume that the ‘aliens’ are all human or human-like (including childhood, maturation, age of majority), and that all have modern (Western) ‘sensibilities.’ Like many aspects of GGDM, it is there when the participants look. Some groups of participants may prefer games without moral or ethical dilemmas. But as an adult discussion of civilization, GGDM is a pragmatic exercise and must address these issues without averted gaze. See discussion of Pragmatic Ethics, 3 Order, p. 551, *supra*.
- ✓ Laurent Kabila, dictator of the “Democratic Republic of Congo” was assassinated in 2000 by his kadogo – child soldier – bodyguards according to The Guardian (“Revealed: how Africa’s dictator died at the hands of his boy soldiers,” Feb 10, 2001).

“The VT, or proximity, artillery fuse saved thousands of American lives in Okinawa when the enemy expanded the kamikaze tactics first tried in the Philippines. Flying short-range planes with a ton of explosive in the warhead, Japanese pilots sacrificed their own lives to crash-dive into a target. Antiaircraft fire may bring down most of the at-tackers, but it needed only a single crash to turn a carrier into an inferno of exploding gasoline and bombs.

On April 7 Japan’s largest battleship made what might be described as a suicide raid on U.S. warships off Okinawa. Accompanied by two light cruisers and nine destroyers, the 45,000-ton Yamato failed to surprise her intended victims, and carrier planes of Task Force 58 sent the flaming hull to the bottom. Both cruisers and three of the destroyers were also sunk. Japanese kamikaze planes were more effective. During the Okinawa invasion alone the U.S. Navy suffered one-seventh of its personnel losses for the entire war – 4,907 killed and missing, plus 4,824 wounded. In ship losses, with 30 sunk and 223 damaged, the campaign proved to be the most costly single effort of naval history up to this date.”

– Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 960

Endnotes.

¹ Commentary: If you don’t know the rest of this Vietnam Era saying ... you should look it up.

² Commentary: Do you butter your bread with a gun? The United States has tried to sometimes.

³ Commentary: The final truth of the American occupation of Iraq is that we found out we are not the people we thought we were. Our military was exactly what we thought it was, both in the initial combat, and in the less-than-stellar occupation and policing (we should have learned this from Vietnam). But we were not the great liberators. And we were not the Great Generation 2.0. We did not have the moral fiber, vision, or political will. In fact, we lied our way into the situation and drug the world along, but lost the peace as we have done so many times before.

⁴ Commentary: “The Oxford American Dictionary defines tar baby much like [Mitt] Romney used it, ‘a difficult problem, that is only aggravated by attempts to solve it.’” –Ta-Nehisi Paul Coates, “Why ‘Tar Baby’ Is Such a Sticky Phrase,” Time.com, August 1, 2006.

- ✓ While I understand that it can also be a racial slur (the point Mr. Coates made), I have never used it that way, and I have never actually heard anyone use that term as a racial slur in my half-century of life (I also likely would not be around people who would, which probably explains that). I have always used it in the sense described by the Oxford American Dictionary, and that is the sense in which it is being used here. I

have used the term over the years to describe the ‘sticky’ zone of control mechanics and general situation when I have taught the game Panzergruppe Guderian, I refer to it as a “tar-baby game.”

- ✓ But then again, I’ve also never heard anyone but Yosemite Sam call someone a “**GALOOT**” (or anyone else in the world call a camel a ‘hump back muley’). I hung out with ‘sanitized’ late 1960s Saturday morning Looney Tunes and Merrie Melodies characters as a child; I guess it depends on who you hang around with. Yes, I know that pre-1960s Looney Tunes/Merrie Melodies shorts were frequently overtly racist (e.g., the Censored Eleven), sexist, and done in what we would now call bad taste.

⁵ Commentary: One word: Airwolf. Two words: Dominic Santini.

⁶ Citation: “Things have changed. We’re not an army anymore, Mr. Becket. We’re the resistance. Welcome to the Shatterdome.” – Stacker Pentecost, Pacific Rim (movie, 2013).

⁷ Citation: **G’Kar to Londo Mollari**: When I was a child, your people decided that rebellion by my people needed to be discouraged. So your people bombed seven of our major cities for six straight days, 31 hours a day. You thought you could bomb us into submission. It didn’t work then, and it didn’t work later. – Babylon 5, “View from the Gallery” (1998).

⁸ Commentary: Churning political turmoil in Haiti saw five presidents and popular uprisings/coups from 1910 to 1915, culminating in the public lynching *death and dismemberment* of President Jean Vilbrun Guillaume Sam on July 28, 1915 when angry mobs overran and sacked the French embassy where he had fled (the episode was said to have inspired the 1920 play, *The Emperor Jones*) after 167 political prisoners were summarily executed in a single day (there is some question about whether General Charles Oscar Etienne was ordered to do this or did it on his own, based on interpretation of the wording of a note from the President). The United States alarmed then, under the flimsiest pretext ever – no rational person in 1915 thought Haiti needed protection from German invasion – occupied Haiti’s capital with contingents from U.S. Navy ships anchored in the harbor. Later, the U.S. Marines were sent on military campaigns to pacify and occupy the entire island, engaging in several combats, ambushes, and storming forts killing hundreds of Cacos militiamen. The U.S. occupation of Haiti lasted 19 years, until 1934.

⁹ Commentary: One hundred thirty years after the American Revolution, the British were still at it – the poll tax that was imposed on the Zulus that led to the Bhambatha Rebellion in 1906 were imposed without consensus of the chiefs. That is, ‘taxation without representation’ – the cry of the American Revolution, was used in the documentary to describe the poll tax. Taxation without representation is the essence of pacification.

¹⁰ Commentary: Almost every story-arc television program has a theme of opposites, represented by the characters and forces in the story. One of the main themes of *Andromeda* was optimism vs. pessimism, Dylan Hunt and the Systems Commonwealth represented cautious but unwavering optimism, and Tyr Anzasi and the Nietzscheans represented pessimism and natural selection.

¹¹ Commentary: For example, some television sci-fi series episode I watched – I do not remember the name of it, the series, or anything else about it except that there was a female ‘weapons master’ or commander who was called the Lady of Death because she had tested a genocide weapon on a captured colony world. Obviously she was a reviled character, wanted for her crimes by the rest of the galaxy.

¹² Commentary: Another example, in the 2002 movie, *Reign of Fire*, the modern Earth has been overrun by a deluge of huge fire breathing dragons and human civilization is on the brink – if this stretches your suspension of disbelief, it is no more of a stretch than any zombie apocalypse movie. However, the weakness of the dragons is there is only one male, who lives in the ruins of London; all female dragons across the globe come to him to mate and lay eggs, he eats some of his young if he cannot find food. The story is centered on the efforts of a human band to kill the only male dragon, preventing the dragons from continuing to reproduce. There are many logical problems with the movie, but in GGDM, any species which has a limited or singular membership of one of the sexes vital to reproduction could be intentionally or inadvertently genocided by their deaths, unless the species has intermorphs.

- ✓ I binged the entire *Kabaneri of the Iron Fortress* series one day late in 2018. In the beginning of this oddest of zombie apocalypse stories, it is clear that humanity (at least in Japan) is slowly losing the war. The remainder of Japanese civilization has ‘reverted’ to a Shogunate sociopolitical system in protected areas connected by armored trains and tracks. The writers had an interesting story they wanted to tell, unfortunately, the execution fell far short. The main characters, so heroic and action-oriented in the beginning became mushy, indecisive, and dumb in the center of the series (necessary for the ultimate betrayal plot to succeed, but not very convincing) and the zombies so frightening in the beginning became less so as the series progressed (despite the writer’s efforts to introduce more terrifying specimens and collective intelligence), being eclipsed instead by the consuming hatred of the main antagonist for his father, the Shogun.

¹³ **Commentary:** The Magog are also rabid carnivores and cannibalize their own kind. So they kill for sport, power, food, reproduction, whatever, as they are the minions of chaos in the series.

¹⁴ **Citation:** “The French philosopher-sociologist Emile Durkheim (1858-1917) is partly responsible for the confusion about strategic military suicide. He defined suicide as ‘all cases of death resulting directly or indirectly from a positive or negative act of the victim himself, which he knows will produce this result.’ He did not distinguish a soldier whose actions entail accepting the high probability (or even certainty) of death in order to accomplish some task from actions in which the soldier’s chooses to die during the course of a military operation. For example, a soldier who throws himself over a grenade to save compatriots is valorous but not primarily suicidal. Such a soldier would, if given the opportunity, equally bravely put himself at risk by throwing a blast suppression blanket over the bomb.

A second kind of military suicide is a soldier who serves as a smart bomb as with the Kamikaze pilots of World War II or the suicide bombers of today.

A third kind of soldier’s suicide is that which is the tragic end of combat-induced mental illnesses such as Post Traumatic Stress Disorder, depression, substance abuse disorders, or despair.

All of the preceding instances differ from the choice to use a military suicide device, for example, ingesting a cyanide pill. In these cases, soldiers choose to commit suicide for rational-personal or altruistic reasons. Some might choose such a device to avoid capture, the suffering of captivity or torture. Or, they might commit suicide to preclude the possibility that they might under torture yield valuable intelligence to an enemy or become a valuable hostage or propaganda prize to the disadvantage of their homeland.” – Steven H. Miles, M.D., “Military Suicide Cap- sules and Medical Ethics,” Bioethics.net, March 21, 2016.

¹⁵ **Citation & Commentary:** “Concerning the night assault of Lord Asano’s ronin, the fact that they did not commit seppuku at the Sengakuji was an error, for there was a long delay between the time their lord was struck down and the time when they struck down the enemy. If Lord Kira had died of illness within that period, it would have been extremely regrettable.” – Yamamoto Tsunetomo, *Hagakure* (1716), on the tale of the Forty-seven Ronin.

- ✓ This fatalistic philosophy is the primary way that Japan was known to the West, this idealized way seems to have become more extreme as part of Japan’s reaction to incursion of Western modernity, technology, and religion during the Seclusion of Japan (edict of 1635 to 1853, arrival of Commodore Perry’s fleet in Tokyo) under the Tokugawa shogunate (1600-1867). The Meiji Restoration of 1868 stopped pushing against West- ern incursion, instead tried to create a cultural-technological syncretism of eastern culture and western tech- nology, *to the extent that each served the Emperor* and the militant ultra-nationalistic ambitions of Japan.
 - The ideas of the Meiji Restoration are the focus of the Japanese-language tiaga drama series (with English subtitles) *Yae no Sakura* (2013) and are specifically voiced in the dialogue by the master of the gunnery school in Edo in Episode 1 (see feature quote, 2 Combat, bottom p. 958, *supra*). The fears are also voiced at the Shogun’s counsel later in the same episode. Nijijima Yae’s older brother sees Perry’s ships in Edo harbor and is amazed, he states that each one is a ‘floating cas- tle,’ and each is ‘20 times bigger than any of their ships.’

¹⁶ **Citation:** “A charge is a maneuver in battle in which combatants advance towards their enemy at their best speed in an attempt to engage in close combat. The charge is the dominant shock attack and has been the key tactic and decisive moment of many battles throughout history. Modern charges usually involve small groups against individ- ual positions (such as a bunker) instead of large groups of combatants charging another group or a fortified line.” – from Wikipedia article, “Charge (warfare),” retrieved November 18, 2018.

- ✓ “If you see all of these guys charging at you, the human instinct for the overwhelming number of people is to run like heck. Then it’s easy because once they’re running away you can pick them off.” – Alex Bielakowski, associate professor at the U.S. Army Command and General Staff College, as cited in “Re- membering History’s Last Major Cavalry Charge,” History Channel (history.com), August 13, 2012.

¹⁷ **Commentary:** While Tolkien denied his epic fictional works had any connection to WWII, I cannot help but to think of Gandalf telling Balrog, “You shall not pass!” Helms Deep/Theoden’s Charge is a fantasy last stand.

¹⁸ **Commentary:** The HMS Gloworm rammed, possibly accidentally, a German heavy cruiser ten times her size.

¹⁹ **Commentary:** However, some fiction writers have intentionally tried to create entertaining or message stories about stupid people who do stupid things and never learn, doing the same old dumb shit over and over. Yet it is in- escapable – though the characters never learn (in standard storytelling, the characters change and progress, e.g., Bab- ylon 5) – the audience does from the experience of watching it. There is always a pragmatic outlet.

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See Appendix CST – Combat Shifts & Situations Tables

[large loaded passenger jet accelerates for take-off]

Co-pilot: *Excuse me captain, I know it sounds silly, but can you fly?*

Dirty Harry [pretending to the air-captain]: *No, never had a lesson.*

– from *Dirty Harry: Magnum Force* (1973)

Cover and Concealment: The Marines teach about cover and concealment; cover is to avoid being shot, concealment is to avoid being seen. The best of both worlds is both, but there is a difference this is mortally important to understand. Dirty Harry boards a 747 with two hijackers disguised as the Captain. As they unevenly accelerate for takeoff, the co-pilot asks Dirty Harry, “Excuse me captain, I know it sounds silly, but can you fly?” Dirty Harry replies, “No, never had a lesson,” then slams on the brakes and overpowers the surprised hijacker in the cabin. The second hijacker runs through the passenger seating and into the stewardess area behind a wall. Dirty Harry shot him three times through the wall (it’s just a decoration panel); the wall was concealment, not cover, and the stupid hijacker didn’t get down.

- ✓ I spent a day in 1989 copying the voluminous medical records of a Master Gunnery Sergeant who had been wounded three times in Vietnam. In one instance, he had been hit by a NVA machinegun bullet while hiding in a bush; the bush was concealment, not cover.

Cloaking devices in science-fiction stories are concealment, not cover. If you got lucky or guessed correctly, or had an area attack or rapid fire weapon, you could hit the ship behind the cloaking device; oddly, this never occurs to television sci-fi writers. Ships in Star Trek, however, have both cloaking devices *and* shields operating at the same time.

Armor, whether it is body armor or ship armor, or ‘force screens’ in science-fiction combat, is a mobile form of cover, you are literally taking your cover with you like a turtle or armadillo; a shield is the same thing whether on a starship or being carried in front of you, and the early Romans used shield walls as both cover and concealment. In ancient siege warfare, attackers used mobile wooden covers called mantlets (or later, a pavise) to approach the walls (this can be seen in the movie *Army of Darkness* (1993)), and also larger structures such as wheeled wooden siege towers, testudos (a testudo is also a Roman ‘fish-scale’ shield formation), and galleries to attack the walls with impunity. On the defender’s side, city or fortification walls were both cover and concealment; firing missiles over the wall was basically a blind exercise for the attackers.

- ✓ The first in-air hijacking occurred in 1942 when a British Commonwealth combat aircrew taken POW overpowered their guards and seized control of an Italian aircraft transporting them to a POW camp, which they then flew to Malta. They were strafed by British Spitfires on approach and landed in the sea to be picked up.¹

“A military man can scarcely pride himself on having ‘smitten a sleeping enemy’; it is more a matter of shame, simply, for the one smitten. I would rather you made your appraisal after seeing what the enemy does, since it is certain that, angered and outraged, he will soon launch a determined counterattack.”

– Marshal Adm. Isoroku Yamamoto, Imperial Japanese Navy²

Ambush Combat: The main tactical ability that T-Ships and warships equipped with “cloaking devices” have in a three-dimensional, open space combat is the ability to physically ambush, and to do so continuously even in the midst of a huge fleet battle.

The ambush and surprise ability of T-Ships and “cloaked warships” is a physical ability to appear out of nowhere (or seemingly) in the middle of nowhere, and fire at very close range, and then to disappear again for a time, and do it again elsewhere. Hello!, BLAM, BLAM, thank ya ma’am, Goodbye!

- ✓ The primary requirement for an ambush is concealment. Sometimes ambushers also find cover along with the concealment; it is very useful to have some cover behind trees, rocks, buildings, but concealment is the primary of the ambusher: If you are well concealed and a good shot, you may not need cover. If you are covered but not well concealed, there is no ambush.
- ✓ Doubtless, the king of all sci-fi tactical ambushes in open space is at the end of the last episode of Star Trek TNG (“All Good Things...” (1994)) when the future Enterprise, with three Warp Cells, de-cloaks and ambushes the Klingon Bird of Prey at close range. It is clear that Federation technology has outpaced Klingon technology at that point, very much a reflection of the Cold War, as the Klingons were originally the ‘Soviets’ of Star Trek OS.
- **In Open Space:** The essence of the Temporal Ship is an ambush in open space. Consider, with the detection capabilities inherent in GGDM (see Riding the T, 3 Temporal Technology, p. 828, *supra*, and One-Way Mirror, *et. seq.*, 2 Information, p. 1340, *infra*), how difficult it is to ambush in open space? In sci-fi, space ambushes usually involve asteroid belts, comets, planet rings, and moons, a typical example being the ambush at the end of the pilot episode of Space: Above and Beyond (1995) to save Earth. However, it is not impossible.

Consider the *huge open field* Battle of Cannae in 216 B.C. as the greatest ambush in history, everything was on the field, there were no hidden ambushers behind rocks and trees, instead:

- ✓ “Hannibal, a product of Phoenician and Greek culture, imagined gigantic ambushes in which deadly forces were hidden behind ideas, though he showed himself perfectly capable of using trees for the purpose. For Cannae was no less an ambush than the Trasimene, the difference being only that one existed in the moral sphere and the other in the physical.” – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), p. 63.

The ambush of the Inca leadership by the vastly outnumbered, isolated Spanish force at Cajamarca was an ambush hidden behind the ideas of Inca culture and rituals, and perhaps some arrogance (see The First is Last, 3 Colleges, p. 493, *supra*).

The Battle at Lake Trasimene (217 B.C.) a year before Cannae, is considered the largest *physical ambush* in military history by numbers of men involved, as Hannibal hid 55,000 men behind the hills over the lake. The Romans also lost several legions in actual physical ambushes by the Germans (e.g., the famous Battle of the Teutoburg Forest) and Jews (e.g., Battle of Beth Horon, 66 A.D.) that stymied the expansion of the Empire.

Napoleon’s greatest victory, Austerlitz in 1805 was an ambush, *both mental and physical*, as 20,000 French troops emerged from a wooded ravine just as the allied Prussian-Russian force thought it was winning. It was an ambush because Napoleon deliberately slowly gave ground to lure them. Ten years later, at the Battle of Waterloo, the Imperial Guard thought

they had broken through the British line when they saw an empty field before them, but were ‘ambushed’ by multiple lines of British troops who hunkered down in the grass (one of the final scenes of the 1972 mini-series Waterloo):

- ✓ “To the left of the 4th Grenadiers were the two squares of the 1st/ and 2nd/3rd Chasseurs who angled further to the west and had suffered more from artillery fire than the grenadiers. But as their advance mounted the ridge they found it apparently abandoned and covered with dead. Suddenly 1,500 British Foot Guards under Maitland who had been lying down to protect themselves from the French artillery rose and devastated them with point-blank volleys. The chasseurs deployed to answer the fire, but some 300 fell from the first volley, including Colonel Mallet and General Michel, and both battalion commanders.” – from Wikipedia article, “Battle of Waterloo.”

In the first Japanese attack on Wake Island on December 11, 1941, the defenders lured the Imperial Japanese Navy ships into an ‘ambush’ by holding their fire until the enemy was very close. *It was an ambush hidden behind an idea*: The Japanese confidently thought the weak defenses had been destroyed by three days of preparatory bombing raids, due in part to overenthusiastic reporting by bomber crews (see related discussion, Battle of Churchill Sol, 2 Carriers & Fighters, p. 1061, *infra*). The island still had four F4F Wildcat fighters and 6 5.5” (127mm) coastal defense guns; the guns sank one IJN destroyer with two direct magazine hits, the Wildcats sank a second by dropping a bomb on the stern detonating the depth charges. The Japanese were turned away and had to return with a bigger force 12 days later, including two carriers, on December 23, 1941, and forced the landing by beaching two ‘patrol boats’ (old destroyers), which were also destroyed.

- ✓ The successful Israeli Air Force attack on the REAF base at El Arish on October 15, 1948, shocked the Royal Egyptian Air Force who had not considered that the IAF had that ability: Thus there was no air patrol. The Israelis captured the base in December.

An alternate form of physical ambush is the lure ambush where undisciplined or confused troops are lured away by a ruse to be ambushed, thus leaving less troops in the main force; a sci-fi example of this is the incident in the reimagined Battlestar Galactica when the Raptors were lured away (“The Captain’s Hand” 2006) and used as bait to lure Battlestar Pegasus into an ambush. The lure away trick is a favorite of horror films, as one by one, the characters go running off after something and die.

But even in ambushes attributed to lack of discipline, that lack of discipline can be traced to ideas. For example, at the Battle of Adrianople in early 1205, the Crusader knights and mounted men-at-arms of the Latin Empire, thought that they were superior to the Cumans and Bulgarians, and that impetuous bravery was the military ideal, thus they chased the Cuman horse archers who harassed them for several kilometers and right into a huge ambush.

- ✓ And why were the people of the valley able to so easily overwhelm and kill the mountain people, who had the superior defensive position? Because the mountain people never imagined that anyone would fight and kill for their treasure that they offered to freely share, never imagined that an offer to share their treasure would provoke an angry response in the valley. Thus, the mountain passes were unguarded and the people of the valley were able to sneak through at night and attack the unprepared mountain people in their homes in a dawn ambush. “Peace on Earth is all it said.”

- Ambush Mode: T-Ships and cloaked warships are assumed to be in Ambush Mode in combat unless they have either voluntarily revealed themselves (like an exhibitionist in a store window), or have been prevented from returning to Ambush Mode. Ambush Mode is when the ship is operating invisible to regular ships (and to the naked eye), and are maneuvering and ready to reveal and fire at the opportune moment (i.e. Ambush).
- Cloaking and Stealth: The primary dramatic difference between a cloaking device and a stealth technology is that the cloaking device hides the ship from detection by *normal human vision* (but what about alien vision?), like a cat can't see sheer cloth. It makes good dramatic television. Whereas, presumably a stealth craft is only hidden from non-visual electromagnetic scanning, and could be seen with normal vision – think of what are currently known as stealth fighters, they can still be spotted visually (but they move very fast!). It is unknown why the Cylons were not scanning in normal visual electromagnetic range – for example, motion sensing cameras, during the battle in which the “stealth Viper” (discussed briefly in A Moment of Caveat, 2 Temporal Technology, p. 818, *supra*) disabled the Resurrection Ship. *Not knowing the technological details* is what makes the stealth Viper attack plausible (but it was noted in the episode that if the stealth Viper carried nuclear warheads, it would be detected, so it was only to target the engines conventionally), plus the audience probably felt the Cylons had it coming (writers prefer drama to details, e.g., how could Capt. Kirk not know the names of Spock's parents before they boarded the Enterprise? How could a surgically-altered alien pass security scans?). But under normal circumstances, it doesn't seem likely that ‘stealth’ ships would be able to sneak up on the enemy in open system space, whereas cloaked and T-Ships can. Thus, the opportunities for Ambush Combat by stealth ships and fighters might be limited to planet raids, or situations in which visual range is limited in orbital or system space.
- Ambush or Ambush Not: T-Ships and ‘cloak-equipped’ regular warships may not ambush in a Combat Round if they have revealed for any reason. Of necessity, any ‘cloaking technology’ introduced into the game for regular warships must be able to be turned off (i.e. reveal), to allow the ship to resupply. T-ships and warships with cloaking devices turned on (i.e. in Ambush Mode, not revealed) may not maintain a siege or guard a Conquered Colony *by themselves* as visible presence is necessary for both tasks (but could remain in Ambush Mode if other friendly regular warships are present).³
 - ✓ This is questionable, I suppose, as believing there is a warship there that you cannot see, is just as effective as seeing the warship over the planet at all times – until they stop believing (like the pre-Christian gods in Europe); but this is the game rule for purposes of simplicity. It's sort of like Santa's elves peeking in on children or the low-hanging God of Christian Fundamentalism staring down at the faithful to insure they behave. At some point you don't believe in Santa, but still believe in God.
- Ambushwhacked: T-Ships attacking from Ambush Mode receive three Offensive Shifts (see Combat Shifts, 3 Combat, p. 978, *supra*) against targets that do not have Temporal Sensor technology (see Temporal Sensors, 2 Temporal Technology, p. 820, *supra*) or are not in the same system with friendly ships, colonies, or bases that have a Temporal Sensor Array. The presence of a Temporal Sensor Array or ability reduces the ambushing attacker to receiving one Offensive Shift when ambushing. Cloaked warships attacking in Ambush Mode receive one Offensive Shift. Temporal Sensors are probably ineffective against cloaked warships,

but there may be other technologies that can detect cloaking (always an arms race!). Ship Missiles fired by T-Ships and cloaked regular warships in Ambush Mode, do not receive any ambush benefits (unless they are cloaked/T-shifted too!). T-Ships and cloaked warships in Ambush Mode *may not be Intercepted* by any units Combat Screening the target (see Normal Interception and Second Interception, 3 Carriers & Fighters, pp. 1069-1070, *infra*), including Fighter Complements, unless they have a Temporal Sensor.

- ✓ It may be possible to create Ambush Mode for one Combat Round for regular ships by use of Doctrinal Templates (see Combat Formations, 4 Colleges, p. 503, *supra*) developed for that purpose. This would represent the regular sort of ambush based on terrain or ideas (like faking damage and debris, à la Star Trek OS), *ut supra*. The ambush should not be automatic in a Doctrinal Template, but if successful, Ambush Mode is enabled for one Combat Round, and these rules provide general procedures for ambush by Doctrinal Template, though there may be some small necessary differences. There are other possible tactics that act like ambushes, for example, meeting engagements that quickly become envelopments (e.g., Braddock's defeat near Pittsburgh in 1755, or the Battle of Ia Drang in Vietnam, 1965) may seem like ambushes.
- Asymmetric Warfare: Like Combat Screening for Fighters and Carriers, Protective Fire and Switch Fire naturally developed as a defense against ships in Ambush Mode. The idea is to 'ambush the ambushers' by having a specific ship assigned and waiting for the ambushers to appear:
 - ✓ A unit assigned to Switch or Protective Fire for the Combat Round must be assigned a unit which it is protecting, the unit can be itself or another ship or base.
 - ✓ Ship Missiles and Fighters may not participate in or be used in Switch Fire or Protective Fire assignments. Ship Missiles cannot be fired while in Protective Fire mode.
 - ✓ A unit assigned to Switch or Protective Fire may not be also assigned to Combat Screen any unit, including the same unit. Those are two different tasks.
 - ✓ Units given Switch Fire Combat Orders must also list one normal opposing unit as the target for the Combat Round (in addition to the unit it is protecting).
 - ✓ A unit assigned to Protective Fire will do nothing else for the Combat Round.
 - ✓ Whenever an opposing unit in Ambush Mode attacks the protected unit, the unit with Switch Fire or Protective Fire Combat Orders must respond by firing at the ambusher before it can disappear again and change speeds or vector.
 - Firing at, hitting, or destroying the attacking T-Ship or cloak-equipped unit will not prevent that unit from executing its attack this Combat Round. Protective and Switch Fire is opportunistic instant retaliation. Sort of like my mother's famous backhand.
 - ✓ T-Ships and cloaked warships in Ambush Mode may not be attacked by opposing ships and bases except by units with Protective Fire or Switch Fire Combat Orders.
 - ✓ T-Ships and cloak-equipped units may not be assigned to Switch Fire, they may only be assigned to Protective Fire, as they are primarily ambushers.

- ✓ T-Ships and cloak-equipped regular units in Ambush Mode may not target opposing T-Ships and cloak-equipped regular units currently in Ambush Mode, *except by* Switch Fire or Protective Fire.

The use here of asymmetric warfare is not the narrow modern use, which typically refers to terrorist, guerilla warfare and insurgencies against conventional forces. But it does fit within the definitions of *asymmetric warfare* found on the internet, for example, Merriam-Webster online dictionary at *asymmetric warfare*: warfare that is between opposing forces which differ greatly in military power and that typically involves the use of unconventional weapons and tactics (such as those associated with guerrilla warfare and terrorist attacks). RAND simply defines it as: conflicts between nations or groups that have disparate military capabilities and strategies. In this case, the attackers are using ‘ambush’ and the defenders are using what old WWII wargamers would call ‘opportunity fire’ for reaction.

- ✓ See additionally discussion of offset strategies, 2 Special Operations, p. 1285, *infra*.
- Aegis: Any unit assigned to Protective Fire has a 50% chance of being able to fire at the first attacking ambusher if the protected target is attacked. The chance is increased by 25% if the ambusher attacks a unit assigned to Protective Fire. Units assigned to Protective Fire will only be able to fire at one ambush attack in the Combat Round unless that unit is capable of multiple attacks per Combat Round and will attempt to fire at ambushers as long as it has unused attacks. A unit in Protective Fire cannot fire Ship Missiles. If the unit with Protective Fire Combat assignment is Engaged by enemy Fighters or Ship Missiles, the chance of executing the Protective Fire is reduced by 15%, 30% or 45% depending on the Era of the attacking Fighters (see Encounter With Bright Lights, 2 Carriers & Fighters, p. 1057, *infra*).
 - ✓ In the Andromeda episode, “The Tunnel at the End of the Light” (2002), they were engaged in battle with an extradimensional enemy that had “phase-out” capabilities (sort of like a T-Ship). The solution, which they called an asymmetric response, was to “carpet bomb space” by forming a hedgehog with the ships continuously firing outward to random areas to catch the alien ships whenever they uncloaked (“It’s an area denial strategy”). This is similar to anti-aircraft fire in WWII or Napoleonic Wars in infantry squares. This is not exactly what is described in GGDM as Protective/Switch Fire because such a tactic would require nearly endless energy supply and weapons that function infinitely under continuous fire (a modern machine gun cannot fire continuously, the barrel turns glowing red hot after a minute and may be damaged or cause a cook-off reaction). But with the technology of GGDM, it cannot be said definitely that this is not possible in GGDM Protective/Switch fire except that such fire would hamper the maneuver and operation of their own conventional warships against regular enemies; a hedgehog formation is inherently immobile.
- A Twitch’n for a Switch’n: Any unit assigned to Switch Fire follows the same rules as Protective Fire above, but may fire Ship Missiles and the basic chance of being able to fire at an ambusher is 30%. All available attacks of the Switch Fire unit will be used on ambushers until exhausted. If, during Ship Missile resolution, the Switch Fire protection has not been activated, the unit in Switch Fire will fire at the assigned regular enemy target instead, but that target receives two Defensive Shifts as a result of the divided attention of the attacker.
 - ✓ If an attacking ambusher is not destroyed by Switch or Protective Fires, the ambusher returns to Ambush Mode at the end of the Combat Round.

➤ **A FAP in the Night:** Another tactic is to use Fighter Complements in the Fighter Area Patrol (FAP) ‘combat reconnaissance’ assignment.⁴ Fighter Complements may be assigned to FAP to attempt to curb the effectiveness of enemy ambushers and/or provide intelligence and pressure on enemy dispositions. A FAP assignment uses *both sorties* of a Fighter Complement for the Combat Round (see Blacksheep, 2 Carriers & Fighters, p. 1054, *infra*) and a Fighter Complement flying FAP may not be targeted by enemy units and may not target enemy units.⁵ The essence of the FAP is that nothing covers an area of space better than a circus swarm of fast little Fighters spread thinly sweeping the area with their sensors continuously, providing intelligence on elusive targets (e.g., the Battle of Midway, June 1943). They also provide a skirmish line, pickets, and sufficient threat to channel enemy ships away from flanking areas.

- ✓ A Fighter Complement flying FAP may either provide one Defensive Shift or Offensive Shift to a friendly unit, or increase the chance of a successful Protective Fire Attempt by 10% per 15 RPs of Fighters (*of any Era*) used during each Combat Round (this number can be adjusted if too easy). This latter is not a combat shift, but instead, applies to the *chance* of using the Protective Fire when a target appears.
- ✓ Any unit may only receive one Defensive or Offensive Shift from FAP in any round, and Combat Shifts from FAP must be allocated with the targeting and Combat Screening assignments before the Combat Round.
- ✓ Similarly, a unit assigned to Protective Fire may only receive one bonus from FAP per round. This is not available to Switch Fire assignments.

FAP may also be used in non-Ambush Mode situations, as it provides one shift to regular units. Thus, this is available in all combats where a side has some fighters available. For simplicity purposes, the RP value of the Fighter Complement performing FAP is irrelevant, but both sorties must be used. No modification of RP value is received for using both sorties.

Slip-sliding Away: Ships that began the round in Ambush Mode may automatically retreat from any Ship Combat at the end of any round *in which they do not attack* unless they were forced to reveal to defend a colony to cancel a Colony Combat. If the only ships remaining on one side are all in Ambush Mode and they all retreat, the combat is over; the other side will be notified.

“Some people have got a mental horizon of radius zero and call it their point of view.” – David Hilbert⁶

Mountains of the Mind: Most of the greater victories in military history were won by hiding ambushes behind ideas.

- ✓ At the Battle of Leuctra in 371 B.C. the Spartans donned their armor and formed a single line of phalanxes eight rows deep; the Spartans had become accustomed to lining up, marching forward, and beating their opponents in battle with sheer brawn. The Thebans also lined up, but on the left side, they formed a phalanx of their best troops fifty rows deep, leaving the rest of their line woefully thin and undermanned. The two sides advanced, the Thebans advanced with their left while refusing the remainder of the line which was thinner and contained troops of lower quality and less armaments. The Theban left hit the Spartan right and overwhelmed them by sheer

weight, Spartan King Cleombrotus I was killed fighting as the Spartans routed. This defeat shattered the myth of Spartan military invincibility. Philip II of Macedon, father of Alexander the Great, lived as a hostage in Thebes around that time and may have been greatly influenced by the Theban victory based on effective tactics; Philip II later defeated the Thebans and Athenians at the Battle of Chaeronea in 338 B.C.⁷

In 1278 A.D., 1,639 years after Leuctra, Holy Roman Emperor Rudolf I – a relatively minor Swabian Count who was elevated because the Electors thought he was controllable – fought the vengeful King Ottokar II of Bohemia at the Battle of Marchfield in Lower Austria. The infantry of both sides were left to guard the camp, while the mounted knights tilted in a large green grass covered flood plain between a forest and a river. Ottokar had more knights and they were more heavily armored and armed. The battle started in the mid-morning when it was getting hot.

Rudolf had his own force of knights, making this one of the largest knight battles in European history, along with about 5,000 Cuman horse archers who drove off Ottokar's light cavalry and harassed his knights. Still, the main battle was the collision of the two masses of mounted knights in a massive flat-ground slugfest under the hot August sun in a line from the woods to the river. Ottokar's heavier armored knights were winning, slowly driving back Rudolf's knights, but were becoming heat exhausted. At the key moment, 200 German knights charged from the woods on Ottokar's right flank (uh-oh, no flank guards, no scouts in the woods); Ottokar tried to shift his troops to refuse the right flank, but it turned into confusion and rout. Ottokar was killed as his forces fled the field pursued by Cuman horse archers.

The surprise flank charge of 200 knights hidden in the woods – a very small number in comparison to the total number of combatants, though knights were the king of the battlefield in that day – was so rare and un-chivalric that their commander, Ulrich von Kapellen, apologized in advance for what they were about to do. It was also the only way that Emperor Rudolf could win, like General Epaminondas of Thebes. Chivalric battle, like the Spartans, required the sides to line up and fight a contest of brawn, literally beating the other side into submission (e.g., The Combat of the Thirty in 1351). The ambush at Marchfield in 1278, while nominally a physical ambush by a small force, was also an ambush hidden behind an idea: Chivalric Battle. Rudolf won by bending the rules.

- ✓ Chivalric battle was very much like chess, whose ancestor had spread in European courts about two centuries earlier: In chess, nothing is hidden, and no flanks exist until opened either by maneuver or by elimination of pieces.

The victory secured Rudolf of Habsburg as Holy Roman Emperor, which he successfully translated to his sons by appointing them Dukes of Austria and Styria. From this, the minor House of Habsburg grew over the next centuries to become the dominant dynasty (eventually opposed by the Bourbons, Hohenzollerns and Romanovs) ruling both the Holy Roman Empire and most of Spain, and much of the New World, Africa, and eventually reaching the Pacific Ocean.

- ✓ Conversely, with the death of Ottokar II, rule of the Přemyslid dynasty passed to his 6-year old son, who (unlike Henry VI of England) grew to a capable ruler, Wenceslaus II, King of Bohemia and Poland. But his son, Wenceslaus III was assassinated at the age of 16 after renouncing the crown of Hungary from the extinct House of Árpád and losing territories in Poland, and thus ended the Přemyslid dynasty in 1306.

Now, by comparison, the stunning English victory at Agincourt in 1415 was not any sort of ambush hidden behind an idea. The French knights already had experiences against the new English weapon, the Welsh longbow, they had been disastrously defeated by the longbowmen at the Battle of Crecy in 1346, with a follow up lesson at the Battle of Poitiers in 1356, where John II, King of France, his youngest son, and many major French nobles, were captured. Instead of an ambush hidden behind ideas, the French defeat at Agincourt in 1415 was a refusal to adapt.

*“Someone may say, are you not ashamed to be so taken in like a fool?
Yes, I should be ashamed, if it had been an open enemy who had so
deceived me. But, to my mind, when friend cheats friend, a deeper stain
attaches to the perpetrator than to the victim of deceit.”*

– Xenophon, The Persian Expedition (aka Anabasis) (about 370 B.C.)

Endnotes.

¹ Citation: Ted Streaver, “The World’s First Air Hijack!” WW2 People’s War, BBC, November 14, 2003 (Article Id. A2040643).

² Commentary: Marshal Adm. Yamamoto was killed in April 1943 when his transport plane was shot down by American P-38s in a specific mission to intercept and kill him while touring the Japanese forces. The Americans had learned his itinerary and knew where he would be because they had broken the Japanese naval encryption.

³ Commentary: One of the best cloaking devices was invented by writer Douglas Adams; it is called the “somebody else’s problem field.” It can hide a flying saucer sitting on the ground in plain sight of a cricket match. Anyone who looks at it sees *something*, thinks it’s somebody else’s problem and looks away. Just like the real world:

- ✓ “This is a story about four people named Everybody, Somebody, Anybody and Nobody. There was an important job to be done and Everybody was sure that Somebody would do it. Anybody could have done it, but Nobody did it. Somebody got angry about that, because it was Everybody’s job. Everybody thought Anybody could do it, but Nobody realized that Everybody wouldn’t do it. It ended up that Everybody blamed Somebody when Nobody did what Anybody could have.” – anonymous, found on office posters.

⁴ Commentary: FAP in the U.S. Marines means “Fleet Assistance Program” by which units can borrow Marines from other units to fill manpower requirements for jobs that don’t require specialized schooling. In a combat unit, that usually equates to a sort of vacation or break, for example, some may be ‘fapped out’ to work as the gym assistant for six months or a year, meaning they report to the weight room every day instead of their regular unit.

On return from my second deployment to Okinawa in November 1988, I was ‘fapped-out’ to the SACO (Substance Abuse Control Office) section of HQ Battalion (the S-1 HQ section), 1st Marine Division, which meant that I moved to a high rise barracks in mainside Camp Pendleton, attached to HQ Company, HQ Battalion. The assignment required a Marine Corporal or Lance Corporal eligible to be promoted to Corporal, who had no alcohol or drug-related incidents on his record. I believe I may have been the only one in my battery, and one of the few in the artillery battalion who qualified. I was also nearing the end of my enlistment, and the FAP assignment may have been intended to encourage me to reenlist. I remained attached to the SACO for over eight months, until discharged.

I returned to California in September and October 1989, under subpoena, to testify as a witness at three Courts Martials that related to my work in SACO earlier in the year. This really messed up my first semester of college.

⁵ Commentary: The way to eliminate a FAP is to destroy their Carrier or provide a credible threat. It’s a tactical dynamic.

⁶ Citation: Alternatively, “Sometimes it happens that a man’s circle of horizon becomes smaller and smaller, and as the radius approaches zero it concentrates on one point. And then that becomes his point of view.” – David Hilbert quoted by Constance Reid, Hilbert-Courant (1984), p. 174.

⁷ Commentary: The severe limit on the number of Spartiates made Spartan commanders ultra-conservative.

Battle off Samar, October 25, 1944

Excerpt from Wikipedia article, “Battle of Leyte Gulf,” September 22, 2018

Prelude

Halsey’s decision to take all the available strength of 3rd Fleet northwards to attack the carriers of the Japanese Northern Force had left San Bernardino Strait completely unguarded.

Senior officers in 7th Fleet (including Kinkaid and his staff) generally assumed Halsey was taking his three available carrier groups northwards (McCain’s group, the strongest in 3rd Fleet, was still returning from the direction of Ulithi), but leaving the battleships of TF 34 covering the San Bernardino Strait against the Japanese Center Force. In fact, Halsey had not yet formed TF 34, and all six of Willis Lee’s battleships were on their way northwards with the carriers, as well as every available cruiser and destroyer of the Third Fleet.

Kurita’s Center Force therefore emerged unopposed from San Bernardino Strait at 03:00 on 25 October and steamed southward along the coast of the island of Samar. In its path stood only the 7th Fleet’s three escort carrier units (call signs ‘Taffy’ 1, 2, and 3), with a total of sixteen small, very slow, and unarmored escort carriers, protected by a screen of lightly armed and unarmored destroyers and smaller destroyer escorts (DEs). Despite the losses in the Palawan Passage and Sibuyan Sea actions, the Japanese Center Force was still very powerful, consisting of four battleships (including the giant *Yamato*), six heavy cruisers, two light cruisers and eleven destroyers.

Battle

Kurita’s force caught Rear Admiral Clifton Sprague’s Task Unit 77.4.3 (‘Taffy 3’) by surprise. Sprague directed his carriers to launch their planes, then run for the cover of a rain squall to the east. He ordered the destroyers and DEs to make a smoke screen to conceal the retreating carriers.

Kurita, unaware that Ozawa’s decoy plan had succeeded, assumed he had found a carrier group from Halsey’s 3rd Fleet. Having just redeployed his ships into anti-aircraft formation, he further complicated matters by ordering a “General Attack,” which called for his fleet to split into divisions and attack independently.

The destroyer *USS Johnston* was the closest to the enemy. On his own initiative, Lieutenant Commander Ernest E. Evans steered his hopelessly outclassed ship into the Japanese fleet at flank speed. Johnston fired its torpedoes at the heavy cruiser Kumano, damaging her and forcing her out of line. Seeing this, Sprague gave the order “small boys attack”, sending the rest of Taffy 3’s screening ships into the fray. Taffy 3’s two other destroyers, *Hoel* and *Heermann*, and the destroyer escort *Samuel B. Roberts*, attacked with suicidal determination, drawing fire and disrupting the Japanese formation as ships turned to avoid their torpedoes. As the ships approached the enemy columns, Lt. Cdr. Copeland of *Samuel B. Roberts* told all hands via bull horn that this would be “a fight against overwhelming odds from which survival could not be expected.” As the Japanese fleet continued to approach, *Hoel* and *Roberts* were hit multiple times, and quickly sank. After expending all of its torpedoes, *Johnston* continued to fight with its 5-inch guns, until it was sunk by a group of Japanese destroyers.

As they were preparing their aircraft for attack, the escort carriers returned the Japanese fire with all the firepower they had – one 5 in. gun per carrier. The officer in tactical command had instructed the carriers to “open with pea shooters,” and each ship took an enemy vessel under fire as soon as it came within range. *Fanshaw Bay* fired on a cruiser, and is believed to have registered five hits, one amidst the superstructure that caused smoke. *Kalinin Bay* targeted a Myoko-class heavy cruiser, claiming a hit on the cruiser’s No. 2 turret, with a second just below the first. *Gambier Bay* sighted a cruiser, and

claimed at least three hits. *White Plains* reported hits on multiple targets, two between the superstructure and forward stack and another on the No. 1 turret of a heavy cruiser.

Meanwhile, Rear Admiral Thomas Sprague (no relation to Clifton) ordered the sixteen escort carriers in his three task units to immediately launch all their aircraft equipped with whatever weapons they had available, even if these were only machine guns or depth charges. Collectively, Sprague had a total of some 450 aircraft from the carriers at his disposal. Although most of these aircraft were older models, such as the FM-2 Wildcat and TBM Avenger torpedo bombers, the fact that the Japanese force had no air cover meant that American planes could attack unopposed. Consequently, the air counterattacks were almost unceasing, and some, especially several of the strikes launched from Felix Stump's Task Unit 77.4.2 (Taffy 2), were heavy.

The carriers of Taffy 3 turned south and retreated through the shellfire. *Gambier Bay*, at the rear of the American formation, became the focus of the battleship *Yamato* and sustained multiple hits before capsizing at 09:07. Several other carriers were damaged but were able to escape.

Admiral Kurita withdraws

The ferocity of the defense seemingly confirmed the Japanese assumption that they were engaging major fleet units rather than merely escort carriers and destroyers. The confusion of the "General Attack" order was compounded by the air and torpedo attacks, when Kurita's flagship *Yamato* turned north to evade torpedoes and lost contact with the battle. Kurita abruptly broke off the fight and gave the order 'all ships, my course north, speed 20', apparently to regroup his disorganized fleet. Turning again towards Leyte Gulf, Kurita's battle report stated he had received a message indicating a group of American carriers was steaming north of him. Preferring to expend his fleet against capital ships rather than transports, Kurita set out in pursuit and thereby lost his opportunity to destroy the shipping in Leyte Gulf.

After failing to intercept the non-existent carriers, Kurita finally retreated towards San Bernardino Strait. Three of his heavy cruisers had been sunk, and the determined resistance had convinced him that persisting with his attack would only cause further Japanese losses. In addition, Kurita's decision was no doubt influenced by the fact that he did not know that Ozawa had lured Halsey's entire fleet away from Leyte Gulf. Poor communication between the separate Japanese forces and a lack of air reconnaissance meant that Kurita was never informed that the deception had been successful, and that only a small and outgunned force stood between his battleships and the vulnerable transports of the invasion fleet. Thus, Kurita remained convinced that he had been engaging elements of the 3rd Fleet, and it would only be a matter of time before Halsey surrounded and annihilated him. Rear Admiral Clifton Sprague wrote to his colleague Aubrey Fitch after the war, "I ... stated [to Admiral Nimitz] that the main reason they turned north was that they were receiving too much damage to continue and I am still of that opinion and cold analysis will eventually confirm it."

Almost all of Kurita's surviving force escaped. Halsey and the 3rd Fleet battleships returned too late to cut him off. *Nagato* and *Kongō* had been moderately damaged by air attack from Taffy 3's escort carriers. Kurita had begun the battle with five battleships. On their return to their bases, only *Yamato* and *Haruna* remained battle-worthy.

As the desperate surface action was coming to an end, Vice Admiral Takijirō Ōnishi put his 'Special Attack Force' into operation, launching kamikaze attacks against the Allied ships in Leyte Gulf and the escort carrier units off Samar. The escort carrier *St. Lo* of Taffy 3 was hit by a kamikaze aircraft and sank after a series of internal explosions.

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[Men screaming over wireless]

Garner: [on the phone with engineering] *Oh, then the spinner's fine? It's gotta be a sensor. Just pull it. No, no, listen to me. Listen to me. Just pull it, pull it!*

[Another large explosion.]

Hoshi: *Nuclear detonation. We have structural damage along the topside heat exchanger. We can't take much more of this.*

Apollo: *How long before those drives are back up?*

Garner: *I don't know. They don't seem to understand. I need to go down there. You have the con.*

Apollo: *Yes, sir. I have the con. [looking around, moment of hesitation] Make for the nearest base ship. And roll us over to keep our top side out of their line of fire. Hoshi, contact Starbuck in case – tell them I've assumed command. And to concentrate on protecting our top side.*

Hoshi: *Aye, sir.*

Starbuck: *Wilco, Pegasus. We got your back.*

Thorton: *Base ship dead ahead, we're closing rapidly! We can't keep taking hits like this, Major.*

Apollo: *Helm. Steady as you go. Have the bow battery stand by for a salvo fire. Target their center axis.*

Helm: *Yes, sir.*

Apollo: *See if we can't cut down the odds. We need those FTLs fixed soon. Or we're dead.*

Thorton: *Twenty-two hundred. Main battery has a firing solution.*

Apollo: *And fire.*

[The Pegasus fires at one of the Basestars, inflicting major damage.]

Thorton: *Base ship's turning away. He's – he's frakkin' running, Major! But the other two aren't. They're coming hard. Helm – left, full.*

Hoshi: *Starbuck reports Vipers are skosh ammo, Major. We're down to throwing rocks at the bastards. We gotta haul ass outta here now, sir! Sir!*

Apollo: *Come on, Garner.*

Hoshi: *Engineering's reporting a green board. FTL drive online and ready.*

Apollo: *Okay, commence jump prep. Bring our birds home.*

[The Vipers are landing on Pegasus.]

Starbuck: *Pegasus, Starbuck. Nobody behind me but toasters. Now get us outta here!*

– Battlestar Galactica, “The Captain’s Hand” (2006)

Prehistoric Alien Space Carriers: Don't tell me that you have never seen the prehistoric cave painting found in Tanzania, discovered in 2003 (it may not have been there previously), that clearly shows the Battlestar Galactica – originally mistaken for a predatory lizard – under the moon goddess? Erik von Däniken had nothing to do with it!

Death of a Thousand Stings: In the late 1960s, Star Trek introduced television to Harry Mudd and a new frontier. In the late 1970s, Star Wars (1977) innovated space adventure on the big screen. Part of the innovative cinematic experience of Star Wars were the combats between fleets of warships, and in particular, the thrilling one or two-man space-fighter scenes.

Following on the success of Star Wars, the original Battlestar Galactica (1978) series introduced science-fiction audiences to ‘space aircraft carrier’-type operations. In both the old and the new

series, the destruction of the Battlestar Pegasus showed that the Battlestars did have some punch from their forward-facing guns (new series) or forward nuclear missiles (old series) at close range, but both series still center tactically on the operations of the Battlestar as an ‘aircraft carrier in space’ with hot-shot pilots (and beautiful girlfriends) as main characters, of course. The mid-1990s (post Star Trek dominance) revived fighters and carriers in space, for example, the series *Space: Above and Beyond* (1995-1996) and *Babylon 5* (1994-1998).¹

- ✓ “A long time ago in a galaxy far, far away, George Lucas added Space Fighters to the standard arsenal of SF warfare tropes. For Hollywood it was love at first flight, partly for the cool special effects.... At SFConsim-1 the consensus has been trying to stuff the things back in the toy box for the last eight years ... but no one listens to us. Lucas did not invent space fighters, of course. I don’t specifically recall any in the SF I read growing up, but I vividly remember one in an animated series I used to watch in grade school. ... Space fighters didn’t really catch on till Lucas, though – the clearest evidence being that Trek had nothing of the sort.” – Rick, “Space Fighters, Not.” *Rocketpunk Manifesto* (blog), August 26, 2007.
 - “Credit to *Babylon 5*: not only did its Starfuries have less overt similarity to atmospheric jet fighters, they sometimes even maneuvered like spacecraft instead of airplanes – an all but unique Hollywood tribute to Sir Isaac Newton.” *Id.*

The Buck Rogers television series shortly followed BSG. Struggling game companies of the late 1970s through the 1980s sought to cash in on the popular terminology introduced by the huge success of 1970s science-fiction movies. For example, when Avalon Hill republished the *Stellar Conquest* boardgame in the early ‘80s,² they renamed Metagaming’s dreadnought to “Death Star” (with the appropriate silhouette) I remember another 1970s space-opra board game where the carrier-ship silhouettes looked suspiciously like the *Galactica*. Similarly, the designers and manufacturers of the *Traveller Role Playing Game* felt need to add “carriers” and “fighters” to the game, and also introduced (in *Fighting Ships*) the Death Star-like *Tigress Class Dreadnought*.

I played both of these games in the 1980s. *Stellar Conquest*, is the very distant ancestor of this game, which started in December 1992 as a set of “optional advanced rules for *Stellar Conquest*” and *evolved* into *Gestalt Genesis-Day Million*.³ I also had great respect for the background materials developed for *Traveller*; the *History of the Imperium Working Group* did a great job,⁴ and it is too bad that *MegaTraveller* failed.⁵ The concept was great, but it was too late.

- ✓ The inspiration for a set of ‘optional advanced rules for *Stellar Conquest*’ probably came from Max’s *Advanced Rules for Axis & Allies* board game, of which I had a photocopy (in the prehistoric days, there were many photocopies floating around). The AH version of *Stellar Conquest*, in addition to *Death Stars* also had a warship called a *Fighter*, but it was a medium capital ship, not like the fighters on the *Big Screen* or television. Max’s *Advanced rules* were mostly incorporated into later editions of *Axis & Allies*, but *GGDM* will never be incorporated into *Stellar Conquest*!

But there was one major flaw in the introduction of carriers and fighters into *Traveller RPG* – despite all of the meticulously worked out background and doctrinal materials – *Traveller doctrine* never really described what exactly carriers and fighters were supposed to be doing in a fleet combat. They were clearly added as an afterthought, to pull in the *Battlestar Galactica* and *Star Wars* fans.⁶

- ✓ Star Wars and the original Battlestar Galactica series have connections, lawsuits were filed claiming that BSG stole ideas from Star Wars and that Star Wars stole ideas from Buck Rogers. Isaac Asimov said that BSG was Star Wars over again. He was referring, of course, to the original Battlestar Galactica television series. Even so, I disagree, but I can see why he said that. Of course, there is no comparison to the development of the stories since then. Information from Wikipedia article, “Battlestar Galactica (1978 TV series),” captured July 8, 2018.

By 1994, the game had begun evolving in the direction of a larger design, not confined to an expansion of Stellar Conquest. I began thinking of introducing an alternate combat system, something vastly different from the CRT-based combat resolution (the game still had a CRT at the time, before going flat d10 like the Red Storm Rising board game). One morning in the spring of 1994 when I was walking to college, I started thinking about BSG, Traveller and adding Carriers and Fighters to the “Advanced Stellar Conquest” design, and I realized that Traveller was rather vague on fighters and carrier starships. When considering adding Carriers and Fighters to the evolving game design, I first had to decide exactly what they were supposed to be doing in the game and in combat. In many game designs, I have seen things, ideas, units, cards, that were thrown into the game because they sounded good, but are never or rarely ever used, because they serve no purpose, have no special niche, or there are better options. I refused to repeat the perceived errors, and the result was the following *tactical treatise* on space Carriers and Fighters.

[Starbuck inside the organic interior of the dead Cylon Raider crashed on a rocky moon with a poisonous atmosphere]

“First on the list: seal you up...”

[Seals the bullet hole stuffing her bag into it. With the Raider sealed and pressurized, now she can breathe without the tube]

“...and figure out what controls what.”

[Sniffing]

“One of us needs a bath... ugh. All right... now you’re gonna teach me how to fly. ... Every flying machine has four basic controls: power, pitch, yaw and roll. Where are yours?”

[Touches something and the Raider fires]

“Safety tip number one: don’t touch that.”

– Battlestar Galactica, “You Can’t Go Home Again” (2005) (emphasis added)

Fighters: Fighters are the classic very small, agile, fast, and maneuverable combat spacecraft used for attack, raid, bombing, and reconnaissance. In human terms, they usually have one or two crew members – pilot and/or pilot and co-pilot.^{7[Definitions]}

- ✓ “So ... what exactly is a space fighter, and what does SFConsim-1 have against them? If *Star Wars*, *Battlestar Galactica*, and *Babylon 5* are anything to go by, a space fighter is exactly what you would imagine: the spacegoing equivalent of a DeHavilland DH-4 or an F-16. It is a small spacecraft, about the size – and, oddly, roughly the shape – of a present-day fighter jet. It has a single pilot or at most a two-man crew, strapped into a cockpit with minimal habitability, clearly intended for short

missions of only a day or so at most. We see them whooshing and gyrating across the screen, zapping away at each other. Now and then they also destroy the odd stray Death Star, which with typical bad-guy carelessness is designed to obliterate whole planets but cannot defend itself effectively against killer gnats.” – Rick, “Space Fighters, Not.” Rocketpunk Manifesto (blog), August 26, 2007.

All Fighters in GGDGM are assumed to be space *and* atmospheric capable, no distinction is made on this point. Fighters have limited life support and little armor, their best protection is small size, agility, acceleration, and speed (like a common housefly). It must be assumed that Fighters possess significant operational range in-system, for combat and patrol purposes, but lack interstellar flight capability. It must also be assumed that Fighters possess sufficiently powerful weapons to destroy other Fighters, and to pose a threat to the starships when attacking in mass.

- Punk-it Rocket: In science-fiction settings where the primary means of interstellar transportation was via ‘gates’ or ‘jump gates’ into hyperspace, Fighters have frequently had the ability to travel between stars by activating gates to assist them or allow them access to hyperspace.

Unnoticed by most, the movie Independence Day (1996) introduced a new, intriguing operational variation on the mothership and alien space-fighters theme. The alien fighters in Independence Day depended on a field projected by the mothership for their propulsion. This changes the operational factors in a couple of interesting ways: Presumably, the fighters would never run out of fuel (and do not need to carry the extra reaction mass) but are restricted to the local range of the field from the mothership. Such Fighters may be cheaper and may pack more punch per ton than fuel-thrust-driven fighters. But the range limitation of the field is the big concern and was their undoing in the movie; the mothership has to get close to the enemy in order to project the fighters (and the atmosphere apparently limited the range of the field), thus exposing the mothership, and the fighters are limited explicitly to the range (and strength) of the field projected by the mothership.

- ✓ “Speed in space is all relative to begin with; the more useful measure for a spaceship is delta v, ‘change in velocity’ – especially, how much you can change your velocity before you run out of gas. For any given propulsion technology, the way to get more delta v isn’t a more powerful engine but a bigger fuel tank. What a powerful engine does give you is higher acceleration – so you can achieve any given delta v more quickly. ‘Bigger fuel tank’ and ‘more powerful engine’ are also relative – to the size of the ship, more specifically its mass, since that’s what you’ve got to push around. They are also contradictory in a sense – a big propellant supply means more the engine has to push around, so it is hard to get both sprightly maneuver performance (high acceleration) and extended maneuver capability (ample delta v) in the same ship.” – Rick, “Space Fighters, Not.” Rocketpunk Manifesto (blog), August 26, 2007.
- On the Flight Deck: Fighters may be constructed at any Friendly, Converted, or Naturalized Colony by activation of the Construction Power for the purpose of Colony Enhancement, after obtaining the 1st Era Fighters Existential Patent. Construction of Fighters includes training pilots and ground crews, along with support and maintenance equipment.

Fighters are an Enhancement Technology, therefore, they cannot exist by themselves as a ‘game unit’; Fighters must always either be part of a colony’s defenses or on a Carrier, where they can operate, or stored onboard a Logistical Ship where they can be transported and

transferred to a colony or Carrier, but cannot operate. A position is not required to have Carriers to own Fighters, and vice versa. Fighter Complements on colonies *may initiate and join combats* in their system, *making their colony equal to an armed system boat in that sense*.

A newly constructed Fighter RP is ‘ready to fight.’ Within GGDM, Fighters are assumed never to be without pilots and ground crew, as they must either be attached to a colony or Carrier starship.

- ✓ However, this is not always historically true; for example, the Japanese in WWII transferred fighter squadrons, without bringing their ground crews, in an attempt to obtain surprise local superiority. Ground crews in GGDM are assumed to have all of the training, technical knowledge, supplies and specialized equipment of modern air forces, however, as detailed by John W. Whitman in the article “Japan’s Fatally Flawed Air Forces in WWII” (Aviation History, September 2006, now available at <http://www.historynet.com/japans-fatally-flawed-air-forces-in-world-war-ii-2.htm>), Japanese ground crews were ill-prepared, ill-equipped, mistreated, exhausted, and in low morale, and not properly supported by construction assets.

All Fighters of an Era attached to a unit or colony location form a *single* Complement, a single location can have multiple Era complements. A Fighter Complement is a unit in combat, even though it is a colony or ship enhancement, see Colony Defense Bases, 2 Combat, p. 954, *supra*. Fighters are combat units capable of initiating combat (unlike Defense Bases).

- Next Generation Fighters: Existing Fighters cannot be ‘upgraded’ upon passing to the next Era; 1st Era Fighters will always be 1st Era Fighters. Positions are free to design and produce variations and different types of Fighters via Patents, and to add Enhancements if possible, and Fighters can benefit from some Continuous Operational Technologies as well. However, to obtain the benefit of the 2nd and 3rd Eras, each position will need to develop a new, next generation Patent for 2nd and 3rd Era Fighters each.

It’s the nature of the thing. Could you upgrade an existing WWI biplane fighter to a WWII fighter? Could a WWII prop-driven fighter be upgraded to a 1950s-60s jet fighter?⁸

- ✓ The venerable F-14 Tomcat operated in the U.S. military forces from 1974 until the Navy retired it in 2006. Because of the length of service, it was upgraded several times with newer technologies. The F-14 was a Fourth Generation Fighter (as were the later F-15, F-16, and F-18) and was one of the top air superiority fighters in the world. Fifth Generation Fighters include the F-22 and F-35 and the newest stealth fighters of the U.S., Russia, and China. The F-35, criticized for cost overruns and technical development difficulties, was finally accepted for service in 2015-2016 by the U.S. Air Force and Marine Corps, and the navy version, the F-35C still has not been delivered. The F-35’s stealth technology may already be ‘old’ but planners have projected its service to 2070.

“Several German warships remained to be destroyed according to treaty terms, and official tests were held off the Virginia coast in July, 1921. It was of course the duty of navy officers to be skeptical until [Gen. ‘Billy’] Mitchell proved his case, but their attitude betrayed an unwarranted hostility as the airmen sank a submarine and cruiser with comparative ease. There remained the sturdy battleship Ostfriesland, and in twenty-one minutes Mitchell’s planes wrote a new chapter in tactical history by

sending it to the bottom with six one-ton bombs. Without a direct hit having been made, the underwater explosions of the 'near misses' ripped great holes through the four steel skins of the hull. As the shuddering wreck went down, the observers felt that they were watching the end of an era. ...

The first landing on the deck of a ship occurred in 1917, and just before the Armistice the British launched the converted liner Argus as the world's first aircraft carrier. Naval men of 1921 were still dubious as to the new type of warship, however, until they had more evidence as to the effects of bombs. The tests provoked by Mitchell thus had their influence on sea tactics, though he met resentment from officers later described by Admiral Sims as 'hidebound, unfitted and uneducated.' The retired naval commander, a lifelong champion of tactical progress, declared himself for carriers and a strong air arm; and in 1925 the converted battle cruisers Saratoga and Lexington were launched with a capacity of from seventy to eighty planes.

No doubt Mitchell's methods of publicizing the issue were flamboyant and often in-subordinate, but genius is customarily pardoned by history after its ideas are adopted. In 1925 President Coolidge ordered the flier court-martialed, though editorial comment had it that the army and navy were actually on trial. Mitchell listed a hundred recommendations he had made for the betterment of military aviation, all of which had been ignored. He testified as to the strained relations between army and navy officers of Pearl Harbor, warning that the vital Pacific base could be surprised."

– Lynn Montross, War Through the Ages (3rd Ed., 1960), pp. 763-764 ⁹

Carriers: A Carrier is a highly specialized type of warship (see definition of warship in GGDM, Warships, 1 Combat, p. 941, *supra*) designed to transport and support the operation of large numbers of Fighters: The Fighters become the main weapon of the Carrier; a Carrier without Fighters is a very poor warship indeed.

- ✓ First Era Carriers may be built *to a maximum size of 100 RPs* at any eligible colony with an Orbital Shipyard after obtaining the 1st Era Carrier Existential Patent.
- ✓ The development of Carriers and Warships is parallel, upon passing to the 2nd Era, positions will need to develop a 2nd Era Carrier PIT Patent just as they would or might develop the 2nd Era Warship PIT Patent.
- ✓ A position is not required to have the 1st Era Warship Existential Patent to obtain the 1st Era Carrier Existential Patent; a position is not required to have any Warship Patent before having any Carrier Patent. But you still need a stardrive and ship systems.

In our civilization, the Carrier developed from the regular warship; however, in other civilizations, the Carrier may have come first, and there the 1st Era Warship is a highly specialized design evolved from the Carrier that has abandoned Fighter support in exchange for heavy weapons and armor. In space-opera lore, 'carriers' have been called motherships, Basestars and Battlestars (in Battlestar Galactica) or not been given any particular designation at all.

First Era Warships cannot carry Fighter Complements, however, it is possible perhaps, that an Enhancement Patent could be made to allow Warships to carry Fighter Complements, or that at some point, Carriers and Warship designs might merge for some positions, or cross over, but Fighter Complements will always be an afterthought on an Era Warship and will not be supported or operate as well as they would on a true Carrier.

- ✓ Babylon 5 is a setting where every warship seems to have a fighter complement leading the charge into battle. There were no true carrier type ships in Babylon 5, but they still managed to have swarms of fighters. The space fighter deployment innovation of Babylon 5 was the drop rack; however, fighter recovery was never shown.
- How Big is Your Flight Stick?: Fighters do not exist separately (have no OSL), Fighter Complements are measured in RPs, for example, a colony or Carrier might have 30 RPs worth of Fighters. A colony may have a maximum of 1 Fighter RP for each population. The size and capacity of Carriers is also measured in RPs. Thus, when the Construction Power is activated for the purpose of Laying Keel for a Carrier, the Actions *must specify the size of the Carrier in RPs*, half of which will be due ‘up front.’ In the 1st Era, a Carrier may carry a Fighter Complement whose value is half the size/value of the Carrier; for example, a 60 RP Carrier could carry 30 RPs of Fighters (later Eras may improve this ratio). The Fighter Complement of the Carrier is *not* included in the construction cost of the Carrier, they must be constructed separately and transferred to the Carrier (see 3 Construction, p. 675, *supra*).
 - ✓ Fighter Complements are not ‘units’ in GGDM, they are enhancements, the GGDM units are ships (and System Boats), colonies and in many senses, Ground Units and sometimes Technological Devices. This, there is never a check to see if Fighter Complements obey a Power Activation, instead, Fighter Complements are part of their Carrier or Colony and checks are made as to either the Carrier or Colony. Similarly, whether Fighter Complements can benefit from Enlightenment in Combat is based on the status of the Epistemological Constructural Element of their Carrier or Colony (see Skool Tyme, 2 Constructural Elements, p. 190, *supra*). Fighter Complements are never considered to have their own Constructural Elements.
- Carrier Operations: Upon arrival in a starsystem, the Carrier’s Fighters are ready to launch if necessary, thus there is no delay in deploying the Fighters into combat if the Carrier initiates combat or is attacked. Getting the Fighters back onto the Carrier and out of combat though – while being chased and shot at – is more problematical.
 - ✓ Put another way, calling an elevator to escape while in the middle of a gun battle in a hallway is difficult. Routine things become difficult in combat. Combat routines must be simplified. See top feature quote, 4 Movement, p. 868, *supra*.

Carriers may retreat with or without their Fighter Complement. If a Carrier chooses to retreat while the Fighters are still attacking or Combat Screening another ship, the Fighters are left behind. However, if the Fighters are Combat Screening their Carrier on the Combat Round that it successfully retreats, the Fighters land on the Carrier and retreat with the Carrier.

- ✓ This same rule may not apply to Tender starships retreating with System Boats (whether armed or not) but it depends on what is envisioned and what is involved in securing System Boats to the Tender for interstellar FTL jump. Securing System Boats may require a Combat Round and then the Tender may retreat the next Combat Round. Or the Tender might just retreat and leave the armed System Boats behind, especially if there is a supporting colony in the system. It’s a grey area at the judgment of the Concierge and participants.

In Traveller RPG, the reliance on Tenders and Battle Riders was a problem in the Fourth Frontier War because the enemy would go right after the Tender ships, who

took high losses when attempting to retreat (Traveller Wiki, “Fourth Frontier War”), stranding their Battle Riders.

- “Despite the lack of real territorial gains (or losses) for either side, the war prompted two changes to Imperial naval doctrine, one tactical, the other strategic. The tactical change was a shift from Battle Riders to jump-capable battleships. The early weeks of the war had shown a serious design weakness of the Battle Rider. When faced with superior numbers, the Riders were unable to withdraw and jump out-system due to the time required to secure them in their Fleet tenders. Thus, Rider BatRons suffered disproportionate losses in the early stages of the war.” – Traveller Wiki, “Fourth Frontier War,” captured July 3, 2018.

Traveller Tenders had platforms, like helopads, for the Battle Riders to land and secure to for transport; however, it is equally possible that Tenders might have huge bays for landing System Boats, like television warships have bays for landing Fighters. This is a place where Doctrinal Templates (see Combat Formations, 4 Colleges, p. 503, *supra*) might be useful to close the gap.

- Space Debris: If a Carrier is destroyed in Combat, its Fighter Complement is not automatically destroyed as the Fighters were already deployed, or could escape. Fighters without a Carrier, for any reason, may continue to fight one more Combat Round. Some or all of the orphaned Fighter Complement may be transferred to another Carrier or Colony if they have the capacity to receive them. Any Carrier-based Fighter Complement or any part of a Carrier-based Fighter Complement that cannot be transferred after one Combat Round, are lost.
 - ✓ In the 2010 movie *Nydenion*, a shuttle hid in the debris of a destroyed carrier and ambushed a squadron of pursuing interceptors. There were even floating human bodies.
- Carrier Direct Fire: Carriers do have the ability – albeit poor – to fire directly at other ships, colony Defense Bases or civilian targets. A Carrier that is firing directly cannot be Combat Screened on the round that it is firing (and thus is vulnerable to return fire), and the target receives two Defensive Shifts (that is, the Carrier’s chance to hit is reduced by 20%). Carriers cannot be attacked by Defense Bases in a Colony Combat unless they direct fire in the same Combat Round; they may be targeted by the defenders, however, just in case they do. Carriers may always be attacked by Fighters and Ship Missiles in a Colony Combat.
 - ✓ “The prevailing narrative of naval warfare in World War II concerns how the carrier decisively unseated the battleship as the dominant naval weapon system. Yes, battleships mounted over a dozen guns that could pot huge shells at other vessels from over a dozen miles away. But a carrier could deploy over a hundred airplanes that could strike targets hundreds of miles away with torpedoes and bombs. Just as importantly, in an era where radar technology was in its infancy, airplanes were the most effective tool for scouting out vast swathes of the ocean to locate enemy fleets. These advantages meant that battleships and battlecruisers were repeatedly sunk by carrier-based aircraft, from Pearl Harbor to Taranto to the Battle of the Philippines Sea. In return, battleships almost never succeeded in closing into gun-range of carriers.” – Sebastien Roblin, “An ‘Old’ Battleship Actually Sank an Aircraft Carrier in 1940,” *The National Interest*, December 23, 2018 [re: sinking of the HMS *Glorious*].

- ✓ Carriers in GGDM are a notch less potent than their Earthly millennial counterparts, which leaves room for development of technologies and tactics – for example, if the participants choose to allow fighters to eventually be equipped with FTL drive (especially of an instantaneous kind), the Carriers might launch (and retrieve) their fighter attacks from adjacent systems (without moving), while normal warships jump into the target system beside the fighters for a traditional naval slugfest. However, those fighters would not benefit from the sensor and command support of the Carrier and would need to depend on other ships (this is possibly why BSG has the Raptors).

Valarie and the Fleet of a Thousand Worlds: It takes time and effort to build a fleet, parts will come from many places. Carriers and Fighters provide a flexible system for building and operating warfleets. While the Carrier may be expensive, any world can build Fighters. On the flip side, however, is the cost in Power Activations, Acts and Scenes to operate the feeder system that supports large Carrier forces and that Carriers are rather expensive in supply requirements.

- ✓ It might be interesting and worthwhile from a storytelling point of view to track where each ship is built during the game. This can be done by giving the ship numbers or including the origin world in the ship name. This would add to the ship's data the Native Population Type of the crew, if needed. Carriers perhaps have the greatest chance of multi-Native crews due to Fighter RP replacements. See also Alienev Apostasy, 3 Disruption, p. 283, *supra*, which participants could consider in-game.

Moreau: *Red Fox 1, you're not going to bring us down?*

Red Fox 1: *What's the point, our carrier is gone, we got no place to land. We're not going to drag you down with us.*

– By Dawn's Early Light (1990) ¹⁰

Endnotes.

¹ Commentary: The second Buck Rogers television series aired in 1979-1981; I watched most of these as two hour afternoon movies (two episodes merged into a movie) around 1982-1983. Buck Rogers prominently featured planet based fighters and few big ships, but the fighter combat was something atrocious. But I remember Wilma!

² Commentary: I first played the AH Stellar Conquest in November 1985 at the gaming club on Ft. Sill, Oklahoma.

³ Citation & Commentary: I watched a live concert cover of Toto's "Africa" by a group called Frog Leap on YouTube. At first, I didn't even know what they were playing, then when he started the lyrics, I realized just how awful it was – everything was wrong, it had nothing to do with the music or spirit of the original. If you are going to change the song that much, there comes a point at which you should give up and write a new song, the song you wanted to write. It can be inspired by what you originally intended to cover, but it cannot claim to be a cover. So it is with many things, so it was with my "Advanced Stellar Conquest" evolution; at some point it had little resemblance to Stellar Conquest and so I consciously called it something else, my own, and it evolved from there.

⁴ Commentary: You can guess that I would have loved to have been a part of it back then. I wrote GGDM instead.

⁵ Commentary: The Rebellion Sourcebook (1988) for MegaTraveller is the best role playing supplement I've ever read and the rest of the MegaTraveller books generally deserved a much better reception. Additionally, the excellent MegaTraveller article, "When Empires Fall" by David Nilsen published in Challenge Magazine #64, September 1992 (feature quoted in 4 Movement, p. 869, *supra*), had a great influence on the early development of this game. Oh, and Michael Whalen's "Foundation's Edge" cover art was fantastic! Marc W. Miller is still trying to revive the game, but the market has moved away from hard sci-fi or space-opera role-playing. But I obviously well understand his devotion to his lifetime space-opera game project.☺

⁶ Commentary: The current Traveller RPG Wiki page on Fighters (2018) looks impressive, however, by their own definition, half the craft listed on the page are not fighters. The earliest cited Traveller reference to fighters listed at the bottom of the page, is a single page from Starships (1977), followed by single pages from books in 1980, 1981 and 1987. I do not think there was ever any book dedicated to fighters and carriers in Traveller.

⁷ Citation: Definition(s) of a fighter from the Traveller RPG Wiki: “Using a 10-ton hull, the fighter is capable of 6-G acceleration, carries 1 ton of fuel, and has a crew of one. Small craft are boats of interplanetary (though not interstellar) capability.”

- ✓ “The Fighter is a small, highly manoeuvrable, armed small craft, usually capable of at least 4 Gs acceleration, carrying one or two crew, and displacing around 10 tons. Fighters generally have a small fuel tank (usually less than twelve hours’ fuel), and no cargo capacity. Fighters are invariably armed; usually with the heaviest armament the small craft can bear in a non-turret mount. Generally beam weapons are preferred because they are intended to operate at close range. In some cases a missile launch rack may be installed as well.”

Tonnage in Traveller RPG is measured in cubic space taken up by a ton of hydrogen at normal density at room temperature. So tonnage in Traveller is cubic space inside the hull, not the weight of the craft.

- ✓ “Fighters are characterized as small spacecraft usually without jump capability.... It includes a computer Model/1 and can mount only one type of weapon: one laser, up to three missile racks, or up to three sandcasters. It has one ton of excess space, and typically costs MCr18. The lack of a jump drive and its accompanying fuel storage, enables designers of these ships to focus more on putting heavier weapon systems and better in-systems drives. *This characteristic makes them more of a threat on a ton per ton basis than similar ships with a jump capability.*” *Id.* (emphasis added) (captured July 7, 2018).
 - “Sandcasters,” which I have only ever seen in Traveller RPG, are a defense system that is designed, as the name suggests, to project clouds of sand and dust to protect the ship from lasers and other beam energy weapons by causing dispersal. On capital ships, they are called ‘sandcaster turrets.’ The anticipatory system is always automated, as humans cannot react fast enough. This concept is similar to chaff rockets used by U.S. Navy Ships to confuse incoming missiles (e.g., see discussion of missiles fired by Iranian navy ships at U.S. Navy ships in 1988, 4 Carriers & Fighters, p. 1082, *infra*). Generally, video space-opera prefers ‘force shields’ à la Star Trek. Sandcasters are only effective against high-energy beam weapons that were favored in late 20th Century video; they would be ineffective against rapid slug throwers like those used by the Colonial Vipers in the reimagined Battlestar Galactica series or against areal weapons such as missiles with conventional explosive, armor piercing (e.g., the Munroe effect), or nuclear warheads.

⁸ Commentary: In this comparison, I am talking about individual airframes. Most unit ‘upgrades’ involve completely scrapping older equipment and replacing it with newly-manufactured equipment. That’s not what I mean.

⁹ Commentary & Citation: Gen. “Billy” Mitchell was also, unfortunately, involved in the labor disturbance known as the Battle of Blair Mountain, in August 1921. Although U.S. Army planes *did not drop any bombs* on the miners, private aircraft did drop sulfur and leftover WWI bombs on the miners. Mitchell had publically suggested that the disturbance could be ended by army aircraft alone by dropping tear gas on the miners; other parties may have taken this suggestion and hired private aircraft to bomb the miners. Later, Mitchell trumpeted the situation in West Virginia as proof that aircraft were useful in suppressing civil disturbances.

- ✓ Information from Wikipedia article, “Billy Mitchell,” December 29, 2018, citing to Clayton D. Laurie, “The United States Army and the Return to Normalcy in Labor Dispute Interventions: The Case of the West Virginia Coal Mine Wars, 1920-1921” (1991), available for free on wvculture.org.
- ✓ The Court Martial of Billy Mitchell is a highly acclaimed 1955 movie starring Gary Cooper.

¹⁰ Commentary: It is amazing how tightly woven is the story of By Dawn’s Early Light (1990) and critics have praised the movie as an example of what can be done with a very good script and no big budget. Because the bomber Polar Bear One refused to follow orders and turned away, the Soviets, desperate for any sign from the Americans turned a whole squadron of their bombers away and were willing to give the U.S. President an hour to get his forces under control. There were so many little pieces to resolving the situation, what gets lost in the movie is that the little boy probably saved the world by bringing his mother to the place where the U.S. President was lying wounded. And, of course, the pilot of E-4 who turned his plane in the final minutes... I hope that the pieces of GGDM are that well written and woven together.

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See Appendix CEX – Combat Example
See Appendix CST – Combat Shifts & Situations Tables

“[Col.] Boyd was famous for a maneuver he called ‘flat-plating the bird.’ He would be in the defensive position with a challenger tight on his tail, both pulling heavy Gs, when he would suddenly pull the stick full aft, brace his elbows on either side of the cockpit, so the stick would not move laterally, and stomp the rudder. It was as if a manhole cover were sailing through the air and then suddenly flipped 90 degrees. The underside of the fuselage, wings, and horizontal stabilizer became a speed brake that slowed the Hun from 400 knots to 150 knots in seconds. The pursuing pilot was thrown forward and now Boyd was on his tail radioing ‘Guns. Guns. Guns.’” – from Aviation-History.com ¹

Blacksheep: Don’t think for a moment that “flat-plating the bird” works in space.

Fighter attacks are always *resolved first* in the Combat Round. *Each Era Fighter Complement* has two attacks (hereafter “Sorties”) per round, either the same enemy unit is targeted twice or two enemy units are targeted once each. When an Era Fighter Complement targets two different enemy units and/or colony defense enhancements, the Complement must be split and therefore, the entire force of the Complement will not be used on each target (i.e. no ‘double duty’). Unless informed otherwise, the Concierge will assume that the Complement is being split in half and resolve each attack that way. When a Fighter Complement places both of its sorties on one target in a round, each sortie attacks at three quarters (75%) of the full strength of the Complement due to concentration and coordination; this is called a Concentrated Attack. The ‘**cardinal rule**’ of Fighter attacks throughout these rules, is that they are resolved individually by *sortie*.

- ✓ For example, a Fighter Complement of 40 RPs from a single Carrier (this would be a large 1st Era Carrier, 80 RPs cost) attacks two targets (one sortie each), so each target would be attacked by 20 RPs of Fighters, but if both sorties were sent to attack one target (the sky would darken if space wasn’t already dark²), each sortie would attack with enhanced value, as 30 RPs of Fighters.
 - When Fighter and Ship Missile attacks are resolved, they will be resolved in the order provided. See Combat Resolution, 3 Combat, p. 976, *supra*.
 - As noted in Army of Light, 2 Colleges, pp. 479-480, *supra*, positions may decide *each Combat Round* not to use Enlightenment during Fighter attacks and Enlightenment cannot be used for Ship Missiles.
- **Fighter Combat:** As Fighter Complements are measured in RPs, so is Fighter Combat resolved based on the RP size of the attacking Complement. For each Fighter *sortie*, a ten sided die is rolled, and the result divided by ten. The Effectiveness Roll result is multiplied by the size (in RPs) of the attacking Fighter Complement, and the result is converted directly into a percentage chance to hit.

Finally, an Era multiplier of 1.5 for 1st Era Fighters, 2.5 for 2nd Era Fighters, and 3.5 for 3rd Era Fighters is applied to arrive at the final attack chances. This Era multiplier must be part of the Effects section of the Era Fighter Patents. Final result fractions are truncated.

- ✓ For example, 50 RPs of 1st Era Fighters are sent to make a *concentrated attack* on a 1st Era Orbital Defense Base. The Effectiveness Roll of the first sortie is 7, which is .7 when divided by ten. The .7 is multiplied by the 37.5 RPs (75%), and converted to

a percentage chance to hit, giving the Fighters a basic 26.25% chance of success.

When the 1.5 First Era multiplier is applied, the final attack chance is 39% of success.

If the position has elected to not use Enlightenment in Fighter attacks, the Effectiveness Roll cannot be rerolled as a “failed die roll” (see *Army of Light and Harsh Mistress*, 2 Colleges, p. 479, *supra*). It is most likely that most Enlightenment used in Fighter attacks will be used in Effectiveness Roll rerolls rather than attack rerolls. This, again, is an area where technology and Doctrinal Templates may be usefully applied. It’s also a judgment call.

Fighters are subject to all of the applicable Era differential Shifts as well (see *Combat Shifts*, 3 Combat, p. 978, *supra*) at +/- 10% per Era. It is possible that a combination of high Effectiveness Roll, a large Fighter sortie, and Era Multipliers might put the odds over 100% (but still resolved at 99%) or less than 1% (but still resolved at 1%).

- ✓ Continuing the previous example: If the 1st Era Fighters were attacking a 2nd Era Orbital Defense Base, the chance of success is 29% and against a 3rd Era Orbital Defense Base, the chances for the 1st Era Fighters drop to 19% due to defensive shifts.
- ✓ If 3rd Era Fighters were attacking a 1st Era Orbital Defense Base, they would receive +20% in Era differential shifts, plus their 3.5 Era multiplier, probably resulting in a nearly automatic success.

The 50 RPs Fighter Complement used in the example above is max for a 1st Era Carrier. The down-payment to lay keel for this Carrier is 50 RPs with 50 additional RPs to complete it, plus 50 RPs of Fighters to transfer, requiring a big GDP planet and/or lots of RPs from Cargo Ships and possibly Log Ships to bring Fighters from other colonies. See *Laying Keel*, 3 Construction, p. 675 and *How Big Is Your Flight Stick*, 1 Carriers & Fighters, p. 1050, *supra*.

- Engaged: The first successful attack on a target by Fighters “Engages” the target. Engaged means that 15% times the Era of the attacking Fighters is subtracted from the chance of success of whatever the target was instructed to do for the turn (i.e. attack, retreat) to a maximum of 45%. Era differential shifts are not applied, so 1st Era Fighters have the same effect against any Era target. So, any target attempting to retreat from combat, which is Engaged by 1st Era Fighters, has only a 35% chance of successfully escaping.³
 - ✓ Engaged is not a “hit” (see *A Hit*, 3 Combat, p. 979, *supra*), the target is not destroyed. But it does serve as a sort of partial ‘target disruption,’ p. 1057, *ut infra*.
 - ✓ Engaged results from Fighters do not carryover to the next Combat Round.
 - Imagine being surrounded by a swarm of angry bees. You would be rather ‘engaged’ in swatting and running away as fast as you could go. It is unlikely at that point that you’d be thankful that you didn’t fall into a pool of piranhas with a papercut.

If a Fighter Complement is sent to attack two targets in the same round, the best result that can be hoped for would be that both targets would be Engaged and the chance of either result is lessened significantly by the division of forces. However, Engaging enemy units can be a valuable tactical ability reducing their ability to do anything in a Combat Round and forcing them to potentially use Enlightenment rerolls during the round (see *Harsh Mistress and Army of Light*, 2 Colleges, pp. 478-479, *supra*).

An Engaged ship may still retreat if it makes a successful roll. Retreats occur after Fighters and Missiles.

- ✓ The Engaged result is the reason that Fighter attacks are resolved first in the Combat Round. Even if the system were designed with alternating attacks or non-simultaneous attacks, players would still place their Fighter attacks at the top of the Combat Orders to try to Engage enemy units before they can fire or perform other actions. Players would also group Ship Missile attacks at the top of their Combat Orders so that the missiles are fired before their units are destroyed. Thus, it is a natural consequence. Compare also Engaged effects to FAP Assignment effects, 7 Combat, *supra*.
- A Hurt: A target cannot be Engaged twice in the same Combat Round. A second successful attack on the target by any Fighter Complements *in the same Combat Round* results in a hit and the target is destroyed (see A Hit, 3 Combat, p. 979, *supra*). However, as combat is considered simultaneous (*Id.*), all units get to fire – or try to do whatever they were assigned – regardless of whether or not they are destroyed; therefore, a unit that is hit by Fighters was Engaged first, and the Engaged result applies to the unit’s last fire before being removed.
 - ✓ “The passing is only noticed if the puck ends up in the net.” – Bob Errey, Pittsburgh Penguins broadcaster, January 21, 2020.
- A Home Run: Fighter attacks can be analogized to baseball, where base hits and walks mean little – other than potentials and defense distraction – until they cross the plate and become runs. That’s when the walks and errors hurt.

Note that a unit may be Engaged by Fighters and Ship Missiles (see Fire-and-Forget, 4 Carriers & Fighters, p. 1080, *infra*) an infinite number of times, as long as Fighters or Ship Missiles do not score a second success against it in a Combat Round while it is Engaged (the LOB and RISP stats in baseball) and it is not destroyed by any other means. Some units may be very lucky.

- ✓ In the top of the 1st inning of the Pirates baseball broadcast on May 30, 2019, Steve Blass noted that more hitters are taking advantage of defensive shifting to hit the ball through the vacated side of the field to get on base. The next batter then hit a home run, making the score 2-0 in favor of the Brewers. The Pittsburgh Pirates broadcasters have been on this issue for years (see 2 Dreamtime, EN 6, p. 156, *supra*); Steve Blass wondered if this would be a trend, whether hitters would be ‘willing to give up their power swing to hit the ball the opposite way.’⁴ This is not a bad analogy for Engaged results in GGDM fighter combat vs. hits by regular units in combats.
- ✓ The very next inning, the Pirates nearly did the same. Josh Bell hit a broken-bat blooper into the area vacated by the defensive shift to reach first base; rookie Brian Reynolds then nearly hit a HR on the next at-bat except that it hooked just foul instead down the first base line. Brian Reynolds finally hit a single moving Bell to third. Pirates hitters then burned about 10-15 pitches from the Brewer’s starting pitcher (balls and fouling off pitches), ended up with a run scoring single by the catcher Elias Diaz, with only one out. The Pirates pitcher Joe Musgrove then almost hit a homerun down the baseline with two outs, but it hooked foul into the same area as the previous almost homerun by Reynolds. And so it goes. All of this could easily analogize into a GGDM Combat Round involving fighters and regular units.

- **Encounter with Bright Lights:** Positions may choose to not use Enlightenment in their Fighter Attacks. The game mechanical reason is because two successes are required for a Fighter Attack to score a hit on a non-Fighter target (i.e. ship or base) as opposed to attacks by other units in a Ship or Colony Combat that require only one success to score a hit.

However, consider that if an Enlightenment is used to reroll a missed first attack by Fighters, and the reroll successfully Engages the target, that use of an Enlightenment has the effect of both preserving the possibility of obtaining a Hit if the second attack is successful, and the Engaged result means that the target unit has a 15%, 30% or 45% less chance of doing *whatever* (to a minimum of 1%) during the Combat Round and will not be able to resupply from Log Ships during the Combat Round (see Combat Resupply, 4 Movement, p. 868, *supra*).

Thus, the use of Enlightenment in Fighter attacks is a matter for judgment (see also previous discussion of rerolling Effectiveness Rolls, p. 1054, *ut supra*), and may be the only means to use an Enlightenment to abrogate an enemy hit (remember, Enlightenment cannot be used to force an opponent to reroll a hit). Positions (or specific fleets) that rely heavily or primarily on Fighter swarms may need to use Faculties for Fighter attack rolls.

- ✓ However, see Web of Night, 2 Colleges, pp. 477-478, *supra*, for discussion of application of Faculties to drone fighters.
 - “The Seraphs ... were an alien race in the original Battlestar Galactica series from 1978/79 ... They were never expressly referred to by name in the series, but were called ‘Seraphs’ in the scripts for the episodes in which they appear.... The Seraphs were a noncorporeal race of sentients who first appear in ‘War of the Gods.’ ... The Ship of Lights is a Seraph spacecraft from the original Battlestar Galactica television series. It emits an extremely loud sound that can be heard by people in nearby spaceships and is sufficient to render humans unconscious. The Ship of Lights also carries smaller craft. In the reimagined series, this vessel appears in a painting created by Starbuck. In addition, that series’ Resurrection Ship restores characters (Cylons) to life, and in both series Lieutenant Starbuck/Kara Thrace is part of a resurrection-related plot that leads the characters toward Earth.” – from Wikipedia article, “Seraphs,” captured August 10, 2019.

*“Attrition warfare is a military strategy consisting of belligerent attempts to win a war by wearing down the enemy to the point of collapse through continuous losses in personnel and material. The war will usually be won by the side with greater such resources. The word attrition comes from the Latin root **atterere** to rub against, similar to the ‘grinding down’ of the opponent’s forces in attrition warfare.”*

– from Wikipedia article, “Attrition Warfare,” August 10, 2019 ⁵

Strategic Attrition Warfare: Executed properly, Carriers are strategic attrition warfare (SAW) in GGDM.⁶ It takes a different sort of mind to commit exclusively to Carriers & Fighters and make it work.⁷

For most players, Carriers & Fighters will be an addition to old line standard capital ship fleets, providing a combined arms approach. Getting a hit on a single die roll is more comforting.

- ✓ In baseball, a pitcher can pitch so that the hitter cannot hit the ball – inducing swings and strike calls (i.e. a strike-out pitcher) – or a pitcher can pitch so that the hitter can hit the ball but not contact well, either a pop-up or an infield ground ball (i.e. a contact pitcher). They are different mindsets: The former is based on the pitcher’s ‘stuff’ while the latter places trust in team defense. There have always been successful pitchers of both sorts, but modern pitch counts, analytics, defensive shifting, and in the National League, pinch hitting have complicated the pitcher...um, picture.

Consider however, the shift in naval warfare in WWII, the center of a modern fleet or strike force is no longer the big old battleships; CVs and usually CVNs (i.e. aircraft carriers) are the center of a circular naval formation stretching 30 to 50 km (e.g., the tabletop board game, *The Hunt for Red October* (1988), WWII scenario).

Fighters do not require a shipyard, but Carriers and all other ships do. Any colony that has at least 1 RP GDP can produce Fighters to replace losses. Protection and preservation of Carriers is paramount, live to fight another day.

However, Fighter attacks in Combat, fighter ‘tactics’ are small unit maneuver warfare:

- ✓ “Maneuver War is different. While Attrition War is fought to destroy the enemy’s ability to fight, Maneuver War is fought to destroy the enemy’s will to fight. This is not as easily measured as Attrition War, however, the effects of Maneuver War can be devastating. Desert Storm was an example of Maneuver War on a grand scale. ... *A practitioner of Maneuver War frequently goes around main battle units, infiltrating or breaking through the enemy battle line. Once behind enemy lines the Maneuver Warfighter attacks the enemy support structure, headquarters, or whatever is available. Frequently a target is already decided before the penetration. By attacking the enemy’s rear, the enemy’s morale is attacked.*” – Military Science Fiction (blog), “Types of War,” user Warcat, July 29, 2015 (emphasis added).
- ✓ “There are many differences between Maneuver War and Attrition War that are not obvious to the beginner. The easiest way to understand this is that in Attrition War soldiers are trained to follow orders, not to think for themselves. Officers are the ones who make plans and give the orders, synchronizing the operation so it is successful. In Maneuver War it is the small unit leader, the platoon commander, the squad leader who uses the natural chaos of the battlefield to seize an advantage. In Maneuver War a leader may not wait for orders before taking action.” *Id.*⁸

Confessions of a Killer [woman calmly speaking into the camera]: “*Of course I killed them, I just aimed, shot, and killed those little creeps myself. ... Their kind deserves to die!*” – 1990 spray pesticide TV commercial

Close-in Defense Weaponry: Close-in Defense Weaponry are systems originally designed to repel asteroids and space debris that have been adapted and refined to ward off Fighter attacks (alert, *flimsy premise*). There is no Patent for Close-in Defense Weaponry, ships, bases, and boats automatically have Close-in Defense Weaponry installed when they are constructed.

Of course, Close-in Defense Weaponry on a ship is very much like Defense Bases on a colony, it cannot go out and attack the Fighters, the system can only fire in defense when the ship is attacked. Positions may develop Patents to improve the operation of Close-in Defense Weaponry systems.

- ✓ Having Close-in Defense weapons does not make any ship a warship; they are defensive weapons only and do not grant the ability to initiate combat. Close-in Defense Weapons do not create a credible threat to anything but attacking Fighters.
- Tail of the Gunner: Whenever *any* ship or base is attacked by Fighters it will automatically return fire with Close-in Defense systems, regardless of the result of the Fighters' attack. Close-in Defense will automatically fire whenever the unit is attacked by Fighters or Ship Missiles, and however many times are necessary in a Combat Round, regardless of whether the ship owner has submitted Combat Orders or whether the ship is involved in the combat. Each ship or base attacked gets one Close-in Defense Fire at all of the attacking Fighters, divided into *attempts*. Close-in Defense Fire does not prevent or substitute for the unit's regular attack or activity, if it is still capable of making one. A ship or base attacked by Fighters gets one attempt to hit every unadjusted 10 RPs of attacking Fighters (rounded up) at *half* of the ship or base's normal chance to hit based on Era (see Combat Shifts, 3 Combat, p. 978, *supra*), and the sum of all attempts to hit is the Close-in Defense Fire of the unit in that instance. Engaged results on the target unit do not affect Close-in Defense rolls and Era differential shifts are applied *before* halving.
 - ✓ For example, a 3rd Era Warship (base chance 70%) would have a 35% chance to hit every 10 RPs of 3rd Era Fighters.
 - ✓ All Shifts are applicable to Close-in Defense fire at Fighters (see 3 Combat, *Id.*), *before halving*, for example, a 3rd Era Warship firing at attacking 1st Era Fighters would have a 45% chance to hit every 10 RPs of 1st Era Fighters.

Based on the 'origin' of Close-in Defense Weaponry (*ut supra*) the game assumes – strictly for convenience – that all ships have it, including non-warships (e.g., Cargo Ships, Log Ships, Colony Ships). There is probably no reason for Orbital Platforms, other than Defense Bases, to have it and certainly unfinished ships will not have Close-in Defense Weaponry. However, as non-Warships cannot initiate combat, it is suggested that non-Warships defend in Close-in Fire *as Era Warships*, but the Fighters receive one Defensive Shift.

- Counting Whale Tails: For purposes of Close-in Defense Fire, only actual RPs of attacking Fighters is used, not enhanced RPs from Concentrated Attacks. This makes a big difference:
 - ✓ For example, a Carrier with 40 RPs of Fighters sends both sorties to attack one Defense Base. Each sortie is 20 RPs, but because it is a Concentrated Attack, each sortie attacks at 30 RPs (three quarters of the total value of the Fighter Complement). However, Close-in Defense Fire only gets four attempts to hit (40 RPs divided by 10) and not six attempts to hit (60 RPs divided by 10) because only the actual RP value of the attacking fighters (not the enhanced value) counts.
- Down in Flames: For each Close-in Defense *success*, one ten-sided die (1d10) is rolled, and the result is the number of RPs of Fighters lost to the Close-in Defense Fire. The die roll range is from 1-10, minimum damage is 1 RP. If the Fighter attack is a Combined Fighter

Attack, the damage will be applied proportionally based on the contribution of each Fighter Complement to the total attack value.

In some rare instances, especially with smaller Fighter attacks, the entire attack might be wiped out by some lucky Close-in Defense Fire, but overall, most of the Fighters will live to fight another round. However, massive Fighter attacks will take more losses overall balancing out their better chance of success.

- ✓ For example, 60 RPs (actual, *ut supra*) of 1st Era Fighters attack a 3rd Era Warship. Regardless of the results of the Fighter attack, the target will get six Close-in Defense fire rolls, with a 45% chance to hit each time. With average luck, the target will hit three times, each time, destroying from 1-10 RPs of fighters. With the most extraordinary luck – six hits – the attacking Fighters could be nearly wiped out.

Although participants, with visions of WWII footage in mind, may envision people in turrets firing Close-in Defense against attacking Fighters, it is most likely that Close-in Defense will actually be handled automatically by computer. Thus, *Enlightenment should not apply to Close-in Defense fire*. If you consider this incorrect, consider further the number of uses of (i.e. demands upon) Enlightenment in each Combat Round already – and be relieved that Enlightenment is not being eaten by Close-in Defense fire.

- **Battle at Planet Midway:** Carriers have a special love-hate relationship with Fighters; Carriers have superior Close-in Defense Weapons to ward off counter attacks by enemy Fighters. As such, the Carrier's base chance to hit in Close in Defense Fire is the same as a **regular warship** of the same Era – applying Era shifts and *not halved* – and when the damage die is rolled for a successful Close-in Defense Fire hit by a Carrier, one is added to the die roll if the Carrier is 1st Era, two is added to the die roll for a 2nd Era Carrier, and three is added to the die roll for a 3rd Era Carrier. However, the total damage from any single Close-in Defense damage die roll can never be greater than 10 RPs.
 - ✓ Continuing the example, if the target were a 3rd Era Carrier, the Carrier would have the same chances to hit as the 3rd Era Warship against a normal target, but would receive +3 on the damage die roll for each hit, with a max result of 10. Thus the minimum damage for each roll is 4 RPs. Likely, the 1st Era Fighters will be decimated.

“Because of this statement, reinforced by another more detailed report, issued on 10 August, there was a mindset in the ranks of the Luftwaffe that the RAF would run out of frontline fighters. The Luftwaffe believed it was weakening Fighter Command at three times the actual attrition rate. Many times, the leadership believed Fighter Command's strength had collapsed, only to discover that the RAF were able to send up defensive formations at will.

Throughout the battle, the Luftwaffe had to use numerous reconnaissance sorties to make up for the poor intelligence. Reconnaissance aircraft (initially mostly Dornier Do 17s, but increasingly Bf 110s) proved easy prey for British fighters, as it was seldom possible for them to be escorted by Bf 109s. Thus, the Luftwaffe operated 'blind' for much of the battle, unsure of its enemy's true strengths, capabilities, and deployments. Many of the Fighter Command airfields were never attacked, while raids against supposed fighter airfields fell instead on bomber or coastal defence stations.

The results of bombing and air fighting were consistently exaggerated, due to inaccurate claims, over-enthusiastic reports and the difficulty of confirmation over enemy territory. In the euphoric atmosphere of perceived victory, the Luftwaffe leadership became increasingly disconnected from reality. This lack of leadership and solid intelligence meant the Germans did not adopt consistent strategy, even when the RAF had its back to the wall. Moreover, there was never a systematic focus on one type of target (such as airbases, radar stations, or aircraft factories); consequently, the already haphazard effort was further diluted.”

– from Wikipedia article, “Battle of Britain,” captured November 7, 2019 ⁹

Battle of Churchill Sol B: The situation described above is shown in the 1969 movie Battle of Britain. The Luftwaffe command believed they had destroyed 300 British RAF aircraft on the ground and in the air, about half of the estimated total strength (movie dialogue). Yet, the British kept intercepting their bomber attacks, and from this, they concluded that the British had moved all of their reserves to the south of England to keep up the battle front, and thus Scotland and Northern England were unguarded. Thus, on August 15, 1940 (two days after Eagle Day), they launched a massive bomber attack from Norway beyond fighter escort range, with unescorted Heinkel III bombers and ME110 Fighter Bombers, and as they approached the English northeast coast, they were attacked in strength by Spitfire squadrons that were not supposed to be there!

- ✓ The resulting bomber losses were called the Black Thursday of the Luftwaffe, see <http://ww2today.com/15th-august-1940-the-luftwaffes-black-thursday>.

Overestimation of both enemy strengths and losses are common in all wars in all ages. It is important to be skeptical of your own intelligence – both the military-espionage and wetware kinds.

- ✓ “Overclaiming in aerial warfare is not uncommon. During the Battle of Britain (and, indeed, the rest of the Second World War), both sides claimed to have shot down and destroyed more enemy aircraft on the ground and in the air than they had in reality. RAF Fighter Command claimed 78 German aircraft shot down on 13 August 1940. Another source states that official RAF claims amounted to 64. Actual German losses amounted to 47–48 aircraft destroyed and 39 severely damaged. Conversely, the Luftwaffe claimed to have destroyed 70 Hawker Hurricanes and Spitfires in the air and a further 18 Blenheim bombers in the air alone. This was an exaggeration of about 300 percent. Another 84 RAF fighters were claimed on the ground. Actual RAF losses in the air amounted to 13 fighters and 11 bombers, with 47 aircraft of various kinds on the ground.” – from Wikipedia article, “Adlertag,” captured November 7, 2019.
- ✓ [Interview] “The Germans were flying what they termed ‘free hunts’ – 100 to 150 fighters sweeping over southern Britain hunting out the Hurricanes and Spitfires. The instruction went out to our pilots not to engage these fighters unless they were escorting bombers. So, the myth started to grow that the Royal Air Force was being depleted and defeated.” – Chris Wren, Curator RAF Operations Room, Uxbridge, 13 Hours that saved Britain (documentary, 2011).

Thus, it is possible (especially if participants don’t see the die roll results) to over- or under-report *enemy* Fighter RP losses in every Combat Round; the owner of the Fighter RPs will, of course, receive accurate reports of their losses and current strengths. It is possible because of the

speed and confusion of high-speed combats, destruction of hardware systems, and because biological sapience is involved. There may even be some deception by the attackers. However, on the other side, an argument can be made – especially given GGDM’s generous detection rules – that advanced technology and open space should mean that everything should be accurately detected and reported by computer-controlled surveillance systems, especially if they are AI.

- ✓ Which side of the coin lands face up will need to be decided by participants before the game begins. First, it must be decided if participants will see die roll results; if they do, then all other questions are moot. If participants cannot see die roll results, the Concierge has more room to operate (and this applies to all parts of the game).

There are two possible ways to handle this. The computer assistant could be set to automatically determine the accuracy of reported *enemy* Fighter RP losses and determine the over- or under-reporting within a set range of percentages. Or it could be set so that reporting is accurate unless the Concierge uses an Intervention to alter the reports.

This then may raise a further issue about possible over- or under-reporting of enemy ship losses (which is possible); however, the difference is that ships are *game units* whereas Fighter RPs are *enhancements* that land on a ship. So they are not quite the same; ships would be seen with fair certainty in GGDM’s detection scheme. Finally, the thoughts here regarding reporting of enemy Fighter RP losses could be extended to enemy Ship Missile use (see Torpedoes at Trafalgar, 4 Carriers & Fighters, p. 1079 *et seq.*, *infra*), and also Ground Combat damage (see Ground Combat Resolution, 4 Combat, p. 993, *supra*), if participants cannot see the die roll results.

- ✓ See also Krypton Kerfuffle discussion, 1 Taxation & Census, p. 298, *supra*.

“Awareness of the dynamic interrelationship among dispersion, mobility, and firepower led to the development of further measurement scales, and subsequently to the QJM model, and later the TNDM.”

– Susan Rich [referring to the Quantified Judgment Method and T. N. Dupuy Associates Inc.], biography page for Trevor N. Dupuy at The Dupuy Institute website (<http://www.dupuyinstitute.org/tndupuy.htm>)

“Nor is the issue so limited that it can conveniently be reduced to any particular age. Perhaps it would not be too comprehensive a statement to say that all military history is made up of an endless struggle between the principles of dispersion and cohesion. The swing from one to the other has influenced tactics ever since Troy, and Armageddon will probably consist of a bloody clash between the last phalanx and legion left on earth.”

– Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 71

Areal Phenomenon: Fighter Complements cannot be hit if they don’t attack or intercept in the Combat Round, unlike regular units and colony defense enhancements that can be hit in any Combat Round by virtue of being in the Combat.

- ✓ Thus, Fighter Complements assigned to FAP cannot be hit, see A FAP in the Night, 7 Combat, p. 1041, *supra*. FAP is an *alternative use* for Fighter Complements.

Fighter Complements cannot be directly targeted by enemy units in any Combat (including normal Orbital Bombardment, but can take proportional losses), instead, they may only be fired upon by Close-in Defense Fire when they attack or are Intercepted by warships, or by other Fighters via Interception and Dogfighting (see 3 Carriers & Fighters, pp. 1069-1070, 1072, *infra*). Any ships transporting the Fighters may be targeted normally in any appropriate Combat.

- ✓ These are the baseline rules in GGDM; they can, of course, be changed by development of new technologies, such as true areal weapons (see 3 Carriers & Fighters, p. 1073, *infra*) or doctrinal templates. Generally, Fighters are considered to be small, agile, and dispersed over a large volume of space unless they are attacking a specific target; when that happens, they have to come to the target, making them vulnerable to Close-in Defense Fire (e.g., what you see in movies). Only other Fighters, via Interception and Dogfighting, can match the areal phenomenon of a swarm of Fighters.

Think of this as you vs. a swarm of bees or gnats. You are the big warship. You can swat at them, might get one or two, but the bees are gonna sting you, the gnats are gonna get in your eyes, nose, and ears and make that high buzzing sound. Or you can run away, fast. The only place you can ‘get them’ is at their hive (i.e. Carrier or host colony in GGDM). To combat them, you must find better weapons, e.g., I remember a killer ant swarm movie about ants taking over an island, where the humans use flamethrowers against the ants (it may have been the carelessly, grossly misnamed movie, *The Hive* (2008)).

- ✓ “To his mind came the sounds of war across the gulf of space. It was all imagination; in that tomb there was no sound. Yet he could clearly detect the hiss of his scout’s blaster as it poured beam after beam into the lead ship of the Kyben fleet. His sniper-class scout had been near the point of that deadly Terran phalanx, diving like a wedge at the alien ships converging on them in loose battle formation. It was then that it happened. One moment he had been heading into the middle of the battle, the left flank of the giant Kyben dreadnought turning crimson under the impact of his fire-power.

The next moment, he had skittered out of the formation which had slowed to let the Kyben craft overshoot, while the Earthmen decelerated to pick up maneuverability. He had gone on at the old level and velocity, directly into the forward guns of a toadstool-shaped Kyben destroyer. The first beam had burned the gun mounts and directional equipment off the front of the ship, scorching down the aft side in a smear like oxidized chrome plate. He had managed to avoid the second beam. His radio contact had been brief; he was going to make it back to Antares-Base if he could.” – Harlan Ellison (story) and Ken Steacy (art & adaptation), “Life Hutch,” *Epic Illustrated*, Vol. 1, No. 6, June 1981.¹⁰

Here, “scout” is being used in place of fighter. Generally, participants should avoid (for sanity sake) creating classes of things using names that could be confused with other game terms. And there is no sound in space, unless it’s your ears ringing inside your space suit helmet...

“Alpha Squadron, form up on my wing. Delta Squadron, punch us a hole through there!”

– Lt. Cmdr. Susan Ivanova, *Babylon 5*, “Severed Dreams” (1996)

Combined Fighter Attacks: The power of Fighters is in the masses. A weaker position can mass up sufficient waves of Fighter attacks such as to nearly guarantee the destruction of even the largest and most advanced enemy warship or base. That's not a solution to all strategic ills, but it works sometimes and the cost may be staggering.

- **En-Masse:** Two or more Fighter Complements may combine for one or two sorties on any single target. When Fighter Complements combine, the largest Fighter Complement will automatically be designated the Primary (*unless* the Concierge is otherwise instructed) and all others will be considered Supporting. In calculating the attack, the Primary Complement is taken at full value, while each of the Supporting Complements is added at half value.
 - ✓ For example, two Fighter *sorties*, one 50 RPs and the other 30 RPs are combined to attack a 1st Era Warship as one *combined sortie*. The 50 RP sortie will be the Primary, and the 30 RP sortie will be added to the attack at half value, for a total attack equaling 65 RPs of Fighters for one *sortie*.
- **The Other Shoe Just Dropped:** If the Combined Attack is also a Concentrated Attack (i.e. both sorties are placed on one target), only the Primary receives the Concentrated Attack bonus. Each sortie is calculated individually. To receive the Concentrated Attack bonus, the Primary must have dedicated both of its sorties to one target, but the supporting Fighter Complements may be split and may participate in either or both sorties on the target (*sans* bonus). Thus, if the Fighter Complement making a Concentrated Attack during the Combined Attack is not the largest Complement, the position should specially designate it the Primary (*ut supra*). Failure to do so nullifies the Concentrated Attack bonus.
 - ✓ In the above example, assuming the Primary Complement dedicated both of its attacks to the target (i.e. a Concentrated Attack), but the Supporting Complement only contributed its second sortie, the first sortie would attack (alone) with 75 RPs at three-quarters of the value of the full 100 RP complement and the second Combined-Concentrated Attack, would be at a value of 90 RPs (75 RPs plus 15 RPs from the supporting Complement which did something else with its first sortie).
 - ✓ c.f., if the Complements didn't combine, they could have had two attacks at 50 RPs and two attacks at 30 RPs on any targets, uncombined.
- **Daffy Duck Shoot:** A combined Complement acts as one Complement for Close-in Defense Fire purposes, noting that losses from Close-in Defense Fire will be proportioned. Only one Effectiveness Roll will be made for each Combined Attack *sortie*.
 - ✓ Continuing the above example, the *actual* value of the attacking fighters is 130 RPs on that target (that is, 100 RPs from the Concentrated Attack of the Primary Complement and 30 RPs of the Supporting Complement on the second sortie), so the target will get 13 (130 divided by 10) attempts at Close-in Defense Fire against the Concentrated and Combined Attack.

The Concierge will not combine Fighter Complements attacking the same target unless instructed in the position's Combat Orders.

- ✓ A decent tactic is to have the Combined Fighter Attack on the second Sortie on a target, to insure that the target is Engaged, if the first attack missed, or to enhance the chances of destruction of the target, if the first sortie got an Engaged result, e.g., Fighter Complements A, B, and C. Complements A and B attack two targets, putting

both of their Sorties on their target (Concentrated Attacks). Complement C divides its two Sorties, combining one each with Complements A and B's second Sorties.

Interviewer: *Why would an F-16 lose in a combat against an F-35 or other next gen fighter?*

General: *Because the F-16 would never even know it was in a fight when the F-35 locked on and fired from beyond its sensor range.*

– Paraphrased from an article discussing next gen fighters ¹¹

“In an interesting incidental commentary, most of those contrarian articles say something along the lines of ‘there are plenty of reasons to be critical of the F-35 program, but this isn’t one of them.’ And that captures the problem about much of the public reporting on the F-35. The program has been running almost a decade and a half, with significant schedule slippages, engineering problems, software issues and cost overruns in its early years. The net effect has been to cost the Australian taxpayer many billions of dollars to establish an interim air combat capability. But much of the discussion has been about the wrong thing – yesterday’s concept of air warfare.”

– Andrew Davies, nationalinterest.org ¹²

Endnotes.

¹ Citation: <http://www.aviation-history.com/airmen/boyd.htm>.

² Citation: **Susan Ivanova:** I’ve always had a hard time getting up when it’s dark outside. **Jeffrey Sinclair:** But in space, it’s always dark. **Ivanova:** [morosely] I know. I know. – Babylon 5, “Signs and Portents” (1994).

³ Citation: See Zigged When He Should Have Zagged, 3 Combat, p. 981, *supra*, base chance of retreating is 50%.

⁴ Commentary: This is another version of the issue of me vs. us in professional sports. Sometimes the team needs the power swing, other times the team needs base runners. Solo home runs are great, but they don’t add much to the team score. After the first hitter reached base by hitting the ball the opposite way, the next batter hit the ball out of the park to make the score 2-0 in favor of the Brewers.

⁵ Citation: “OHL had issued orders to change tactics again days before Loßberg was blamed for giving new orders to the 4th Army. [Jonathan] Boff also doubted that all of the divisions in Flanders could act on top-down changes. The 119th Division was in the front line from 11 August to 18 October and replied that new tactics were difficult to implement due to lack of training. The tempo of British attacks and the effect of attrition meant that although six divisions were sent to the 4th Army by 10 October, they were either novice units deficient in training or veteran formations with low morale after earlier defeats; good divisions had been diluted with too many replacements. Boff wrote that the Germans consciously sought tactical changes for an operational dilemma for want of an alternative. On 2 October, [Prince] Rupprecht had ordered the 4th Army HQ to avoid over-centralising command, only to find that Loßberg had issued an artillery plan detailing the deployment of individual batteries.” – from Wikipedia article, “Battle of Passchendaele,” May 20, 2020.

⁶ Commentary: An extreme version of ‘attrition warfare’ was the Aztec concept of the Flower Wars. The Flower War format was a ritualistic meeting of equal forces of warriors from two sides, on a sacred field, for melee combat without missile weapons and using less lethal handheld weapons as the purpose was to capture opponents for sacrifice and ransom. This is not to say there were no casualties or intimidation (the Aztec illustrations are gruesome), and it should not be pictured as chivalric combat in a European sense. The Flower War seems like an extreme extension of the pre-combat hero duels in ancient combats (e.g., David responding to the taunting of Goliath, except David used a missile weapon) but not in a straight gladiatorial sense. Such a system requires agreement between sides – hence it had to become part religious ritual overseen by the priesthood – because all bounds are off if either side breaks the format (ambush with missile weapons, bringing twice the number of allowed fighters, etc.) and it is notable that long-running Flower Wars tended to become nasty, push the bounds, and spillover into general warfare.

- ✓ It would be interesting if such a system developed in a GGDM game, but doing so would require a step toward a pan-galactic culture – development of meanings and protocols embracing such a practice. Science fiction literature – written with the sense of modern warfare and Western technologically enhanced individualism – rarely features ritualistic type warfare or even warfare with any sort of rules; *Dune* hints at ritualized conflict but then crosses over into total war, minus direct use of nuclear weapons. The movie *Rollerball* (1975) features a ritual type warfare in the form of violent modern professional team sports (and there are a number of games based on this concept) which, like *Aztec Flower Wars*, degenerates as the movie progresses into total war between corporate squads. The most notable science-fiction full implementation of ritual warfare of the Flower War type are the annual combats (called the Grand Combat) in Julian May's *Pliocene Saga* (1982) in which human temporal immigrants become increasingly involved.

⁷ Commentary: Trench warfare developed in WWI on the Western Front after the initial grand maneuvers failed. It was possible only because of the terrain, the size of the industrial armies, and the relatively straight line from Switzerland to the North Sea. The end of trench warfare eventually crept in as aircraft, tanks, improved artillery coordination, and the new infiltration tactics – invented by a French officer and first used by the Germans – developed and asserted themselves. Infiltration tactics in particular placed new emphasis on small unit commanders' control and decision making. The Battle at Remagen in March 7, 1945, resulting in the capture of the last intact bridge over the Rhine (movie *The Bridge at Remagen* (1969)), is celebrated as a triumph of small unit leadership.

- ✓ In WWI, 'tanks' were used as infantry support vehicles (they looked nothing like modern tanks); they were tied to the pace of the infantry advance, clanking along with the infantry advance. At Cambrai in November 1917, the initial attack dispensed with the usual artillery preparatory bombardment; at dawn the tanks came over the rise and led the attack on the surprised German line which was easily overrun. The infantry came up behind and occupied the enemy trenches, collecting POWs. Within a decade, the German military appreciated the power of tanks, it took a complete turn of thinking to fully engage the potential of tank warfare, demonstrated in 1939 (blitzkrieg). Likewise, it took a complete turn in naval thinking to appreciate the power of the new aircraft carriers and long-range bombers; the Axis powers were behind that curve.

⁸ Commentary & Citation: Blitzkrieg was maneuver warfare with a new logistical scheme. The U.S. Marines have always been committed to maneuver warfare and flexible small unit leadership:

- ✓ "Beneath its Prussian exterior of short haircuts, crisp uniforms and exacting standards, the Corps nurtured some of the strangest mavericks and most original thinkers I encountered in my journey through multiple commands and dozens of countries. The Marines' military excellence does not suffocate intellectual freedom or substitute regimented dogma for imaginative solutions. They know their doctrine, often derived from lessons learned in combat and written in blood, but refuse to let that turn into dogma. Woe to the unimaginative one who, in after-action reviews, takes refuge in doctrine. The critiques in the field, in the classroom or at happy hour are blunt for good reasons. Personal sensitivities are irrelevant. No effort is made to ease you through your midlife crisis when peers, seniors or subordinates offer more cunning or historically proven options, even when out of step with doctrine." – Gen. Jim Mattis (USMC Ret.) op-ed, "Jim Mattis: Duty, Democracy and the Threat of Tribalism," *Wall Street Journal*, August 28, 2019.

⁹ Commentary: I have wondered how much Rear Admiral Kummert on the KMS *Blücher* knew of the Norwegian defenses when he sailed into Oslo? Did he know about the underwater torpedo tubes, what was he told? They apparently were also surprised by the 11 in. naval guns that hit their superstructure and were unable to locate them in the dark for return fire. All of this suggests very poor intelligence (the infamous *Abwehr*).

¹⁰ Commentary & Citation: I believe that "Life Hutch" is one of five Harlan Ellison-Ken Steacy Earth-Kyber War graphic stories that appeared in *Night and the Enemy*, published in 1987 (republished with additions in 2015) and are now available on Kindle and comiXology.

¹¹ Commentary: This is the same reason that combat jet pilots in leftover Cold War dictatorships and third world countries flee to other countries rather than face air combat against fighter combat jets from any first class air power; it's not a contest of pilot against pilot, man against man, rather, it's a contest of machines – new cutting edge fighters against obsolete Cold War combat jets – that they know they will lose, die, and accomplish nothing.

- ✓ It is also the same reason that the six-carrier Japanese attack fleet that hit Pearl Harbor in December 1941 would be annihilated by the USS *Nimitz* from 1980. They would never know what attacked them.

¹² Clarification: Regarding reports that an F-35, the most expensive combat jet in history and the next generation of air combat vehicle, was beaten in a dog-fight by an F-16, a combat jet decades older.

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See Appendix CEX – Combat Example
See Appendix CST – Combat Shifts & Situations Tables

Ender Wiggin: *All fighters fall back and surround Petra's ship!*

Copy that.

Ender Wiggin: *I want rings within rings. Layers upon layer. Every fighter we have!*

Dink: *Ender, you're gonna leave our transporters defenseless!*

Ender Wiggin: *If we're gonna win this battle, Dink, it's all or nothing now! When the outer layer is hit, the wreckage will continue to drift with us, like a shield. Do it now!*

Mazer: *He's abandoning his entire fleet.*

Col. Graf: *He's in command. There's no stopping him now.*

– Ender's Game (2013)

Combat Screening: Combat Screening is a formation where one or more ships, Fighter Complements, System Defense Boats, or System or Orbital Defense Bases are assigned to protect another unit by intercepting any attempt to attack the protected unit, or at least placing themselves between the attacker and the target.

- ✓ Orbital Defense Bases may only Combat Screen Orbital Cities, Orbital Defense Bases, Orbital Shipyards, keels (i.e. unfinished ships) and ships that have taken shelter at the colony.
- ✓ Fighters may Combat Screen anything.
- ✓ Warships may only Combat Screen other ships, including Cargo Ships and Colony Ships attempting to reach a Besieged Colony.
 - The *premier* Combat Screening action of WWII in Europe – the Battle of the Barents Sea in December 1942 – involved no carriers, and few aircraft and submarines. The heavier German surface ships were unable to attack the merchant ship convoy, being successfully intercepted in all directions.
- ✓ Cargo Ships, Colony Ships, Log Ships, Scout Ships and unarmed System Boats, or any ship or unit with no attack ability (i.e. *ability to initiate combat*), may never Combat Screen another ship or Defense Base because they pose no credible threat to the attacker.
- ✓ Combat Screening of or by Ground Units and Fighters in Ground Combat was discussed previously in Dropping In, Ground Combat Resolution, and Air Attacks in Ground Combat, 4 Combat, pp. 991, 993, 996, respectively, *supra*. Obviously, the unit screening another unit must have the *ability to initiate combat in the theater of operation* (see Keep Your Friends Close, Your Enemies Closer, 3 Combat, p. 972, *supra*), thus Ground Units cannot Combat Screen units in non-Ground Combat situations.

Prior to resolving the first Fighter Attacks, the Concierge (or computer assistant) will need to look at the orders issued by each position and determine which units are being Combat Screened and by whom on each side. Thus, the order in which Combat Screening actions are

listed should not matter in the round, but it would probably be best practice to group them near or at the top of the position's Combat Orders.

- Bugs on the Screen Door: All Combat Screening assignments must be included in the Combat Orders sent to the Concierge each round; Combat Screening assignments do not carry-over from round to round, therefore, the Concierge must be informed of Combat Screening assignments each Combat Round.

A ship, Defense Base or Fighter Complement assigned to Combat Screening cannot do anything else for the Combat Round; they cannot attack (except with Ship Missiles, see First Fire, 4 Carriers & Fighters, p. 1080, *infra*), or attempt a retreat (exception, Fighters Combat Screening their retreating Carrier, see Carrier Operations, 1 Carriers & Fighters, p. 1050, *supra*): their assigned target for the round is the unit they are protecting. All Combat Screening actions must include the specific unit (*not group, type or class, not "I am screening all Log Ships"*) that is being protected, generally, specific Carriers, Tenders,¹ Troop Transports (especially those joining a Colony Combat), Cargo Ships, Colony Ships, and Log Ships, orbital platforms, boats, and keels will be protected by Combat Screening. A unit assigned to Combat Screen *cannot be itself Combat Screened by other units!*

- ✓ This would be an interesting tactic though, layers of Combat Screens, but, eventually, someone has to attack (Combat Screening other *Combat Screeners* may be the GGDM equivalent of the 16th Century caracole cavalry tactic, but using Fighters and Ship Missiles²). The initial prohibition above is premised on the idea that the unit performing the Combat Screen must have absolute freedom of movement, other than being tied to the unit it is screening. High-level training and computer modeling (i.e. College faculties, Doctrinal Templates, technologies) could nullify the prohibition.
- Fighter Screens: Fighter Complements may either Combat Screen one target and Intercept two attackers per Combat Round, or may divide to Combat Screen two targets and each part will only have one Intercept for the Combat Round. Fighter Complements cannot target other Fighter Complements normally, but Fighter Complements intercepting attacking Fighter Complements results in a Dogfight (p. 1072, *ut infra*) between Fighter Complements (resolved one *sortie* at a time). As in Fighter Combat (see Blacksheep, 2 Carriers & Fighters, p. 1054, *supra*), Fighter Complements executing Combat Screens are resolved separately by sorties, however, the combat action of the Fighter Complement for the round is to Combat Screen, i.e. a Fighter Complement cannot divide its two sorties, with one Combat Screening and one attacking normally, it is doing one or the other.
- Buddy-Buddy: Carriers are not prevented from launching their Fighters to attack targets by being Combat Screened by others. One form of Carrier fleet tactics might be a 'buddy system' where one Carrier's Fighter Complement Combat Screens another Carrier whose Fighter Complements attack the enemy or screens other units.³ Regular ships also might protect the Carrier from non-Fighter attacks while its Fighters attack the enemy.
 - ✓ When a target is being Combat Screened by both Fighter Complements and non-Fighter units, the Concierge (or game program) will do his best to assign the best protector to each attacker as they come in order. For example, if a Fighter Complement and one other warship is protecting a Carrier, the warship would not be sent to intercept an opposing Fighter Complement trying to attack the Carrier. If only Fighter

Complements attack the Carrier, the warship may never have an intercept opportunity. There are some decisions, such as Interceptions, that may be made by the Concierge (or game program) during processing, without consulting the position players.

- Colony Screens: A colony may be Combat Screened as one unit by Fighter Complements only against Raids or Strike Combats. All attacking Fighters will be automatically intercepted by the Fighter screen and the interception will be resolved as one Dogfight (p. 1072, *ut infra*). Half of the attacking Fighters that survive the Dogfight may immediately execute the Raid or Strike on the colony.
 - ✓ Defense Bases may not Combat Screen a colony, but may Combat Screen things in orbit at the colony. Ground Bases may not Combat Screen but may be Combat Screened by Fighters only in Colony Combat. Orbital Bases may only Combat Screen other orbital platforms and ships and boats at the colony planet (p. 1067, *ut supra*). System Bases may only Combat Screen ships and boats at the colony. Defense Bases cannot intercept Fighters.
- Normal Interception: A ship, Defense Base or Fighter Complement assigned to Combat Screen a target will move to Intercept the first unit *that it is capable of seeing and hitting* that attempts to attack the target. T-Ships in Ambush Mode *may not be Intercepted*, see Ambush-whacked, 7 Combat, p. 1038, *supra*, unless the Interceptor has a Temporal Sensor.

In an Interception situation, the Interceptor will fire first, regardless of status as the attacker or defender in the combat.

- ✓ Interception is being used loosely here, and the normal mental picture may not always fit the circumstances. For example, a System Defense Base is screening a Cargo Ship in combat. ‘Moving to Intercept’ in that case is more likely the Cargo Ship moving behind the System Defense Base than the System Defense Base moving out to challenge the attacker. What is the difference? The attacker has to come close...
- ✓ In July 2019, five speed boats of the Iranian Revolutionary Guard naval forces attempted to divert a British tanker in the Strait of Hormuz. A British Royal Navy frigate which had been trailing the tanker (was the tanker bait?) came up behind during the incident and ordered the Iranian boats to bugger off. The frigate is armed with automatic 30mm deck guns expressly for the purpose of repelling small boats and probably had air support coming up. The Iranians veered away.

If the Interceptor successfully attacks the attacking unit (in ship or base vs. ship, a “hit”; in Fighter Complement vs. ship, an “Engaged” result), the attacker is stopped and may only fire at the Interceptor (the attacker’s Combat Orders will automatically be changed to fire at the Interceptor), which may be sacraf... expendab... uh, destroyed. If the Interceptor does not successfully attack the attacker, the attacker has broken through the Combat Screen and may fire at the target. However, the target receives one Defensive Shift due to the efforts of the Interceptor. All attacks on the target are resolved together after all Interception attempts.

- ✓ Attackers Intercepted by an Orbital Defense Base receive one Defensive Shift against the attack of the Orbital Defense Base (due to mobility disparity).

There is *no die roll* for Interception, it happens automatically; the only criteria is whether the Interceptor could credibly threaten the attacker with destruction. Thus, Enlightenment will

never be used to cause or avoid an Interception, nor will Interceptions be prevented by pre-Interception Engaged results on the attacker from Fighter attacks, but of course, a second Engaged result from Intercepting Fighters will not only stop the attack, but destroy the attacker. Enlightenment rerolls may play a critical role in successful Interception by increasing the Interceptor's chance to hit the attacker and protect the target (*if* Fighters were allowed to use Enlightenment that round), while pre-Interception Engaged results against the Interceptors will lessen their chances of hitting. There are many combined arms dynamics at work.

- ✓ Because both sides issue Combat Orders independently before the Combat Round is resolved, regular warships assigned to Combat Screen other ships may be attacked before or after (depending on the order of processing) moving to Intercept other attacking regular warships (but it's all simultaneous, so it doesn't matter anyway). Regular warships assigned to Combat Screen other ships may also be attacked by Fighters and Engaged during the Fighter portion of the Combat Round, which reduces their chance of a successful Interception of regular ships. But they will get a Close-in Defense Fire at the Fighters in any case. This whole process can be very dynamic.
- Second Interceptions: A ship or base that fails to Intercept the first attacker may attempt to Intercept a second attacker against its target unit, *if the target unit of the screening has not been destroyed*. A Fighter Complement that is not divided between Combat Screening two separate targets, may always attempt to Intercept additional attackers until it successfully Intercepts a second attacker. A Fighter Complement that is assigned to Combat Screening may never use both of its *sorties* on the first Interception. Therefore, the only possible result of a successful Interception by a Fighter Complement is an Engaged result stopping the attacker.
 - ✓ This is the point to remember that Combat Orders are processed in the order listed. The Interceptors act automatically, taking the first comer and the second comer if they are able. They may be drawn off by smaller ships before the big ship punches through to attack the target. There is, of course, a cost to this and tactical circumstances where that option will not be available. And a tactical counter – an entire fleet can be set to protect one or two ships if they think the attacker is going after them.
- Nolo Contendre: Regular ships (incl. Carriers) and bases assigned to Combat Screen a target may not intercept attacking Fighter Complements. The fast, agile, numerous Fighters just spread out and go around the lumbering interceptor (like you trying to intercept a swarm of bees). Only Fighter Complements may intercept attacking Fighter Complements.
 - ✓ Massed fighter combats in space on the big screen have classically been portrayed as cavalry-like affairs where the forces charge at each other firing wildly, pass, come back around and do it again until the affair devolves in a big swirling dogfight between individual fighters.⁴ Other times, as in Babylon 5 battles, the fighter screens may pass through each other firing, then each proceed to attack the big capital ships behind the fighter screen. Critics of space-opera movies find this somewhat absurd, but this is what the participants will surely envision and GGDM's fighter rules are built on that premise. The main criticism of it all is that space fighters in movies act like aircraft on Earth, but still, it is difficult to imagine that tactics would change greatly or that fighters would just sit and shoot, even if they properly acted as spacecraft (e.g., Babylon 5's Starfuries).

“This paper extends its author’s earlier use of Joseph Tainter’s theory that a tendency toward diminishing returns on investments in complexity is the source of the collapse of complex societies to analyze the current trend of international economic life, and its implications for international security.

Specifically it contends that the post-World War II international economic order, particularly from the 1970s on, has grown increasingly complex (as the level of integration, information flows and the structure of economic activities indicate), while offering diminishing returns on that complexity, and with it, shrinking slack making for a system that is both more stressed and more fragile (evident in slowing growth and increasing indebtedness). The paper also identifies some of the possible causes for this trend (like technological stagnation and natural resource depletion).”

– Nader Elhefnawy (Miami-Dade Community College), Abstract of “Rising Complexity, Diminishing Returns, Shrinking Slack: Revisiting the Evidence,” pub. on SSRN, March 17, 2018 ⁵

Survey Says: The 2016 board game Blueshift (which also uses an abstract tactical combat system like GGDM) contains an *automatic* combat screening rule: Ships that hit in combat can only hit ships of equal or smaller size unless there are no remaining targets, at which time they may hit the next largest ship. Thus, small ships screen larger ships from other small ships, but not larger ships. The designer also collapsed the ideas of fighter carrier and troop transport into the colony ship, making a super-utility ship that can carry any combination of interceptors (i.e. fighters, cannot exist without a ship or planet) and infantry, up to four units, meaning it can sometimes be a carrier, sometimes a troop transport, or any range in between, and once or twice a game, it works as an actual colony ship at uninhabited planets.

- ✓ Imperium (1977), a Traveller RPG board game, required that each defending unit must be met by at least one attacker. After all defenders have been paired with attackers, if extra ships remain on either side, that side can use the ships to double or triple on any ships from the other side. Any ships not so used are considered ‘screened’ from the combat and may not participate in the combat or be attacked. Thus, unless forced to the line, carriers and troop transports may be screened automatically, or their owner may choose to risk them on the line to get extra attacks. Thus, the game provides for a limited *automatic* combat screening.⁶

‘Slack’ in the case of GGDM game design might be equated to the amount of complexity available for development by the participants through the story, while ‘efficiency’ then equates to the amount of complexity in the participant’s mental space and the game’s ‘Public Space’ that is already taken up by the rules such that the addition of in-game developed complexities is curtailed.

- ✓ Complexity may be an issue in boxed games, but slack is not generally – where the entire game exists within the box, there is no room for improvisation or in-game additions by players. Complexity vs. slack first surfaced as an issue in writing RPGs where the explicit intent of the rules is to allow players freedom to create and improvise; RPG adventures and source books always contain adventure ‘hooks.’

GGDM's combat screening rules, below, are much more complex. The question is, what was gained by additional complexity (being free of a tabletop game board) and do you think it was worth it? Are wooden, automatic rules better by being simpler? Is the option to choose not to combat screen, to go all in on the attack (which the Imperium board game, *ut supra*, allowed), is that flexibility alone enough to justify complexity? Is the ability to penetrate to attack combat screened ships worth the extra complexity (which Imperium did not allow)? Is the ability to intercept any size attacker better than the Blueshift rule?

Commodore Glen Van Ross: *I'll be a son of a bitch if I go to your funeral, Ty.*

Lt. Col. Tyrus Cassius 'TC' McQueen: *Yes you would sir. But we'll talk about your mother when I get back.*

[Colonel McQueen is about to go kill Chiggy Von Richtofen,
the enemy's ace flyer]

Priest: *Colonel. Colonel! Colonel McQueen! Do you need to make peace with your maker?*

Lt. Col. Tyrus Cassius 'TC' McQueen: *My maker was some geek in a lab coat with an eyedropper and a petri dish. What do I need to make peace with him for?*

Priest: *In times of war we must all make peace with our maker.*

Lt. Col. Tyrus Cassius 'TC' McQueen: *Well, I don't think our maker wants to hear from me right now. Because he knows I'm going to go out in this plane and I'm going to remove one of His creations from His universe. And when I get back, I'm going to drink a bottle of scotch as if it was Chiggy Von Richtofen's blood and celebrate his death.*

Priest: *Amen.*

– Space: Above and Beyond, “The Angriest Angel” (1996) ⁷

Dogfighting: Dogfighting is just “close in defense” combat between Fighter Complements. Opposing Fighter Complements only meet head-on during Combat Screening when one Fighter Complement intercepts the other (that is, when they are pinned down to attacking and defending a specific point in space).

- ✓ A Fighter Complement assigned to Combat Screen automatically Intercepts an attacking Fighter Complement, and since Fighter attacks are resolved first, this may soak off the Fighter screen for other attacks on the target later in the Combat Round.
- ✓ Combat Screening Fighter Complements may intercept up to two attacking Fighter Complements (i.e. *sorties*), and each will be separately resolved as a Dogfight, but the Screening Fighter Complement will be divided in half.
- ✓ Upon assigning a Fighter Complement to Combat Screen, the owner of the Fighter Complement may instruct that, in the case of a Dogfight, the Combat Screening Fighter Complement only engages in one Dogfight at full strength, thus giving up the “second intercept” ability for that Fighter Complement in the current Combat Round.

- **Two Eyes:** Dogfights are resolved in sorties; the RP value of the incoming Fighter Complement's sortie vs. the Intercepting Fighter Complement's sortie. Thus, a single sortie of intercepting Fighters cannot Dogfight both sorties of a Concentrated Attack from a single or combined Fighter Complement. However, it is possible that both sorties of a Concentrated Attack might be met – individually – by intercepting Fighters in Dogfights.
- **Four Fangs:** Fighter Complements engaged in a Dogfight automatically hit each other, it's just a question of damages. Each side rolls one ten sided die for every 10 RPs worth of Fighters *on their side* (i.e. not the value of opposing Fighter RPs like in Close-in Defense Fire) at the beginning of the Dogfight. The sum of the die roll results is the amount of RP damage done to the opposing Fighter Complement. Obviously, the larger Fighter Complement is usually going to get more die rolls and will probably do more damage (i.e. get in more licks). One RP of damage is added to each die roll by the higher Era fighters for every Era difference between the Fighter Complements engaged in the Dogfight and damage can exceed 10 RPs per roll (note, this is different than regular Close-in Defense Fire).⁸
 - ✓ For example, an attacking *sortie* of 50 RPs of 1st Era Fighters is met by a Combat Screening *sortie* of 30 RPs of 2nd Era Fighters. The Fighters automatically intercept, no roll is made to see if they hit (i.e. they automatically hit). Because of the automatic hit by both sides, the attacking Fighter Complement's attack on the target *is stopped* and diverted to the Dogfight. The attackers will get 5 die rolls for damage and the interceptors will get 3 die rolls for damage but add one to each die roll; each *attacker die roll* will do a minimum of 1 RP damage to the interceptors, each *interceptor die roll* will do a minimum of 2 RPs damage to the attackers.

“The most remarkable operational development of the [16th] century was the relatively abrupt change in the strategy and tactics of naval warfare, both of which had been relatively static for approximately 2,000 years. During those millennia, control of the seas had been exercised near the coastlines by war fleets of short-ranged row galleys. By the end of this century the row galley had been displaced in most parts of the world by sailing ship, with its heavy broadsides of long-range cannon.”

– R. Ernest Dupuy and Trevor N. Dupuy, The Encyclopedia of Military History, 2nd Rev. Ed. (1986), p. 448

Areal Weapons: A weapons system is designed to apply energy, mass or space change to introduce adverse entropic effects on the target.⁹

- ✓ “And even at this early date, we have an example of the timeless horror of new fighting tools, resulting eventually in the prohibition of the crossbow by several popes.... Despite this abhorrence of military change, no restriction has ever succeeded in abolishing a weapon which once proved its worth on the battlefield.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 134.
 - See related Montross feature quote regarding use of “poison gas” in WWII, 4 Combat, p. 997, *supra*.

Ninety-percent of the video-game and movie space combats are fought with massed fleets firing point-to-point weapons. It looks pretty on film. The underlying assumption of the game's combat system is that combats are fought using point to point energy or projectile weapons, and/or small area burst weapons.¹⁰ But suppose someone invented a weapon with an effective radius that covers a significant volume of system space; a weapon with a bursting radius of ten or twenty times the size of Jupiter or the Sun? That would swallow planets. Overnight, closely massed fleets (and planets) become a target, unless they have shielding or defenses.¹¹

“Areal” is an adjective form of “area” and thus means an expanse of space:

- ✓ Merriam-Webster online dictionary at *area*: **4**: a particular extent of space or surface or one serving a special function: such as: **a**: a part of the surface of the body, **b**: a geographic region.
- ✓ In 2011, the National Weather Service changed “area warnings” to “areal warnings” without comment.
- ✓ Merriam-Webster (*Id.*) also has an entry for “areal linguistics,” which is in the bottom 10% of words.

Thus, “areal weapons” seems like a good term for the significant space area burst (SSAB) weapons discussed here. In the volume of system space, a nuclear weapon, devastating on Earth, is just a firecracker. When filmed from space, a nuclear blast on the surface of the Earth is but a momentary point of light. One of the first areal weapons in science-fiction literature was the famous “Sphere of Annihilation” featured in Arthur C. Clarke’s 1951 short story, “Superiority.” The implementation of the Spheres did not win the war for Earth, it lost the war.

- ✓ The first rule of nuclear warfare is force preservation. Those on the ground cannot do anything about a nuclear weapon if it is not stopped in flight or before launch; for the local forces and civilians, it is simply best not to be there when it hits.¹²
- End of the Age of Sail: It is usually taught in grade school that the appearance of ironclad warships during the American Civil War (1860-1865) ended the Age of Sail’s (1571-1862, see Dupuy & Dupuy feature quote *ut supra*) broadside-firing, multi-mast warships. This is only true in the very final sense, but is a case of confusing cause with symptoms. The beginning of the end of the age of wooden ships began with the invention of the Paixhans gun in France in 1823, the first naval gun to fire flat trajectory shells; the Paixhans gun solved the problem of the shell fuse which was ignited upon firing and burned just long enough to allow the projectile to lodge itself in the side of a wooden ship before exploding.
 - ✓ Echoing Dupuy & Dupuy, the Paixhans gun might be the most remarkable development of the early 19th Century warfare! But the 19th Century saw many innovations.

It was at this point that metal armor became imperative, the French equipped the first ship with Paixhans guns in 1841, the U.S. Navy followed in 1845; in 1853 the Russians annihilated a Turkish fleet using Paixhans guns. In 1849, John Dahlgren in the United States improved the Paixhans gun’s range and accuracy with shells and the Dahlgren gun could also fire inert solid shot, which the Paixhans gun could not. In the intervening decades between the invention of the Paixhans gun and the American Civil War, steam power developed in parallel to the point of reliability acceptable in naval design so that sails could be entirely dis-

carded in new casemate and turreted ironclad warships. Naval gun turrets were invented independently in Britain and the United States in the 1850s, bringing together the elements leading to the ironclad revolution in naval warfare.

- Spinal Mounted Ship Weapons: Bearing – how many weapons can be brought to bear in any sector without moving – is an important consideration in warship design. Historically, the mechanical turret has supplanted the old style broadsides of the sailing era because of the turret’s economy of weapons bearing.¹³

- ✓ The transition to broadside-armed sailing ships marked the beginning of the naval warship as the most expensive and concentrated single unit of firepower in the military arsenals of the world, each was, in 17th and 18th Century terms, equal to a small or medium land fortification in most respects. That trend continues; for example, a new, small U.S. warship, the USS Little Rock II, cost \$440 million to construct and spent the first couple of months of its maiden voyage stuck in the ice in Montreal, Canada.

As such, most space-opera stories envision ship weapons that can fire in large arcs, sometimes using turret technology (some ships in Traveller used tracked turrets that could move around the ship’s hull), while most small fighters are made to fire forward only, but have agility and speed such that having only a single weapon bearing is not a liability in combat.¹⁴

- ✓ Weapons bearing is irrelevant to GGDM ship combat – which uses an abstract tactical system – unless players and the Concierge add something to the game where weapons bearing on ships matters.

Conversely, Traveller RPG imagined “Spinal Mounted Weapons” which were ship-sized weapons that formed the spine of the ship – that is, the weapon was built first, and then the ship was built around the weapon. In the case of Spinal Mounted Ship Weapons, which only had forward bearing on a limited arc, space warfare returned to the days of sailing ships, when the crew aimed the ship and the gunners fired the weapons. The most Traveller-like examples of spinal mounted weapons on the screen are the Wave Gun on the Space Battleship Yamato in Starblazers (both animated and live action versions), the main gun on the Battlestar Pegasus (note, a Carrier) in the reimaged Battlestar Galactica series (seen in the escape from New Caprica), and in Ender’s Game, where it was used to destroy a planetary civilization. Another variety of ‘focused beams’ ship weapon was shown on the Death Star in the original Star Wars movies and on the new Excalibur heavy cruisers in B5: Crusade.

In nearly all science-fiction settings where Spinal Mounted Weapons are used, they draw tremendous ship power and as such, firing them is either a one shot event, often leaving the ship disabled, or they fire continuously, but at a slower rate than conventional weapons, unless the ship is of a very high, usually ancient alien technology. This should be noted if players wish to introduce the concept to the game via Patent.

The Spinal Mounted Weapon may or may not be a Technological Device (TD) operational technology, as discussed in 2 Patents, p. 741, *supra*. A TD can be somewhat relative; the first of its kind might be a true TD in the universe, but the Third Imperium had hundreds of Spinal Mounted Weapons ships (and tens of thousands of other ships), built over centuries at dozens of huge naval ship yards. The Third Imperium in Traveller had over 11,000 colonized worlds and lasted over 1,100 years, so they had the economies of scale to build massive

fleets of such massive ships. The 1981 Traveller Supplement 9 Fighting Ships included the Tigress Class Dreadnought, a spherical ship – suspiciously Death Star-like except for the clunky looking propulsion and launch bays at the back – coming in at 500,000 tons, and spinal mounted with a pair of Factor-T Maeson guns (like an old Civil War monitor).

- ✓ As noted previously, weapons bearing is irrelevant in GGDM. However, the attraction of the Spinal Mounted Weapon (and Area Weapons) in GGDM combat might be their massive punch, for example, if the game technology develops to where units can take multiple hits from regular weapons before being destroyed or where Era multipliers and differentials become problematic.

Gunnery Chief: *This, recruits, is a 20-kilo ferrous slug. Feel the weight. Every five seconds, the main gun of an Everest-class dreadnought accelerates one to 1.3 percent of light speed. It impacts with the force of a 38-kiloton bomb. That is three times the yield of the city buster dropped on Hiroshima back on Earth. That means Sir Isaac Newton is the deadliest son-of-a-bitch in space....Damn straight! I dare to assume you ignorant jackasses know that space is empty. Once you fire this husk of metal, it keeps going till it hits something. That can be a ship, or the planet behind that ship. It might go off into deep space and hit somebody else in ten thousand years. If you pull the trigger on this, you're ruining someone's day, somewhere and sometime. That is why you check your damn targets! That is why you wait for the computer to give you a damn firing solution! That is why, Serviceman Chung, we do not 'eyeball it!' This is a weapon of mass destruction. You are not a cowboy shooting from the hip! – Mass Effect 2 (2010) ^{15, 16}*

Endnotes.

¹ Citation: See previous discussion of Combat Screening retreating Carriers and Tender starships, Carrier Operations, 1 Carriers & Fighters, p. 1050, *supra*.

² Commentary & Citation: The caracole cavalry tactic, in the modern usage, is a peculiar and debated development of the tactically fluid 16th and 17th Century land warfare in Europe. Most will not have heard of it, and it's not as exciting in movies as the full gallop, sabers-drawn, lances-down cavalry charge.

³ Commentary: It might be possible to develop types of Fighters that are superior at interception or attacking ships. Thus one 'buddy' carrier loaded with specialized Interceptor Fighters (superior closing speed and sensors) might protect itself and another Carrier that is loaded with anti-Ship attack Fighters.

- ✓ "The MiG-25's sustained speed of between 2700 and 3000 kph at altitude was equal to and above the short period sprint speed of any fighter – this is as true today as it was in 1972 when this remarkable aircraft entered full service." – from 2014 poster created by Bharat-Rakshak, an Indian Defense Forum (open intel).
- ✓ The MiG-25 is the classic example of the interceptor. Its game was speed and altitude, guided to the target by ground controllers. The cockpit had limited visibility, but the frame was built for speed and could outrun most missiles. The MiG-25 is obsolete now for many reasons, even in its photoreconnaissance role.

⁴ Commentary: The Battle of Angora in 1402 ending in a huge Ottoman rout by the Tartars, is the largest cavalry battle in history, with cavalry accounting for well more than half of the approximately 225,000 combatants. Imagine such numbers in galactic space-opera fighter battles? *Although this is more likely to be the scale at which interstellar empires wage battles*, it is rarely depicted (or anything even close) in space opera movies because of the limited human ability to *grok* such scale; the unmatched scale and numbers of combatants, material, and civilian victims of the two World Wars in the 20th Century were difficult for the people of the time to grasp. Then came the Bomb.

- ✓ “It was thus an enormous and polyglot host of Asiatic horsemen that Timur brought to the battle of Angora in 1402 against equal or perhaps superior numbers of Turks under Sultan Bajazet. Probably no greater cavalry battle has ever been recorded in history, for it does not appear that weapons of gunpowder had anything to do with the outcome. Timur virtually won the day by manoeuvre before striking a blow. After devastating the Turkish lands near Angora, he placed Bajazet in such a position that the sultan had to attack in order to secure water at the river Halys. His troops were half defeated by thirst as they went into action, both men and horses being tortured by the dust rising from the plain. Treachery played a part when a number of squadrons went over to the enemy, and the struggle ended in a disaster for Bajazet, who died in captivity.

So complete was the rout that the Ottoman state seemed on the way to a collapse as dramatic as its beginnings. Civil war followed invasion as Bajazet’s sons disputed for the succession, and rebellions of conquered subjects broke out in Syria and the Balkans. *The [Ottoman] empire escaped ruin only because of boons such as fate has seldom extended to a prostrate power.* Timur’s death three years after his great victory was followed immediately by the disintegration of his conquests. At this same period Christendom entered upon the Hussite crusades that were to drain the energies of eastern Europe for a generation. *The combination of these timely circumstances gave the next two Ottoman sultans a respite* which they used to advantage in building up a new tactical system. Fifty years after Angora the Turks were stronger than ever before, and Constantinople fell an easy prize to their great siege train.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 219 (emphasis added).

- ✓ According to Wikipedia article, “Battle of Ankara” (aka Battle of Angora, both Montross and Dupuy & Dupuy call it the “Battle of Angora”), the Ottomans had about 140,000 and the Tartars about 85,000. This is a reversal of the claim made by Montross, who indicated (above quote) that the Turks outnumbered the Tartars. Captured January 5, 2019. However, a significant number of Ottoman levies defected *en masse* to the Tartars during the battle.
- ✓ The Crimean Tartars remained a significant entity into the late 17th Century and played an important part in early modern Russian, Polish and Lithuanian histories.

⁵ Commentary: “Slack” in this case refers to the available resources to meet unexpected contingencies (“buffering capacity,” *Id.* at p. 5). Slack is the opposite of “efficiency,” see Joseph Tainter feature quote and Conquest by Entitlements, 5 Culture, pp. 429-430, *supra*.

⁶ Commentary: For the record, I did not read the Imperium rules until 2019 (bought the game at a silent auction for a couple of dollars in about 2015), about 25 years after Combat Screening was introduced into GGDM. But the concept was clearly out there before I bought my first wargames... though I do not remember playing any games in my youth that had anything like combat screening. I had not heard of Traveller RPG until at least 1986, possibly 1987; I started with the D&D Basic Set in about 1982.

⁷ Commentary: “Chiggy Von Richtofen” was the name the Humans gave to the alien enemy ace (you get the reference?). He was flying a prototype advanced alien fighter, probably the only one they had; probably intended as a reference to German *wanderwaffen* and an indication that the Chigs were starting to lose the war. The humans sent an *In Vitro* (i.e. artificially gestated humans, with no childhood) ace pilot of their own to destroy him. The episode is very existential.

⁸ Commentary: The primary memorable scene of the 1980 movie, The Final Countdown, is the sight of two Japanese Zeros (Second Generation Fighters) being buzzed and engaged by a pair of F-14 Tomcats (Fourth Generation Fighters) near Hawaii in December 1941. Downing the second one by gunfire, dogfight style, was unnecessary.

⁹ Citation: “The English were the last important European nation to adopt officially gunpowder small arms. After prolonged debate, a Royal Ordinance of 1595 banned the longbow as the basic weapon of the militia train bands. Each soldier now had to supply himself with an arquebus, caliver, or musket. This did not end the debate in England, however, since archers frequently proved that they could shoot faster, farther and more accurately than most musketeers.” – Dupuy & Dupuy, Encyclopedia of Military History (2nd Rev. Ed., 1986), p. 450.

- ✓ Likewise, the Native American bow, especially in North America, was superior to the European muskets initially, and was much more suited to the environment of the East Coast and Appalachian Mountain forests in the initial stages of the European invasion. Thus, in strict terms, success is not always (and not frequently) solely a result of superior weapons.

¹⁰ Commentary & Citation: It is not certain when the exploding artillery shell was invented, by whom, or under what circumstances. However, Christoph Bernhard von Galen, Prince-bishop of Münster, who became known as ‘Bombing Bernhard’ was rather enthusiastic about using them to accentuate the ‘word of god’ upon his enemies. He appears to have, from recent archeological finds (see Matthias Schulz, “Excavated Bomb Suggests Early Start for Artillery,” *spiegel.de*, June 17, 2011), had or invented the first ‘modern’ type of self-igniting explosive artillery shell, which he used enthusiastically to sow terror on Protestant dissenters in the early 17th Century, mainly in the Netherlands. Previous shells had to be lit manually, then fired out of a cannon or mortar, a very hazardous task.

¹¹ Citation & Commentary: **The War Doctor**: Don’t sit on that! It’s not a chair, it’s the most dangerous weapon in the universe! **Rose Tyler** (bad wolf avatar): Why can’t it be both? – Dr. Who, “The Day of the Doctor” (2013). The writers of the Dr. Who television series have been particularly prodigious in inventing various technological devices with near divine powers such as the Pandorica, The Reality Bomb, The Moment, and of course, the oddly sapient TARDIS, and creatures such as the evolved Daleks, Space Whales, the Ood, or the creature in the Pit – that are probably beyond the scope of the nascent interstellar civilizations in the game, and any similar sort of ideas should be introduced, if at all, under the *sublimely wise* control of the demigod Concierge.

- ✓ “The galaxy eater. The final work of the ancients of Gallifrey. A weapon so powerful the operating system became sentient. According to legend, it developed a conscience.... How do you use a weapon of ultimate mass destruction when it can stand in judgment on you?” – Gallifreyian General, “The Day of the Doctor.”

¹² Commentary: We knew it, anyone who had half a brain and gave it any thought knew it (not all Marines qualified for either criteria): Okinawa would be nuked if the balloon went up. If we were still there, we were all dead. It was the only chance the Soviets had in the Pacific – if they had any ambitions in the Pacific and the Pacific theatre is noticeably absent from 95% of Cold War fiction, much less WWII fiction. If it involved the ChiComs and Taiwan, we were dead for sure. The Japanese would be blamed afterward by the attackers for having U.S. military forces stationed in their territory. We were young, you shake off the thought and most of the guys buried themselves in partying on BC Street. A couple of them ended up in Naha Penitentiary for a long time.

¹³ Commentary: On land, the key weapons system advance of the early gunpowder age was the ... bayonet ... which allowed land units to instantly double or triple their combat power by replacing pike men with muskets while retaining the ability to defend themselves in close combat. Few other inventions in military history have instantly doubled the combat power of units, with the best candidates being the modern hand grenade and machine gun.

- ✓ On the seas, it was the mid-19th century invention of the turret which allowed ships to carry fewer and larger guns (the American Civil War Union monitors carried two 16 inch muzzle loading smoothbores that each fired a 400 lb. ball with 30 lbs. of powder and required steam power to load, shown in contemporary drawings of the inside of a turret), and bring all of them to bear on any target on either side of the ship, replacing static broadsides from the Age of Sail. Later in the American Civil War, the Union had four 16 inch guns on double turret monitors (i.e. industrial superiority), the ancestors of the early 20th Century seagoing turreted warship.

¹⁴ Commentary: The ultimate in star fighter agility on the screen was Babylon 5’s Star Fury; conversely, the Hammerhead fighters from Space: Above and Beyond series (1995-1996) featured a top-mounted remote turret gun.

¹⁵ Commentary & Citation: Or as we used to say in the Marines, an artillery shell in flight has the ultimate right of way. In England in 2019, two skydivers in freefall at 120 mph were almost hit by a pair of U.S. F-15s that passed under them at 345 mph.

- ✓ “U.K. Airprox didn’t specifically determine how close this near-miss was but said there was ‘Go-Pro footage filmed from the helmet of one of the parachutists’ that showed the jumpers ‘could clearly see the F15s passing beneath.’” – David K. Li, “Two skydivers in freefall were nearly hit by U.S. fighter jets,” NBC News, September 12, 2019.

¹⁶ Commentary: It’s odd that the Cylons never thought of this weapon, the Battlestar Galactica would have been riddled.

- ✓ The Concierge should consider potential ‘inadvertent’ and ‘accidental’ collateral damage to a colony planet and orbital facilities in any colony combat situation, especially if the colony’s defenses consist solely or primarily of Ground Bases and Orbital Bases. Because how can anyone be sure they aren’t just eyeballing it?

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See Appendix CEX – Combat Example
See Appendix CST – Combat Shifts & Situations Tables
See Appendix EPAT1 – The Existential Patents
See Appendix EPAT2 – Existential Patents Quick Summary

“Our scientific power has outrun our spiritual power. We have guided missiles and misguided men.” – Martin Luther King, Jr.

Torpedoes at Trafalgar: Ship Missiles are an Enhancement Technology that may be added to warships and Orbital or System Defense Bases (but not Ground Bases) after obtaining the Ship Missile Existential Patent. Ship Missiles are a one-shot, expendable Enhancement, which may be replaced by manufacturing and transferring missiles from a colony using activations of the Construction Power for Colony Enhancement (to build) and Ship Supply (to transfer). Log Ships may also carry replacement missiles which can be resupplied in combat (see Combat Resupply, 4 Movement, p. 868, *supra*). Ship Missiles do not gain from Era progression, like Fighters, new generations of missiles will be required for the 2nd and 3rd Eras via new Patents.

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Ship Missiles are measured in RPs, like Fighter Complements. Unlike Fighter Complements, a unit may fire less than its full Ship Missile attack in any Combat Round, until all are expended. A normal warship can carry Ship Missiles with an RP value equal to half of its basic construction cost (not total cost, see Laying Keel, 3 Construction, p. 675, *supra*) and Carriers can carry Ship Missiles equal to one third of their basic construction cost. System Bases have extra capacity, they may carry 30 RPs of Ship Missiles (equal to 2/3 of their basic construction cost).

- ✓ A 1st Era Log Ship can carry enough Ship Missiles to reload a 1st Era Warship.
 - ✓ As discussed in ABBA Arrival, 2 Information, p. 1340, *infra*, Ship Missiles will not automatically be detected by anyone seeing the ship, but may be detected if the other position engages in Surveillance at that location. Knowledge of the presence of Ship Missiles, even if not used in the Combat, may significantly affect the choices made.
 - ✓ Imagine if the Franco-Spanish fleet at Trafalgar had a few deck-mounted torpedo tubes of the WWI air-powered variety or WWII JFK PT Boat electric powered kind?
- **Fighters vs. Ship Missiles:** Fighters are reusable, but require special warships called Carriers (or a Colony) where they are based. Ship Missiles can be put on *any warship or base*, but are *one shot*. The combination of Ship Missiles and Fighters can be a deadly, expensive, tactic.
- ✓ Like gunpowder weapons, Ship Missiles may be the ‘great equalizer’; a side that is either inferior in technology or numbers may seek to temporarily equalize the situation with heavy use of Ship Missiles. This is a very expensive patch, and may harm the position developmentally in the long term. But can a position risk not having Ship Missiles in the arsenal? Can ships pass up the extra attack?

Ship Missiles are like shooting RPs at the enemy. Literally. Are they worth it? Do you fire all of your Ship Missiles in the first Combat Round? Because if their ship or base is destroyed, the unfired Ship Missiles are lost, wasted. Or do you spend all of those RPs on warships, bases, and technology instead? A fleet that fired all of its Missiles in the first combat (a Ship Combat) has lost significant ability, and may be at a disadvantage in the second combat. Do you target the enemy ships that you think are holding back Ship Missiles for a follow on Colony Combat or second Ship Combat? Dare you gamble with the fate of worlds?

- **First Fire:** A ship or Orbital or System Defense Base armed with Ship Missiles may fire some or all of its missiles at one or more targets in any Combat Round in addition to its regu-

lar attack or action (except Combat Resupply). Thus, a unit that is Combat Screening another unit or retreating, may fire Ship Missiles. Ship Missiles, however, do not execute their attack until the *end* of the Combat Round, *before retreats*. The unit firing the Ship Missiles does not need to survive the Combat Round for the missiles to attack (i.e. ‘fire and forget’).

There probably is no – or a very thin – realistic basis for resolving Ship Missile attacks at the end of the Combat Round; it’s mainly just a game tick to allow Engaged results to carry over. Participants who want to design Ship Missiles that attack with or before Fighters in the Combat Round should be cognizant that they are giving up the carryover ability.

- ✓ There are many ways to slice the pie; in the Traveller RPG board game Imperium (1977) ships have missiles, beam weapons and defensive screens. Missiles are the only weapon that can attack in long-range combat, where they are most effective, their effectiveness is (counterintuitively?) halved in short-range combat. However, as the first combat round is automatically at long range, a ship will always get to fire missiles at least once; in short-range combat, a ship destroyed by beam weapons, which resolve first, cannot fire its missiles before being removed (cf. in GGDM, Ship Missiles fire first). Further, to offset the Vilani superiority in ship missiles, the Earth player can build cheap missile ships¹ which, combined with the game’s tactical option of “high intensity missile fire” that expends all missiles in one shot for a double-strength attack, is a devastating first-round offset tactic against heavy Vilani ships.²
- Fire-and-Forget: Ship Missile attacks are resolved like Fighter attacks, including Effectiveness Rolls, except that Close-in Defense fires first, *unless* the target has already been Engaged earlier in the current Combat Round by Fighters or prior Ship Missiles.
 - ✓ Ship Missile attacks from each source against one target are *resolved separately*, as if they were a Fighter *sortie* (e.g., the 1979 movie Meteor), in the order listed in the Combat Orders; it will take missiles from two enemy units to instantly destroy an unengaged target. Ship Missile sorties may not make concentrated or combined attacks.
 - ✓ Missile RPs destroyed by Close-in Defense fire are removed *prior* to resolving the Ship Missile attack, but any remaining missiles will attack the target.
 - ✓ Successful attack results from Ship Missiles are cumulative with other successful Fighter/Ship Missile attacks; a previously engaged target can be destroyed.
 - ✓ A Ship Missile attack may Engage the target or destroy a previously-Engaged target, and, unlike Fighters, Engaged results from Ship Missile attacks *carry over to the next Combat Round to the end of the Fighter attacks resolution* (i.e. not to the end of the Combat Round, not to the next Ship Missiles resolution or retreat attempts).
 - ✓ As Ship Missiles destroy themselves in the attack, there is no Close-in Defense fire after the attack; units that were Engaged before the attack will not get any Close-in Defense Fire against Ship Missiles.
 - ✓ *Ship Missiles may never use Enlightenment!* (duh!) But that’s negotiable, of course.
 - ✓ *Ship Missiles may never be used against Ship Missiles or Fighters.* But that can be fixed, of course. It is possible to develop variant Ship Missile technologies.
- Already Engaged, Don’t Ask: The owner of the unit engaged by Ship Missiles at the end of the Combat Round will know on the beginning of the next Combat Round that the unit begins Engaged already. This likely will affect what that unit does in the next Combat Round,

as first, its chances to hit are reduced by being Engaged, and second, any successful attack by Fighters in the Combat Round will destroy the unit that began Engaged. Combat Screening the unit may not be an option, but then again, neither might charging after a Carrier or other unit that it likely to be screened an option, unless there is no choice.

- ✓ Because Ship Missiles attack at the end of the Combat Round, there are two situations in which they should be used: 1) if the firer thinks that the enemy ships will likely survive the round and try to retreat, and the firer doesn't want them to get away, and 2) if the firer thinks the combat will last more than one round or will continue into the next round. Ship Missiles are less effective if the Combat ends in one round or ends on the round they are fired, with all units of a side destroyed. Judgment calls. Risks.
- Flying Telephone Poles: Ship Missiles may not be fired at Fighter Complements. But Fighter Complements assigned to Combat Screen the target, may, at the option of their owner, be preassigned to intercept incoming missiles during the round. This intercept is resolved at the end of the round, instead; Fighters not preassigned to intercept Ship Missiles may not attempt to do so. Fighters will automatically intercept missiles, and will damage missiles as if they were in a Dog Fight. The missiles will do no return damage to the Fighters. However, unlike a Dog Fight, *any missiles not destroyed by the Fighter interceptors will go on to attack the target* at the end of the Combat Round.
 - ✓ For example, a 1st Era Fighter Complement with a 20 RP sortie is assigned to Combat Screen a ship against Ship Missiles. A sortie of 20 RPs of 1st Era Ship Missiles targets the screened ship. The Fighters will automatically intercept the incoming missiles (i.e. automatically hit), and will receive two damage rolls against the incoming missiles, and will probably destroy about half of the missiles on an average result. The missiles will do no damage to the Fighters in return, but the remaining missiles will continue on to attack their target (as a Fighter attack).

Since Ship Missiles are fired by **ships** (and other units) *after* all Fighter actions are resolved in the Combat Round, the Fighters assigned to Combat Screen a target against Ship Missiles may not simply switch to normal Combat Screening if no missiles are fired at their protection target. A game of rat and dragon is at hand!³

- Missile Ships: It is possible to build ships whose main and superior function is to launch massive missile volleys. It is possible to build a tactical system around heavy use of Ship Missiles; such ships would need to fire all in the first round and would be viciously targeted by the enemy. Gunnery is obsolete, most of the modern naval dirty work is done by missiles.
 - ✓ The most impressive missile ship was the Abh Flagship during the Battle of the Aptic Gate episode of Banner of the Stars. The Abh Flagship looked like a long vessel with curved sides, but near the end of the battle, the curves opened up into long arms (like a flower) and when fully extended, began rapid firing tens of thousands of missiles from the front of the arms, flooding through the Sord (planar gateway) to hit the exhausted enemy fleet. This is industrial warfare, like the Katyusha rocket launcher.
 - ✓ It appears that the last hurrah for big naval guns was the (mostly inaccurate) firing of the USS New Jersey's 16-inch salvos off the coast of Beirut, December 1983 in defense of U.S. Marine positions. In a combined WWII game of Hunt for Red October and Red Storm Rising, NATO engaged the Soviet Baltic fleet in the Straits of Denmark trying to prevent their breakout into the North Sea. A retired U.S. Navy gaming

friend (a torpedo man) described the battle as a “knife fight in a phone booth” due to the power of modern warships’ missiles and the constricted combat area.

“Despite Operation Praying Mantis coming to a close less than 24 hours after beginning, one tragic event that followed it would forever mar the naval success. Following the operation, US guided missile cruiser the USS Vincennes was deployed to the Gulf to protect the USS Roberts until it could be towed into a friendly port for repairs. On July 3 of that year, the Vincennes detected an Iranian fighter jet flying toward it. The captain ordered it shot down. The identification, however, was mistaken. The USS Vincennes instead shot down Iran Air Flight 665, which was carrying 290 civilians on board, killing them all.”

– Michael Omer-man, “This Week in History: Iran, US battle on the seas,” The Jerusalem Post, April 15, 2012

Air-Missile Battle: A reading of the various engagements between the U.S. Navy and the Iranian Navy in the Persian Gulf in 1987-1988, especially the major air-naval engagement during Operation Praying Mantis, shows that the major deficiency of Iranian naval ships was a lack of missile and air defense and subpar radar. The Iranian frigate *Sahand* was sunk by six or seven near simultaneous hits from Harpoon and Skipper missiles and the *Joshan* took four near simultaneous hits from Standard missiles, in neither case were any of the missiles blocked. The overkill suggests the U.S. Navy was not aware of the lack of missile defenses on Iranian naval ships.

Iranian attempts at asymmetric response were largely ineffective in the big picture (e.g., dispatching speed boats to attack a supply ship, oil tanker and an oil rig) and their minelaying activities beforehand only triggered the entire situation by damaging a US navy ship.

- ✓ A distinction must be made between the Navy of the Islamic Republic of Iran Army, which operates more or less as a regular navy (despite the name) and Navy of the Islamic Revolutionary Guard Corps, which consists of fast attack boats, and specializes in asymmetrical operations at sea, such as hit and run, raiding.

This is not to discount the vast material and technological superiority of their U.S. opponents (missiles launched by the Iranians at U.S. Navy Ships were ineffective, for example, the *Joshan* fired a Harpoon that was lured away by chaff rockets and coastal-based Silkworm missiles missed as well), but the Iranian additional attempts at conventional engagement by regular Iranian naval ships was uncoordinated, haphazard and without reconnaissance or proper air support, contributing to their biggest losses: one frigate damaged heavily and another sunk.⁴

“In a predawn raid against Tharaa-bu starport today, forces of Duinor’s Ilelish Federation inflicted serious material damage and heavy casualties. Unlike previous deep-penetration strikes against Lucan’s Imperium, Dulinor’s raiding force on this occasion is said to have consisted exclusively of escorts and support craft (under 1000 tons). While some ground units were landing in support of the assault, unofficial reports suggest that these were forward observer/target designator teams. This hypothesis is supported by the extraordinary first-round accuracy of the orbital bombardment munitions.”

Official spokespersons for Lucan’s Imperium claim that the majority of strikes were purposely targeted on populated areas, but independent observers suggest that most civilian losses were the result of collateral or spill-over damage. Lucan’s spokespersons also state that this bloodthirsty massacre offers proof positive that Dulinor has no concern for the safety or welfare of civilians, and that he is unremitting in his efforts to reclaim the Irridium Throne.... Drawing comparisons with the hit-and-run tactics that characterized the ruinous yet inconclusive Fourth Frontier War, this senior analyst expressed concern that with conquest now beyond logistical possibility, faction leaders might be resorting to tactics stressing the widespread destruction of enemy resources and transportation nexuses.”

– Traveller News Service (Traveller RPG), Imperium Date 306-1122

Black War: The raid on Tharaa-bu starport in the Traveller Third Imperium civil war marked the beginning of the Black War, the point *where no one could win, but everyone could lose and could make sure that everyone else lost too*. The Virus finished the job, everyone lost. Raid and Strike Combat (*ut infra*) is the preferred method in those types of wars when few large units are left on either side to do battle conventionally.

[Interview] **Chris Wren:** *He [Winston Churchill] asked [Air Marshal] Park how many squadrons we have in reserve. The answer was none. Everything was committed to the afternoon raid.*

Narrator Struan Roger: *Park, later described as a man who could have lost the war in an afternoon, has sent every available squadron into action.*

– Chris Wren, Curator RAF Operations Room, Uxbridge, 13 Hours That Saved Britain (documentary, 2011)

World in Flames: Raid and Strike combats are Fighter attacks, *from a Carrier or colony*, against civilian ground and orbital population and facilities without the need for Orbital Bombardment. *Only Fighters* may execute Raid or Strike Combat. Raid or Strike Combats, including against Conquered or Converted Colonies, requires a separate activation of the Combat Power to initiate combat and the units performing the Raid or Strike cannot be involved in another ongoing Combat, even against the target colony. All Raids or Strikes last one Combat Round and are thus completed at the end of the first Combat Round, freeing the attackers from commitment. Raid and Strike are very similar actions and thus are grouped here. The attacker must specify in their Combat Orders whether the attack is a Raid or Strike.

- ✓ Raid Combat targets *civilian population and civilian facilities* on/under the surface.
 - “Raid,” as used in GGDM, is in the 20th Century sense of an air raid, not a raid of pillage, e.g., Looting, see 3 Commerce, p. 1210, *infra*.
- ✓ Strike Combat targets *civilian orbital platforms* at the colony.

Thus civilian targeting distinguishes Raid/Strike Combat from normal Fighter attacks on Defense Bases in Colony Combat. Those are not treated as Raid/Strike Combats.

- ✓ Colony-based Fighter Complements can raid/strike colonies sharing a Balkanized planet or possibly carry out interplanetary raid/strike. The effectiveness of the latter is dependent on technology and assumptions; whether the fighters have to spend

months or a year flying to the target or whether in-system speed is such that the trip can be made in a few hours (like WWII) or even minutes (it takes light 3 minutes to reach Mars from Earth, whereas radio lag is 6 to 24 minutes).

As in Orbital Bombardment, the Native Population Type of the colony targeted by the Raid or Strike is irrelevant; however, there may be other consequences regarding legitimacy. See *The Bomb*, 2 Combat, p. 962, *supra*. Also, on a Balkanized planet surface, Raids may hit (accidentally, I am sure) other colonies, *Id.* p. 963. Doesn't make the victims feel better, though.

- ✓ Units involved in a combat cannot do anything else until one side is either completely destroyed or retreated (ending the combat), or the unit has successfully retreated from combat. Thus, attacking units in a Raid or Strike Combat cannot be involved in another combat even if there is an ongoing Ship or Colony Combat. The defenders however, of existential necessity, may and must defend against the Raid or Strike even if currently engaged in a Colony or Ground Combat at the target colony.
- ✓ Range is a killer; enormous, heavily armed Zeppelin airships were able to bomb England with near impunity with the assistance of gravity from January 1915 to early 1916 because Zeppelins flew higher than biplane fighters and just at the edge of ground anti-aircraft fire range. LZ-37 was shot down over England in June 1915 and from then on, Zeppelin raids became more costly for the Germans due to improving biplane interceptors and incendiary ammunition until discontinued in October 1916. Improved defenses forced the next strategic evolution. In May 1917, after a six month lull, the Germans took the next step, bombing England with enormous biplane bombers (Gothas, then R-Planes) in combination with resumption of Zeppelin raids.
- Collateral Issues: Civilian installations can include Technological Devices, Colleges, Institutes, and Corporate or MegaCorporate Headquarters hosted on the colony surface, as well as, the usual Industry. Industry and Technological Devices might be destroyed. However, because of what is represented by Colleges, Institutes and Corporate/MegaCorporate Headquarters in GGDM, these should never be allowed to be destroyed by anything that doesn't also eliminate the entire host colony, probably hits on those installations should result in a one Regular Turn suspension of the associated College, Institute, or Corporation.

It is perhaps artificial or unrealistic to allow Ground Units and Ground Bases at the colony to escape damage from Raids. This is up to the judgment of the Concierge and participants. Some installation hits could be converted to RPs damage to Ground Units or Ground Bases and some population losses could be converted into either population loss or RP loss in Ground Units, if the colony is not currently engaged in a *Ground Combat*.

- ✓ The primary purpose of the Raid/Strike rules in GGDM was to provide a mechanical outline for strategic, total warfare non-Orbital Bombardment attacks on civilian targets, as distinguished from tactical Fighter attacks against units during Colony or Ground Combat or destructive Black-ops (see 2 Special Operations, p. 1297, *infra*).
- Do-Little: Upon initiation of the Raid/Strike Combat, the owner of the target colony will be informed. There is very little for the defender to do, no Combat Orders to issue (Combat Screening is automatic, next page, *ut infra*) so the only decision to be made and timely communicated to the Concierge is whether or not the Defender is using Enlightenment in de-

fense. No Power activation is required to use Enlightenment *in defense*. Enlightenment cannot cause the enemy to reroll successes (see Army of Light, 2 Colleges, p. 479, *supra*) but can contribute to reducing incoming Fighters, mitigating damages, or causing greater damage to the attackers. The defender will not be informed if the attack is a Raid or Strike.

- ✓ Timing is key within the Regular Turn Cycle. The Defender should not be allowed to delay responding regarding Enlightenment commitment so that they can take their next Regular Turn before the Raid/Strike is resolved, but should have 24 hours to respond if possible depending on the timing of the attack whereas the attacker should also carefully consider the timing of the Raid /Strike combat initiation. Attackers may want to attack either before or immediately after the target's Regular Turn, and may use Combat Alert, see DefCon 1, 1 Combat, p. 946, *supra*, to Initiate Combat.
- Hammerheads Rising: Any colony that is the target of a Raid/Strike Combat will automatically be Combat Screened by the Fighter Complement based on the colony, unless the Fighter Complement is currently issued other Combat Orders. If the Fighter Complement was assigned to Combat Screen anything in orbit at the Colony, it will automatically Combat Screen the colony instead. However, if the colony-based Fighter Complement is participating in a Ship Combat or attacking targets in a Colony or Ground Combat, it will not automatically Combat Screen the base colony. If friendly Carriers with Fighter Complements are currently in the system and are not involved in Combat, Fighter Complements from the ships may be assigned to Screen the colony, even if it has its own Fighter Complement.
 - ✓ The potential strategic threat of a Raid/Strike by units not involved in an ongoing Ship or Colony Combat may prevent colony-based Fighter Complements from joining or initiating Ship Combat in friendly systems.
- Areal Knights: Colony-based Fighter Complements may Intercept and Dogfight (see 3 Carriers & Fighters, pp. 1069-1070, 1072, *infra*) incoming attackers before Close-in Defense Fire. The Dogfight is resolved as normal, except that any surviving attackers will continue the Raid/Strike attack after the Dog Fight, penetrating to the colony to deliver their deadly cargo.
 - ✓ Although participants might envision WWII bombers escorted by fighters over Germany or Japan, it is more likely that the Raid or Strike is being carried out by the space-going equivalent of 'jet bombers' (the first U.S. Jet Bomber was the B-47) or regular space fighters with nuclear missiles. Positions can develop Patents to build specialized Fighter Complements for the purpose of Raid/Strike Combats. Raid/Strike is a situation more likely to involve nuclear warheads (or worse).⁵
- Under Your Desk: After all Interceptions and Dogfights are resolved, each Orbital Defense Base has a 40% chance of firing at the attacking Fighters, and if able to fire, may execute *one* Close-in Defense Fire. This is different from normal Close-in Defense fire – one attempt is not made for every 10 RPs of attacking fighters, instead, each firing Orbital Defense Base gets one attempt regardless of how many Fighters are attacking. Era shifts apply. On a success, 1d10 RPs of attacking Fighters are removed *before* they can execute the Raid or Strike.
 - ✓ Example, a target colony has ten 1st Era Orbital Defense Bases. On average, 4 of the Orbital Bases will be able to fire once each at the attacking 1st Era Fighters in a Raid or Strike. Each will destroy 1 to 10 RPs of attacking Fighters before they execute their Raid or Strike mission. On average about 20 RPs of Fighters will be destroyed.

- ✓ If a Raid originates from the surface of the same planet, as on a Balkanized world, the Concierge may determine that Orbital Bases are unable to fire at the attackers.

System Defense Bases are considered too far out to affect Fighters executing a Raid/Strike; System Defense Bases are mainly intended to defend against enemy warships and Fighters (an areal phenomena) can go around them. Ground Bases are too close to the target to be effective, though they do play a role in this process later.

- ✓ Envision this: A group of attacking Fighters in a Raid Combat approach the north polar region from the dark side of the planet, cross the north pole and proceed down the northern hemisphere on the daylight side where they launch their missiles. Many of the Orbital Defense Bases in the northern hemisphere might be able to fire at them, but those in the southern hemisphere down to the south-polar region probably cannot fire at the attackers. Even those located around the equatorial region would not have much of a shot. As Orbital Defense Bases are a *cordon defense*, this is to be expected, see Defending the Nothingness discussion, 2 Combat, p. 956, *supra*.
 - ✓ “The term cordon is used to denote every defensive plan which is intended directly to cover a whole district of country by a line of posts in connection with each other.... It is evident at a glance that such a long defensive line as that must be, which is to cover an extensive district of country directly, can only have a very small degree of defensive stamina.... The object of a cordon can therefore only be to resist a weak blow, whether that the weakness proceeds from a feeble will or the smallness of the force employed.... This defensive measure is chiefly designed as an impediment to raids, and other such minor expeditions directed against single cantonments, and for this purpose it may be quite sufficient if favored by the country.... The assembling and advance of the enemy’s army itself can never take place so unobserved that the defender gets his first information of it through his outposts; when such is the case he is much to be pitied.” – Carl von Clausewitz, On War (1832).
- Fire Fall: After Orbital Defense Base Close-in Defense, the attackers proceed to their target.
- ✓ If the attack is a Strike, the attacking Fighters must have had assigned in the Combat Orders specific civilian orbital platforms (i.e. Orbital Cities, Orbital Shipyards or Keels) as their target and the Fighter Attacks are resolved normally against those targets. After the Fighter attacks are completed, the Fighters return to their origin (or to a safe landing place) and the Strike Combat is over (automatic retreat). Era Shifts are applied using the current Era of the Colony Defenses and *civilian target shifts* also apply (see Colony Defense Era Upgrade, 2 Combat, p. 954, and Combat Shifts and Civilian Targets, 3 Combat, both p. 978, *supra*).
 - Engaged results matter little in Strike Combats, therefore, it is probable that the Fighters will use Concentrated Attacks against civilian orbital targets to achieve destruction of the targets. Failure to destroy the targets could be a result of any combination of losses from enemy fire and fighters, area denial around the target, Era shifts, or poor effectiveness.
 - ✓ If the attack is a Raid, each 5 RP of Fighters remaining destroys 1-3 population or 1-3 *civilian* installations on the target colony. The chance of destroying either population or installations is even, a roll is made to see what is hit (50% chance of either) and

- then to see how much is destroyed. If installations are hit, the destroyed civilian installations are determined randomly, unless the attacker has developed some ability to target specific installations (e.g., Special Operations Reconnaissance or Black ops, technologies, doctrines like the Tharaa-bu starport raid feature quote, p. 1084, *ut supra*). Without developing special ability to do so *and* advanced intelligence on the target (and/or someone on the ground to paint the target with a laser, e.g., Battle: Los Angeles (2011)), the attacker may not specify which installations are being attacked.
- When there is a 50% chance of either hitting population or industry, there is no ‘failed roll’ condition that will trigger an Enlightenment reroll if any is available. If positions, however, develop technology or doctrinal abilities that will allow greater percentages favoring targeting either one, then Enlightenment rerolls might be possible. On the second roll option, if Enlightenment is available, any result of less than 3 would trigger a reroll (see Harsh Mistress, 2 Colleges, p. 478, *supra*).
- Giv’n Them Some Flak: But hang on just a frakk’n millicenton! It ain’t over ‘til we kick your tails – till the fat lady wails! After the damage from the Raid has been determined, there is a 25% chance that each Ground Base at the colony will be able to fire Close-in Defense at the attackers in the same way as the Orbital Bases did previously (p. 1087, *ut supra*). Era shifts apply based on the current Defense Era of the colony. For every 5 RPs of attacking Fighters destroyed in this way, there is also a 50% chance of negating one of the Raider’s hits (chosen randomly). This does not apply to Strike combats.
- ✓ Consider your average WWII strategic bombing movie scene. By the time the ground flak opened fire on the bombers and fighters, they were already over their targets or nearly there, and dropping their bombs. Thus, most of the ground flak wasn’t necessarily about preventing damage (if you want to do that, you need interceptors), but about inflicting damage on the attackers while they were massed over the target (e.g., the Schweinfurt-Regensburg Mission, August 17, 1943, and the Second Raid on Schweinfurt, October 14, 1943 (“Black Thursday”) both of which suffered heavy, near catastrophic combined losses from Luftwaffe fighters and anti-aircraft fire).
 - There is a tactical peculiarity here: Colonies that lack Fighters or Orbital Defense Bases, but use Enlightenment, have a better chance of those rerolls being applied to the Ground Base flak after the Raid.
 - ✓ What goes up does mostly come down also... dozens of civilians in England in WWI were injured or killed by falling shrapnel and bits from intense anti-aircraft fire.
- Collateral Damage: There is room for interpretation here; the numbers above are just baseline numbers so that the game can proceed smoothly. If the colony is newly established, or the population is low compared to the Maximum Habitability of the planet (e.g., grapevine colony) it is more likely that the population is concentrated in one or two urban centers and the ground defenses are all at the target of the Raid. If the planet is Unpleasant, Hostile or Uninhabitable to the Native Population Type of the target colony, it is also likely that the population and defenses will be concentrated in environmentally-controlled areas. The percentages can thus be slid up and down the scale depending on judgments, the Concierge may use Interventions. This relates to the Frontiers discussion, 1 Expansion, p. 887, *supra*.

- ✓ A debate of Interstellar War II is whether the Nippon fleet commander should have sent a third wave of raiders at the United Stars of Andromeda colony at Pearl Harbor.

It is possible to eliminate a surface colony by Raid damage and population and installations on Orbital Cities destroyed by a Strike are lost. For each *surface* population or installation lost due to Raids, there is a 50% chance of the planet losing one Maximum Habitability and a loss of one Habitability Class for every 20 population reduction in Maximum Habitability (like Orbital Bombardment, In This Dust That Was a City, 2 Combat, p. 961, *supra*). As these are not combat rolls, Enlightenment committed to defending against a Raid cannot be used to reroll. Losses from Raids/Strikes are a Disruption Event (see Mars Bombing Run, 2 Disruption, p. 274, *supra*) at the target colony, and may cause loss of government legitimacy.

- ✓ There are a multitude of variables to consider, and thus, the Concierge must be able to adjust the percentages, inserting *human judgment* into this process. The baseline assumption is that the attackers are using the most suitably destructive weapons in their possession; this assumption is also made for Orbital Bombardment Combat and Ground Combat. Positions can develop technologies/doctrines to change the percentages and outcomes; the neutron bomb was designed exactly for this purpose in the early 1960s and soon design programs were in progress to fit it onto a Lance Missile and a 155mm nuclear artillery shell. Also note the vulnerability of CET surface colonies to Raids; a factor used in Babylon 5 television series when Earth Forces bombed the colonies on Mars triggering the Earth Civil War in “Severed Dreams” (1996).
 - Human judgment by the Concierge in GGDM – critical to so many aspects of the game (e.g., see Special Operations generally, *infra*) can be analogized to the home plate umpire in baseball. Sometimes the strike zone is wider than other times; sometimes umpires make mistakes. People get mad about balls and strikes calls. Sometimes people have argued that umpires favor established veteran pitchers. Some have advocated having a computer system call the balls and strikes. A review process was installed to challenge other sorts of plays, mainly outs on the bases and homerun reviews, but balls and strikes are not subject to challenge or review in the game. Others, mainly the old-line baseball people, want the human element to remain in baseball and argue that it evens out over time.
- Vengeance Weapons: Ship Missiles may be fired at colonies in lieu of or in addition to Fighters in Raid and Strike Combats. As noted on p. 1082, *ut supra*, Fighters assigned to Combat Screen automatically intercept Ship Missiles *if* they have been preassigned to that task. If the Raid or Strike is being carried out solely with Ship Missiles, the Combat Screen will automatically be designated against Ship Missiles, but if both Fighters and Missiles target the colony, the defender will need to designate whether each sortie of the Combat Screen is being directed to Fighters or Ship Missiles. Other than that, all other rules (*ut supra*) for Raid or Strike Combat remain the same with regards to Ship Missiles (except that none of the missiles are coming back, thus they don’t execute a ‘retreat’).
 - ✓ Cycling back to the beginning of this discussion, participants may ask why Raids and Strikes cannot be initiated by units engaged in Ship Combat in system space or Colony Combat at the target colony? Especially if Ship Missiles are being launched? Or like troops landing for Ground Combat one Combat Round after they join a Colony

Combat? I flip-flopped and waffled on this point (but did not wassail) several times (in the contemporary North American meaning of President Bill Clinton who-did-not-inhale fame⁶) and decided to take the conservative route of keeping the combats separate and requiring a Combat Power initiation. Highly trained forces may develop the ability to conduct integrated combats in GGDM, but that is an in-game development.

[A B-47 completes a high-altitude training atomic bombing run,
a group of men are gathered in a shed, on a rainy night]

Civilian: *You mean this city has been wiped out theoretically in a storm by a bomber we didn't even see or hear?*

Air Force Officer: *Sure, with radar, weather's no problem. We've been bombing cities every day and every night all over the U.S., only people never know it.*

– Strategic Air Command (1955)⁷

The First Cold War Calculation: The problem with arguments about dropping the bombs on Hiroshima and Nagasaki is that doing so didn't win the war for the Allies, so no one can argue that we needed to do it to win. No, the Allies had already won the war, Germany had surrendered, Italy had surrendered, the Japanese military had been defeated conventionally at great cost to both sides and there was no existential threat to the United States or to anyone but Japan. It was only a matter of time for Japan, and the question was how much time and at what cost to both sides, and to the civilian population. It was about enforcing the Potsdam Declaration issued eleven days earlier. The decision to drop the bombs was the first *Cold War* calculation.

- ✓ There is an argument that the success of the Japanese defenders on Okinawa led U.S. planners to rethink an invasion of mainland Japan. In a legal case, this would be called 'blaming the victim' but military history is not a fair exercise, neither is war. Historical fairness should not be confused with intellectual honesty: how can you be intellectually honest about history (or anything) if you have predetermined to be fair?

Stratofortress: There is probably no greater symbol of the Cold War than the Killer Bs – the B-52 (1955), Bear (1956, Soviet Tupolev Tu-95), Backfire (1969, Soviet Tupolev Tu-22M), and later, the B-1 (1986), all global-range, strategic jet bombers capable of massive nuclear destruction. All remain in service in significant numbers, despite being superseded by later aircraft with new capabilities; existing units of these aircraft have been upgraded several times.

Air warfare has advanced with stunning rapidity through several stages in just a century; comparable development of land or naval warfare required millennia. It would thus be unhelpful and incorrect for participants to envision Raid/Strike Combat in the manner they may have seen in WWII movies or in certain cheesy 1970s and 1980s sci-fi movies and game box covers, in the same way that it would be unhelpful and inappropriate to envision GGDM Ground Combat as being like 17th Century linear warfare or Ship Combat as being fought by galleys or galleons.

- ✓ See discussion of linear warfare, *Shoulder to Shoulder*, 4 Combat, p. 985, *supra*.

Rather, it is possible, and likely, that fighters engaged in Raiding may launch their missiles and bombs from the upper atmosphere, or orbit, or from even farther out, and that perhaps, the Close-in Defense Fire is actually (in part) against the incoming missiles.

- ✓ Further, see Areal Weapons discussion, 3 Carriers & Fighters, p. 1073, *supra*.

- ✓ In the first hours of a Cold War Era global nuclear war, more people will have died than in WWI and WWII combined as the world’s 500 largest cities are destroyed. It is the definition of humanity insanity, “racial seppuku” (Norman Spinrad⁸[Full Quote]).

[At the briefing for Air Force men being given at Boeing plant in Seattle]

“These are pictures of the B-52 Stratofortress. It’s the biggest jet bomber in the world. It can reach any target in the world. It can fly over six hundred miles an hour, over eight miles high, and over six thousand miles distance without refueling. On a single mission, one of these airplanes – Just ONE – can carry greater destructive force than that of all the bombs dropped by the entire Allied air forces during the whole of World War Two.” – from Bombers B-52 (1957)

Endnotes.

¹ Commentary: ...with no beam weapons and little defense, probably crewed by convicts and political dissidents.

² Commentary: The game caps missile strength which favors small ships. GGDM does not.

³ Commentary: A TV series or movie based on Cordwainer Smith’s “A Game of Rat and Dragon” (1955) would be an interesting project in the right hands. The ultimate question to be answered is the origin and purpose of the Dragons. It would also allow the development of animal characters nearly equal to human characters in a non-fantasy setting (something like Homeward Bound (1993)) and without resorting to anthropomorphic aliens derived from Earth animals. The story is available for free on Project Gutenberg in many formats or can be read online.

⁴ Citation: Information from Wikipedia articles, especially “Operation Praying Mantis,” October 21, 2018 reinforcing my recollection of news reports at the time.

⁵ Commentary: In the original Battlestar Galactica series (1978), Cylon bombing of the colonies was done by dropping “Cobalt bombs.” Although the bombing scenes were visually underwhelming, the intended reference of “Cobalt bombs” is likely a reference to the “cobalt-thorium G” doomsday shroud discussed in Dr. Strangelove (1964) (the writers may have assumed the audience would get it). In the reimagined series, the Cylons clearly used thermo-nuclear weapons, but instead of just being a visual upgrade from the original series, it also provided an early plot point when No. 6 somehow saved Baltar from the nuclear blast (without nuking the fridge).

- ✓ The Cobalt Bomb was first proposed publically in 1950. It is also referenced in Beneath the Planet of the Apes (1970). It was always seen as the ultimate absurdity, suicide pact of nuclear weapons technology.
- ✓ The Cylon Attack on Los Angeles (Galactica 1980) was even cheesier, a few Cylon raiders strafing like a WWII fighter, and couldn’t hit anything but cardboard buildings, no bombs. If their energy weapons could cause partial collapse of buildings, why was no damage done to the streets when they tried to strafe cars (which they couldn’t hit, even sitting still), or to the people running away? Where’s the safest place to be during a Cylon attack? In your car sitting in the middle of a street on a sunny day. Anyway... moving on.

⁶ Commentary & Citation: However, with regards to GGDM as a whole, some might say I waffle in the British meaning as well; Merriam-Webster online dictionary at *waffle* (v): **2**: to talk or write foolishly: blather or at *waffle* (n): empty or pretentious words: tripe.

⁷ Commentary: I watched this movie sometime in the early 1980s on an over-the-air PBS station from Scranton, PA (but now you need a paid subscription online to watch it!). This is the only dialogue from the movie that I remembered 35 years later, *it was the most important scene of the movie to me*. I had to watch it again recently to get the exact words, the scene occurred much later in the movie than I remembered. I also recall my mother commenting about how the married couple had separate beds (there is a background view of their bedroom through an open door showing two hotel-like beds) and that June Allyson was never shown pregnant, which was typical of 1950s movies.

⁸ Citation: Discussing We Who Have Gone Before, the ancient alien race that invented the Jump Circuit FTL drive: “‘Mon cher Maddhi,’ Lorenza said indulgently, ‘they are by their own admission gone, ne, and we by our own admission are here. Racial seppuku may be an aesthetically pleasing fini, but does it not take a peculiar aesthetic indeed to take it as triumph?’” – Norman Spinrad, The Void Captain’s Tale (1982), p. 97.

SHARD: VI. Tribes in the Night Sky

The Wolf and the Fox

AT ONE TIME a very large and strong Wolf was born among the wolves, who exceeded all his fellow-wolves in strength, size, and swiftness, so that they unanimously decided to call him "Lion." The Wolf, with a lack of sense proportioned to his enormous size, thought that they gave him this name in earnest, and, leaving his own race, consorted exclusively with the lions. An old sly Fox, seeing this, said, "May I never make myself so ridiculous as you do in your pride and self-conceit; for even though you have the size of a lion among wolves, in a herd of lions you are definitely a wolf."

Translated by George Fyler Townsend. Aesop's Fables (p. 56). Amazon Digital Services, Inc.

My Bondage and My Freedom

by Frederick Douglass

**RECEPTION SPEECH. AT FINSBURY CHAPEL, MOORFIELDS, ENGLAND,
MAY 12, 1846 (full text)**

Mr. Douglass rose amid loud cheers, and said: I feel exceedingly glad of the opportunity now afforded me of presenting the claims of my brethren in bonds in the United States, to so many in London and from various parts of Britain, who have assembled here on the present occasion. I have nothing to commend me to your consideration in the way of learning, nothing in the way of education, to entitle me to your attention; and you are aware that slavery is a very bad school for rearing teachers of morality and religion. Twenty-one years of my life have been spent in slavery – personal slavery – surrounded by degrading influences, such as can exist nowhere beyond the pale of slavery; and it will not be strange, if under such circumstances, I should betray, in what I have to say to you, a deficiency of that refinement which is seldom or ever found, except among persons that have experienced superior advantages to those which I have enjoyed. But I will take it for granted that you know something about the degrading influences of slavery, and that you will not expect great things from me this evening, but simply such facts as I may be able to advance immediately in connection with my own experience of slavery.

Now, what is this system of slavery? This is the subject of my lecture this evening – what is the character of this institution? I am about to answer the inquiry, what is American slavery? I do this the more readily, since I have found persons in this country who have identified the term slavery with that which I think it is not, and in some instances, I have feared, in so doing, have rather (unwittingly, I know) detracted much from the horror with which the term slavery is contemplated. It is common in this country to distinguish every bad thing by the name of slavery. Intemperance is slavery; to be deprived of the right to vote is slavery, says one; to have to work hard is slavery, says another; and I do not know but that if we should let them go on, they would say that to eat when we are hungry, to walk when we desire to have exercise, or to minister to our necessities, or have necessities at all, is slavery. I do not wish for a moment to detract from the horror with which the evil of intemperance is contemplated – not at all; nor do I wish to throw the slightest obstruction in the way of any political freedom that any class of persons in this country may desire to obtain. But I am here to say that I think the term slavery is sometimes abused by identifying it with that which it is not. Slavery in the United States is the granting of that power by which one man exercises and enforces a right of property in the body and soul of another. The condition of a slave is simply that of the brute beast. He is a piece of property—a marketable commodity, in the language of the law, to be bought or sold at the will and caprice of the master who claims him to be his property; he is spoken of, thought of, and treated as property. His own good, his conscience, his intellect, his affections, are all set aside by the master. The will and the wishes of the master are the law of the slave. He is as much a piece of property as a horse. If he is fed, he is fed because he is property. If he is clothed, it is with a view to the increase of his value as property. Whatever of comfort is necessary to him for his body or soul that is inconsistent with his being property, is carefully wrested from him, not only by public opinion, but by the law of the country. He is carefully deprived of everything that tends in the slightest degree to detract from his value as property. He is deprived of education. God has given him an intellect; the slaveholder declares it shall not be cultivated. If his moral perception leads him in a course contrary to his value as property, the slaveholder declares he shall not exercise it. The marriage institution cannot exist among slaves, and one-sixth of the population of democratic America is denied its privileges by the law of the land. What is to be thought of a nation boasting of its liberty, boasting of its humanity, boasting of its Christianity, boasting of its love of justice and purity, and yet having within its own borders three millions of persons denied by law the right of marriage? – what must be the condition of that people? I need not lift up the veil by giving you any experience of my own. Every one that can put two ideas together, must see the most fearful results from such a state of things as I have just men-

tioned. If any of these three millions find for themselves companions, and prove themselves honest, upright, virtuous persons to each other, yet in these cases – few as I am bound to confess they are – the virtuous live in constant apprehension of being torn asunder by the merciless men-stealers that claim them as their property. This is American slavery; no marriage – no education – the light of the gospel shut out from the dark mind of the bondman – and he forbidden by law to learn to read. If a mother shall teach her children to read, the law in Louisiana proclaims that she may be hanged by the neck. If the father attempt to give his son a knowledge of letters, he may be punished by the whip in one instance, and in another be killed, at the discretion of the court. Three millions of people shut out from the light of knowledge! It is easy for you to conceive the evil that must result from such a state of things.

I now come to the physical evils of slavery. I do not wish to dwell at length upon these, but it seems right to speak of them, not so much to influence your minds on this question, as to let the slaveholders of America know that the curtain which conceals their crimes is being lifted abroad; that we are opening the dark cell, and leading the people into the horrible recesses of what they are pleased to call their domestic institution. We want them to know that a knowledge of their whippings, their scourgings, their brandings, their chainings, is not confined to their plantations, but that some Negro of theirs has broken loose from his chains – has burst through the dark incrustation of slavery, and is now exposing their deeds of deep damnation to the gaze of the Christian people of England.

The slaveholders resort to all kinds of cruelty. If I were disposed, I have matter enough to interest you on this question for five or six evenings, but I will not dwell at length upon these cruelties. Suffice it to say, that all of the peculiar modes of torture that were resorted to in the West India islands, are resorted to, I believe, even more frequently, in the United States of America. Starvation, the bloody whip, the chain, the gag, the thumb-screw, cat-hauling, the cat-o'-nine-tails, the dungeon, the blood-hound, are all in requisition to keep the slave in his condition as a slave in the United States. If anyone has a doubt upon this point, I would ask him to read the chapter on slavery in Dickens' Notes on America. If any man has a doubt upon it, I have here the "testimony of a thousand witnesses," which I can give at any length, all going to prove the truth of my statement. The bloodhound is regularly trained in the United States, and advertisements are to be found in the southern papers of the Union, from persons advertising themselves as blood-hound trainers, and offering to hunt down slaves at fifteen dollars apiece, recommending their hounds as the fleetest in the neighborhood, never known to fail. Advertisements are from time to time inserted, stating that slaves have escaped with iron collars about their necks, with bands of iron about their feet, marked with the lash, branded with red-hot irons, the initials of their master's name burned into their flesh; and the masters advertise the fact of their being thus branded with their own signature, thereby proving to the world, that, however damning it may appear to non-slavers, such practices are not regarded discreditable among the slaveholders themselves. Why, I believe if a man should brand his horse in this country – burn the initials of his name into any of his cattle, and publish the ferocious deed here – that the united execrations of Christians in Britain would descend upon him. Yet in the United States, human beings are thus branded. As Whittier says –

... Our countrymen in chains,
The whip on woman's shrinking flesh,
Our soil yet reddening with the stains
Caught from her scourgings warm and fresh.

The slave-dealer boldly publishes his infamous acts to the world. Of all things that have been said of slavery to which exception has been taken by slaveholders, this, the charge of cruelty, stands foremost, and yet there is no charge capable of clearer demonstration, than that of the most barbarous inhumanity on the part of the slaveholders toward their slaves. And all this is necessary; it is necessary to resort to these cruelties, in order to make the slave a slave, and to keep him a slave. Why, my experience all goes to prove the truth of what you will call a marvelous proposition, that the better you treat a slave, the more you destroy his value as a slave, and enhance the probability of his eluding the grasp of the slave-

holder; the more kindly you treat him, the more wretched you make him, while you keep him in the condition of a slave. My experience, I say, confirms the truth of this proposition. When I was treated exceedingly ill; when my back was being scourged daily; when I was whipped within an inch of my life – life was all I cared for. “Spare my life,” was my continual prayer. When I was looking for the blow about to be inflicted upon my head, I was not thinking of my liberty; it was my life. But, as soon as the blow was not to be feared, then came the longing for liberty. If a slave has a bad master, his ambition is to get a better; when he gets a better, he aspires to have the best; and when he gets the best, he aspires to be his own master. But the slave must be brutalized to keep him as a slave. The slaveholder feels this necessity. I admit this necessity. If it be right to hold slaves at all, it is right to hold them in the only way in which they can be held; and this can be done only by shutting out the light of education from their minds, and brutalizing their persons. The whip, the chain, the gag, the thumb-screw, the blood-hound, the stocks, and all the other bloody paraphernalia of the slave system, are indispensably necessary to the relation of master and slave. The slave must be subjected to these, or he ceases to be a slave. Let him know that the whip is burned; that the fetters have been turned to some useful and profitable employment; that the chain is no longer for his limbs; that the blood-hound is no longer to be put upon his track; that his master’s authority over him is no longer to be enforced by taking his life – and immediately he walks out from the house of bondage and asserts his freedom as a man. The slaveholder finds it necessary to have these implements to keep the slave in bondage; finds it necessary to be able to say, “Unless you do so and so; unless you do as I bid you – I will take away your life!”

Some of the most awful scenes of cruelty are constantly taking place in the middle states of the Union. We have in those states what are called the slave-breeding states. Allow me to speak plainly. Although it is harrowing to your feelings, it is necessary that the facts of the case should be stated. We have in the United States slavebreeding states. The very state from which the minister from our court to yours comes, is one of these states – Maryland, where men, women, and children are reared for the market, just as horses, sheep, and swine are raised for the market. Slave-rearing is there looked upon as a legitimate trade; the law sanctions it, public opinion upholds it, the church does not condemn it. It goes on in all its bloody horrors, sustained by the auctioneer’s block. If you would see the cruelties of this system, hear the following narrative. Not long since the following scene occurred. A slave-woman and a slaveman had united themselves as man and wife in the absence of any law to protect them as man and wife. They had lived together by the permission, not by right, of their master, and they had reared a family. The master found it expedient, and for his interest, to sell them. He did not ask them their wishes in regard to the matter at all; they were not consulted. The man and woman were brought to the auctioneer’s block, under the sound of the hammer. The cry was raised, “Here goes; who bids cash?” Think of it – a man and wife to be sold! The woman was placed on the auctioneer’s block; her limbs, as is customary, were brutally exposed to the purchasers, who examined her with all the freedom with which they would examine a horse. There stood the husband, powerless; no right to his wife; the master’s right preeminent. She was sold. He was next brought to the auctioneer’s block. His eyes followed his wife in the distance; and he looked beseechingly, imploringly, to the man that had bought his wife, to buy him also. But he was at length bid off to another person. He was about to be separated forever from her he loved. No word of his, no work of his, could save him from this separation. He asked permission of his new master to go and take the hand of his wife at parting. It was denied him. In the agony of his soul he rushed from the man who had just bought him, that he might take a farewell of his wife; but his way was obstructed, he was struck over the head with a loaded whip, and was held for a moment; but his agony was too great. When he was let go, he fell a corpse at the feet of his master. His heart was broken. Such scenes are the everyday fruits of American slavery. Some two years since, the Hon. Seth. M. Gates, an anti-slavery gentleman of the state of New York, a representative in the Congress of the United States, told me he saw with his own eyes the following circumstances. In the national District of Columbia, over which the star-spangled emblem is constantly waving, where orators are ever holding forth on the subject of American liberty, American democracy, American republicanism, there are two slave prisons. When going across a bridge, leading to one of these prisons, he saw a young woman run out, bare-footed and bare-headed, and

with very little clothing on. She was running with all speed to the bridge he was approaching. His eye was fixed upon her, and he stopped to see what was the matter. He had not paused long before he saw three men run out after her. He now knew what the nature of the case was; a slave escaping from her chains – a young woman, a sister – escaping from the bondage in which she had been held. She made her way to the bridge, but had not reached, ere from the Virginia side there came two slaveholders. As soon as they saw them, her pursuers called out, “Stop her!” True to their Virginian instincts, they came to the rescue of their brother kidnappers, across the bridge. The poor girl now saw that there was no chance for her. It was a trying time. She knew if she went back, she must be a slave forever – she must be dragged down to the scenes of pollution which the slaveholders continually provide for most of the poor, sinking, wretched young women, whom they call their property. She formed her resolution; and just as those who were about to take her, were going to put hands upon her, to drag her back, she leaped over the balustrades of the bridge, and down she went to rise no more. She chose death, rather than to go back into the hands of those Christian slaveholders from whom she had escaped.

Can it be possible that such things as these exist in the United States? Are not these the exceptions? Are any such scenes as this general? Are not such deeds condemned by the law and denounced by public opinion? Let me read to you a few of the laws of the slaveholding states of America. I think no better exposure of slavery can be made than is made by the laws of the states in which slavery exists. I prefer reading the laws to making any statement in confirmation of what I have said myself; for the slaveholders cannot object to this testimony, since it is the calm, the cool, the deliberate enactment of their wisest heads, of their most clear-sighted, their own constituted representatives. “If more than seven slaves together are found in any road without a white person, twenty lashes a piece; for visiting a plantation without a written pass, ten lashes; for letting loose a boat from where it is made fast, thirty-nine lashes for the first offense; and for the second, shall have cut off from his head one ear; for keeping or carrying a club, thirty-nine lashes; for having any article for sale, without a ticket from his master, ten lashes; for traveling in any other than the most usual and accustomed road, when going alone to any place, forty lashes; for traveling in the night without a pass, forty lashes.” I am afraid you do not understand the awful character of these lashes. You must bring it before your mind. A human being in a perfect state of nudity, tied hand and foot to a stake, and a strong man standing behind with a heavy whip, knotted at the end, each blow cutting into the flesh, and leaving the warm blood dripping to the feet; and for these trifles. “For being found in another person’s negro-quarters, forty lashes; for hunting with dogs in the woods, thirty lashes; for being on horseback without the written permission of his master, twenty-five lashes; for riding or going abroad in the night, or riding horses in the day time, without leave, a slave may be whipped, cropped, or branded in the cheek with the letter R. or otherwise punished, such punishment not extending to life, or so as to render him unfit for labor.” The laws referred to, may be found by consulting Brevard’s Digest; Haywood’s Manual; Virginia Revised Code; Prince’s Digest; Missouri Laws; Mississippi Revised Code. A man, for going to visit his brethren, without the permission of his master – and in many instances he may not have that permission; his master, from caprice or other reasons, may not be willing to allow it – may be caught on his way, dragged to a post, the branding-iron heated, and the name of his master or the letter R branded into his cheek or on his forehead. They treat slaves thus, on the principle that they must punish for light offenses, in order to prevent the commission of larger ones. I wish you to mark that in the single state of Virginia there are seventy-one crimes for which a colored man may be executed; while there are only three of these crimes, which, when committed by a white man, will subject him to that punishment. There are many of these crimes which if the white man did not commit, he would be regarded as a scoundrel and a coward. In the state of Maryland, there is a law to this effect: that if a slave shall strike his master, he may be hanged, his head severed from his body, his body quartered, and his head and quarters set up in the most prominent places in the neighborhood. If a colored woman, in the defense of her own virtue, in defense of her own person, should shield herself from the brutal attacks of her tyrannical master, or make the slightest resistance, she may be killed on the spot. No law whatever will bring the guilty man to justice for the crime.

But you will ask me, can these things be possible in a land professing Christianity? Yes, they are so; and this is not the worst. No; a darker feature is yet to be presented than the mere existence of these facts. I have to inform you that the religion of the southern states, at this time, is the great supporter, the great sanctioner of the bloody atrocities to which I have referred. While America is printing tracts and bibles; sending missionaries abroad to convert the heathen; expending her money in various ways for the promotion of the gospel in foreign lands – the slave not only lies forgotten, uncared for, but is trampled underfoot by the very churches of the land. What have we in America? Why, we have slavery made part of the religion of the land. Yes, the pulpit there stands up as the great defender of this cursed institution, as it is called. Ministers of religion come forward and torture the hallowed pages of inspired wisdom to sanction the bloody deed. They stand forth as the foremost, the strongest defenders of this “institution.” As a proof of this, I need not do more than state the general fact, that slavery has existed under the droppings of the sanctuary of the south for the last two hundred years, and there has not been any war between the religion and the slavery of the south. Whips, chains, gags, and thumb-screws have all lain under the droppings of the sanctuary, and instead of rusting from off the limbs of the bondman, those droppings have served to preserve them in all their strength. Instead of preaching the gospel against this tyranny, rebuke, and wrong, ministers of religion have sought, by all and every means, to throw in the background whatever in the bible could be construed into opposition to slavery, and to bring forward that which they could torture into its support. This I conceive to be the darkest feature of slavery, and the most difficult to attack, because it is identified with religion, and exposes those who denounce it to the charge of infidelity. Yes, those with whom I have been laboring, namely, the old organization anti-slavery society of America, have been again and again stigmatized as infidels, and for what reason? Why, solely in consequence of the faithfulness of their attacks upon the slaveholding religion of the southern states, and the northern religion that sympathizes with it. I have found it difficult to speak on this matter without persons coming forward and saying, “Douglass, are you not afraid of injuring the cause of Christ? You do not desire to do so, we know; but are you not undermining religion?” This has been said to me again and again, even since I came to this country, but I cannot be induced to leave off these exposures. I love the religion of our blessed Savior. I love that religion that comes from above, in the “wisdom of God,” which is first pure, then peaceable, gentle, and easy to be entreated, full of mercy and good fruits, without partiality and without hypocrisy. I love that religion that sends its votaries to bind up the wounds of him that has fallen among thieves. I love that religion that makes it the duty of its disciples to visit the fatherless and the widow in their affliction. I love that religion that is based upon the glorious principle, of love to God and love to man; which makes its followers do unto others as they themselves would be done by. If you demand liberty to yourself, it says, grant it to your neighbors. If you claim a right to think for yourself, it says, allow your neighbors the same right. If you claim to act for yourself, it says, allow your neighbors the same right. It is because I love this religion that I hate the slaveholding, the woman-whipping, the mind-darkening, the soul-destroying religion that exists in the southern states of America. It is because I regard the one as good, and pure, and holy, that I cannot but regard the other as bad, corrupt, and wicked. Loving the one I must hate the other; holding to the one I must reject the other.

I may be asked, why I am so anxious to bring this subject before the British public – why I do not confine my efforts to the United States? My answer is, first, that slavery is the common enemy of mankind, and all mankind should be made acquainted with its abominable character. My next answer is, that the slave is a man, and, as such, is entitled to your sympathy as a brother. All the feelings, all the susceptibilities, all the capacities, which you have, he has. He is a part of the human family. He has been the prey – the common prey – of Christendom for the last three hundred years, and it is but right, it is but just, it is but proper, that his wrongs should be known throughout the world. I have another reason for bringing this matter before the British public, and it is this: slavery is a system of wrong, so blinding to all around, so hardening to the heart, so corrupting to the morals, so deleterious to religion, so sapping to all the principles of justice in its immediate vicinity, that the community surrounding it lack the moral stamina necessary to its removal. It is a system of such gigantic evil, so strong, so overwhelming in its power, that no one nation is equal to its removal. It requires the humanity of Christianity, the morality of the

world to remove it. Hence, I call upon the people of Britain to look at this matter, and to exert the influence I am about to show they possess, for the removal of slavery from America. I can appeal to them, as strongly by their regard for the slaveholder as for the slave, to labor in this cause. I am here, because you have an influence on America that no other nation can have. You have been drawn together by the power of steam to a marvelous extent; the distance between London and Boston is now reduced to some twelve or fourteen days, so that the denunciations against slavery, uttered in London this week, may be heard in a fortnight in the streets of Boston, and reverberating amidst the hills of Massachusetts. There is nothing said here against slavery that will not be recorded in the United States. I am here, also, because the slaveholders do not want me to be here; they would rather that I were not here. I have adopted a maxim laid down by Napoleon, never to occupy ground which the enemy would like me to occupy. The slaveholders would much rather have me, if I will denounce slavery, denounce it in the northern states, where their friends and supporters are, who will stand by and mob me for denouncing it. They feel something as the man felt, when he uttered his prayer, in which he made out a most horrible case for himself, and one of his neighbors touched him and said, "My friend, I always had the opinion of you that you have now expressed for yourself – that you are a very great sinner." Coming from himself, it was all very well, but coming from a stranger it was rather cutting. The slaveholders felt that when slavery was denounced among themselves, it was not so bad; but let one of the slaves get loose, let him summon the people of Britain, and make known to them the conduct of the slaveholders toward their slaves, and it cuts them to the quick, and produces a sensation such as would be produced by nothing else. The power I exert now is something like the power that is exerted by the man at the end of the lever; my influence now is just in proportion to the distance that I am from the United States. My exposure of slavery abroad will tell more upon the hearts and consciences of slaveholders, than if I was attacking them in America; for almost every paper that I now receive from the United States, comes teeming with statements about this fugitive Negro, calling him a "glib-tongued scoundrel," and saying that he is running out against the institutions and people of America. I deny the charge that I am saying a word against the institutions of America, or the people, as such. What I have to say is against slavery and slaveholders. I feel at liberty to speak on this subject. I have on my back the marks of the lash; I have four sisters and one brother now under the galling chain. I feel it my duty to cry aloud and spare not. I am not averse to having the good opinion of my fellow creatures. I am not averse to being kindly regarded by all men; but I am bound, even at the hazard of making a large class of religionists in this country hate me, oppose me, and malign me as they have done – I am bound by the prayers, and tears, and entreaties of three millions of kneeling bondsmen, to have no compromise with men who are in any shape or form connected with the slaveholders of America. I expose slavery in this country, because to expose it is to kill it. Slavery is one of those monsters of darkness to whom the light of truth is death. Expose slavery, and it dies. Light is to slavery what the heat of the sun is to the root of a tree; it must die under it. All the slaveholder asks of me is silence. He does not ask me to go abroad and preach in favor of slavery; he does not ask anyone to do that. He would not say that slavery is a good thing, but the best under the circumstances. The slaveholders want total darkness on the subject. They want the hatchway shut down, that the monster may crawl in his den of darkness, crushing human hopes and happiness, destroying the bondman at will, and having no one to reprove or rebuke him. Slavery shrinks from the light; it hateth the light, neither cometh to the light, lest its deeds should be reprov'd. To tear off the mask from this abominable system, to expose it to the light of heaven, aye, to the heat of the sun, that it may burn and wither it out of existence, is my object in coming to this country. I want the slaveholder surrounded, as by a wall of anti-slavery fire, so that he may see the condemnation of himself and his system glaring down in letters of light. I want him to feel that he has no sympathy in England, Scotland, or Ireland; that he has none in Canada, none in Mexico, none among the poor wild Indians; that the voice of the civilized, aye, and savage world is against him. I would have condemnation blaze down upon him in every direction, till, stunned and overwhelmed with shame and confusion, he is compelled to let go the grasp he holds upon the persons of his victims, and restore them to their long-lost rights.

A Cat is Watching

Excerpts from book by Roger A. Caras

How do cats see and react to us? We are large and do not as total beings elicit any pounce reactions. A hand can, if moved back and forth in front of a cat, and a foot can, if jiggled, become a practice session target, but a whole human being must be a little awesome. Our skin is not particularly colorful and since we are without real fur and certainly without feathers, our clothing must supply any color display a cat can distinguish. We are, then, more or less stimulating to the cones of a cat's eye (depending on what we are wearing), but distinctly interesting to the rods. Either way, we are visually notable, if pretty gray in the flesh.

Most of us move fairly smoothly. We are not all Fred Astairs, but sitting, standing, reaching, or walking, our actions have fairly discreet beginnings, middles and ends. When we perform certain tasks, winding yarn, sweeping the floor or sorting strawberries, our actions can become a little jerky and therefore far more interesting to a cat. If a cat is not hungry or not in need of a little rubbing – scratching, petting or rubbing a cat is a sign of unending, in fact, unendable infancy in relation to their human owners; mothers lick their kittens and our petting actions are, from a cat's point of view an imitation of that highly desirable sensation – we are probably pretty ordinary visual experiences. We are large, impossible to miss for an animal as acutely sensitive to its surroundings as a cat. So we almost never get to surprise them. They do, after all, combine their vision with their other sensory cluster, and we would have to loom large.



Image by Nickolay Lamm, comparing human vision to cat vision, however, cats see movement better than we do.

Times have changed. Animal cognition is now a legitimate subject for consideration. Animals apparently do think. Since cats are carnivores, rather high-on-the-scale mammals, they would have to qualify if anything does below the apes and whales. We can now say with a fair degree of certainty (absolute certainty in my mind) that cats think. That surely, is worth consideration since they probably think about what they are seeing and hearing, and very often that is us.

It would seem highly unlikely that cats think the way we do, although we can't really define the way we think. It would be a pretty unprofitable pursuit to try to understand how cats think. Since that is in the realm of 100 percent speculation we might just set it aside and consider the matter from other angles.

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“Nevertheless, the Prussian king had hit upon a technique of war propaganda which has never been bettered since his day. As a pioneer in the use of words for weapons, he discovered that repetition is more persuasive than reason. An occasional Voltaire might remain a skeptic, but Frederick held that the bulk of mankind, resenting new ideas, will accept the most preposterous statement after the novelty has worn off by endless reiteration.”

– Lynn Montross, War Through the Ages (3rd Ed., 1960), pp. 388-389 ¹

Propaganda: Effective propaganda is difficult to argue against. Suppose that a British apologist considered the made-for-TV movie *April Morning* (1988) to be American propaganda against the British; and specifically stated that British officers and soldiers never called (or considered) Americans ‘gillies’? That argument is unprovable, but is falsifiable; the speaker can never prove their claim, but their claim can be disproven by one or more historically-verifiable records (letters, orders, diary entries) where a British officer or soldier called American colonist ‘gillies.’ So, if indeed the movie is American propaganda, the British apologist can never really prove it.

- ✓ “The first rule of propaganda is that if you repeat something enough times people will start to believe it, no matter how false.” – James Hohmann, *The Washington Post*, October 23, 2017.²
- ✓ “We cannot allow reality to be kidnapped by untruths that become true just because they are repeated enough times.” – Pernilla Stalhammar, legislator, Green Party, Sweden, February 20, 2017.
 - “A lie told often enough becomes the truth.” – Vladimir Ilyich Lenin.³
 - How many lies are contained in our ancient holy books? Oh, the terror that would be inspired by someone with a time machine!

In late April 2017, the Pittsburgh Pirates color analyst, Bob Walk (former Pirates pitcher), was discussing how old stories change over time and how some stories that he hears don’t match his recollection (I have experienced the same phenomena with my boss’ stories) of the events. In conclusion he said, “I used to tell the story of how I gave up a grand slam to the fourth batter of the game; I told that story for years. Then I went and looked up the game and discovered that I had it wrong. I gave up a solo home run to the first batter and a three-run homer to the fourth batter. So the score was 4-0 at the end of the first inning, but there was no grand slam. At some point, I changed the story to a grand slam, forgot I changed it, and after that, it was the truth.” Thank goodness for record keeping!

- ✓ “Some people speak as if we were not justified in rejecting a theological doctrine unless we can prove it false. But the burden of proof does not lie upon the rejecter.... If you were told that in a certain planet revolving around Sirius there is a race of donkeys who speak the English language and spend their time in discussing eugenics, you could not disprove the statement, but would it, on that account, have any claim to be believed? Some minds would be prepared to accept it, if it were reiterated often enough, through the potent force of suggestion.” – J. B. Bury, History of Freedom of Thought (1913), p. 20 (text available on Google Books).

- Can you disprove that you are not dreaming everything you think is real? On that account, should you believe (as Thomas Covenant) that you are dreaming everything you think is real? Can there be dreams if there is not something other that we accept as real?

Patty: *Mr. Chambers! Don't get on that ship! The rest of the book, 'To Serve Man,' it's – it's a cookbook!*

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Michael Chambers: [to the audience] *How about you? You still on Earth, or on the ship, with me? Well, it doesn't make very much difference because sooner or later we'll, all of us, be on the menu. All of us.*

– Twilight Zone, “To Serve Man” (1962)

To Serve Man: Hollywood promotes the idea and no one seems to disagree, that open, public First Contact with extraterrestrial aliens would be *the* event in the history of humanity, an Earth-moving epochal experience, and the story of the millennia. But why? Why does it matter if there is intelligent life, especially technologically advanced life, out there. What would change? Unfortunately, most discussions and fiction on this subject come up short on answers.

Well, let us start with the classic Hollywood ‘no brainer’ – the brainless alien invasion movie. If aliens of any kind came down from interstellar space and started killing people, destroying cities, and so forth, it’s easy to see why it would *matter* suddenly that intelligent, technologically advanced life existed elsewhere. The basic instinct of all living creatures for survival (and reproduction) is first on the priority of what *matters*, if something is causing you pain, you look to see what it is, because at that point it *matters*.

- ✓ According to the current movie critic intelligentsia, alien invasion movies are best if they don’t take themselves too seriously. Go figure – more on this in FALLACY OF SERIOUSNESS, 2 Fallen to Earth, p. 1520, *infra*. Alien invasion movies are supposed to be mindless fun, action, adventure, things blowing up, heroics and happy endings, instead of the heady implications of First Contact.

But short of an alien invasion, why would it matter if anything else is out there? Some seem to suggest that knowing that we are not alone would be beneficial (after the paranoia wears off). Fear of being alone, however, is yet another extension of the basic survival and reproductive traits as they manifest themselves in social species. Not saying that we are either afraid of being alone on the Earth (wherever the Earth happens to be in the scheme of the universe) or that we desire to reproduce with aliens ... but most of our concepts are just intellectual extensions of basic infantile physical imperatives. So, perhaps not being alone is what would make the question of life out there *matter* to humanity enough to change our history.

- ✓ **Statement of the Conference:** “The practical and philosophical significance of a successful contact with an extraterrestrial civilization would be so enormous as to justify the expenditure of substantial efforts.... The technological and scientific resources of our planet are already large enough to permit us to begin investigations directed towards the search for extraterrestrial intelligence.... For the first time in human history, it has become possible to make serious and detailed experimental investigations of this fundamental and important problem.” – Carl Sagan, Ed., Communication With

Extraterrestrial Intelligence (CETI), 1973 (Reports from the 1971 CETI Conference in Soviet Armenia, Byurakan Astrophysical Observatory (USSR)).

In 1969, we were the aliens, but there was no one waiting for us on the moon. Yet, in the summer of 1968, for the first time, we looked back from the moon at the Earth hanging in the sky and for a short time, saw the world and our troubles from a different perspective. There is inherent in the idea of First Contact, that having contact with an alien, but intelligent and starfaring species would change our perspective, pull us outside of ourselves, that in making First Contact, we would become part of something larger, a community, if only of two, in interstellar space.⁴

- ✓ For example, the introduction and spread of the heptapod orthography on Earth in the century after the events in *Arrival* (2016), would have an effect similar to the spread of writing (invented around 3200 B.C. independently in multiple places) or the effect of the invention of the mechanical movable type printing press around 1449 A.D.⁵ And the movie *Arrival* only depicts a short, controlled, but intense, First Contact situation. Within a century or two, 20th Century humanity would seem like ancient Mes-
oamericans to the current generation (that may happen anyway, without alien inter-
vention). How would you model such an epochal effect?

And humans are attracted for some reason, to the idea of being part of something larger than ourselves. It is a necessary founding principle of civilization, that each of us, through our civilizations, are part of something larger and more enduring than ourselves. Humans care enough about their meanings and matters – something that can only be contemplated by creatures bored enough to invent culture – creatures who for the first time about 80,000 to 120,000 years ago, thought enough of ☠ to begin ritual burial of their dead – that being part of something larger than ourselves may *matter* just enough for First Contact to change us, to change the course of our future history. Or as Carl Sagan said it, “the deprovincialization of Earth” (*Cosmos*, Episode 12).

Just some food for thought.

- ✓ Any aliens who begin First Contact by saying, “We come in peace” should be disintegrated immediately because ... either they are lying ... or they are not lying, have visited many planets before, and are carrying deadly xenomicrobes that will destroy humanity.☺
- Be Careful What You Wish For: What reason would other species in the galaxy, cosmos, universe, have to notice us? And do we want them to notice us? Does an insect crawling in the grass want us to notice it? No, it is only interested in being noticed by members of its own species, in going about daily life, finding and consuming what it needs, and not being noticed by predators.
 - ✓ There are people who will blame NASA if the Earth is invaded by extraterrestrials, or even if we have First Contact with extraterrestrials. Some of these people think extra-terrestrial contact is a bad idea for themselves at least, if not for humanity. The assertion has been out there since at least the 1970s that NASA probes may attract extra-terrestrial attention; it sometimes is mentioned in movies.⁶ Other movies suggest that early television broadcasts (predating NASA) are more likely to attract attention.

Mere differences in SQ (Sentience Quotient), might make communication difficult, not to mention technological differences, and differences in evolutionary environment. Note, for example, that superrationality in game theory requires both players to be superrational.

Again, GGDM assumes – following the standard late 20th Century science-fiction trope – that the playing area is occupied by a set of species who share the same SQ/intelligence ‘shelf’ in the galactic ordering. Carl Sagan’s book and movie, *Contact*, was the first to break the mold; recent movies such as *Arrival* and *Interstellar* have continued the divergence into the early 21st Century exploring more likely First Contact with alien technological intelligences.

Our greatest fear, in fact, is meeting a truly superior intelligence that can sit in judgment of us like children, take humans as pets – like neutered cats or dogs, or more likely, just regard us as flies to be swatted away. See *a priori* discussion, *Crack in the Temple and Sapience*, 1 Beginnings, pp. 27-28, *supra*. I once read a short story where a human emissary with two or three Ph.D.s was allowed to attend an alien species kindergarten and was treated as a pet.

- ✓ Perhaps a practical demonstration from the movie *The Manhattan Project* (1986): The teen genius Paul solves a simple physics puzzle that Dr. Matheson gave him, *while the rest of us are still trying to figure out what is the problem*. In person, this might be embarrassing, intimidating and unnerving.

As Captain Kirk commented in the “Errand of Mercy” episode, “We think of ourselves as the most powerful beings in the universe. It’s unsettling to discover that we’re wrong.” Having slowly cast aside the delusions of our species childhood that humans are special in the universe, looked over by a benevolent parental God(s) (and hopefully, not by Q!), we can now imagine, for example, intelligences formed billions of years before the Earth, closer to the time of the Big Bang.

- ✓ “The universe is a pretty big place. If it’s just us, seems like an awful waste of space.” – Carl Sagan, *Cosmos*.

- Human Isolation Problem (or Fermi Paradox): Another way to approach the ‘human galactic isolation’ problem is by loose analogy to well-known cases (and case studies) of children raised in social isolation by unfit parents who suffer lifetime social, physiological, and mental-cognitive impairment (see *Monad Imperialism*, 3 Order, p. 561, and EN 17, p. 565, *supra*). *Humanity is currently like a child raised in social isolation*; the arguments offered by scientists for contact with extraterrestrial intelligences and space exploration amount generally to humanity being provincial, underexposed, isolated, childlike and impaired by lack of contact with the bigger universe (which currently, for 99.9999% of humanity, is limited to staring at the night sky and watching the occasional science program on television).

The conclusion that follows that premise is always that, if the universe doesn’t kill us (and there is no guarantee that our worse space-spawned sci-fi horrors won’t actually turn out to be correct), engagement with the universe is important to continued human evolution (along with all of the practical benefits of being able to colonize other worlds, e.g., resources, scientific discoveries and protection from extinction of humanity on Earth). Although this is not an argument that any astrophysicist would make directly, we have the tools, in other disciplines (e.g., social sciences and the humanities) to better frame this issue.

This argument has many spatial levels; the same sort of argument might be applied to long-isolated island cultures (e.g., aboriginal Tasmanians, Sentinelese, other uncontacted tribes, and *Waterworld* (1995)), and the globalization process begun by European exploration, colonization and exploitation, the Columbian Exchange, and the print revolution, that merged into the development and spread of technology and scientific discoveries.

However, anthropologist will point out that island cultures were generally not as isolated as they seemed, that there was an exchange of goods, ideas, and genes via a regular circuit of island trade and traffic (and war) over extended periods (e.g., Minimum Viable Population and Inbred Populations discussion, 4 Taxation & Census, pp. 329-330, *supra*). Conversely, and this is what perhaps bothers us most, there is no such known, observable ‘island’ traffic in the universe, at least in relation to Earth (e.g., the Fermi Paradox), and thus, most space-opera fiction (and GGDM too) posits traffic in the form of starships (replacing outrigger canoes and catamarans) connecting colonies when humanity begins interstellar colonization.

“It’s...it’s full of stars!” – 2001: A Space Odyssey

“Above all, O people of Arvel, never pity the beings on Earth. If you do, then sorrow will drown you. They know so little of love. They cannot ever know more.” – Poul Anderson, The Ways of Love (1979) ⁷

Diplomacy Power: Activation of the Diplomacy Power should not be confused with actual diplomacy. Players and positions are free to make whatever agreements they like to do or not do, which does not require activation of the Diplomacy Power. The Diplomacy Power is only activated for certain specific game purposes, where position diplomacy interacts directly with the game in ways that are outside the scope of the other rules. For example, two positions may agree to trade by unloading Cargo Ships at each other’s colonies, which is well within the normal rules of the game, and so does not require an activation of the Diplomacy Power to make or execute the agreement.

The Diplomacy Power may be activated for the following purposes:

1. Accept Treaty,
2. Articles of Incorporation (*MegaCorporation only*),⁸
3. Break Treaty,
4. Form Meanings,
5. Share Meanings.

Activation of the Diplomacy Power to Accept a Treaty or for Articles of Incorporation, or to Break a Treaty requires one Act and one Scene. The Scene must be on the Capital Colony of the position. Activation of the Diplomacy Power to form Meanings requires one Act, and an activation to Share Meanings requires two Acts.

- ✓ **Rhetorical Question:** Is it the purpose of diplomacy to prevent war, create trade and business, promote or create justice and human rights, insure alliances, isolate enemies, secure sovereignty, promote propaganda, gather information, cover for Special Operations, extend the sphere of influence, insure expansion room, prepare for war, assist in war, or exploit victory? Check all that you think apply.⁹
- ✓ “When it comes to Iran, Trump has shifted Republican foreign policy away from war without shifting it towards diplomacy – the only stable alternative to war. So he’s caught in a kind of purgatory.” – Peter Beinart, “Trump Put Himself at Iran’s Mercy,” *The Atlantic*, January 1, 2020.

- ✓ “If our incurious and volatile president might endanger Americans and destabilize the world by launching us into war, he will be doing exactly what the responsible, bipartisan, expert, foreign policy establishment has repeatedly done in recent decades. ... Amid all these disturbing differences, though, is a more-disturbing sameness.” – Timothy P. Carney, “Meet the new war. Same as the old war.” *The Washington Examiner*, January 8, 2020 (title is a play on the last lines of The Who’s famous anthem “Won’t Get Fooled Again” (1970): “Meet the new boss, same as the old boss.”).
- Table for Two: Note that unlike other Power Activations, activation of the Diplomacy Power for any purpose other than Form Meanings requires separate activations of the Diplomacy Power by all parties. Compare, for example, to other interactions, such as Combat, or Landing or Unloading Population or Cargo on **alien colony** planets, which require only the actor to activate Powers. Thus Diplomacy has a cost on both sides, using effectively two or more (depending on the number of parties) Power Activations to achieve one purpose. If one position activates the Diplomacy Power to, for example, Accept Treaty, and the other does not on its next Regular Turn, to complete the process, the Concierge may deem that the Treaty has been rejected peremptorily by the non-compliant would-be partners and the process *voided*.
- Stood Up: There is no check to see if the Power Activation fails when the Diplomacy Power is activated to Accept or Break Treaty, inactive Constructural Elements cannot cause failure to obey the activation. Activation of the Diplomacy Power to Form Meanings or Share Meanings is checked against the current Constructural Elements of the Capital Colony since it is the people in charge whose meanings really *matter* in the moment. MegaCorporations are discussed later in 2 Corporations generally, *infra*.
- Stepping Out: A position whose Capital Colony *status* is suspended/disrupted due to an inactive Symbolic Constructural Element on the Capital Colony (see Waving the Flag, 2 Constructural Elements, pp. 190-191, *supra*) may not activate the Diplomacy Power *for any purpose* other than Form Meanings, in addition to being cut off from the Diplomatic Spaces (see Severed Dreams, 2 Diplomacy, p. 1121, *infra*).
 - ✓ Sort of like when your girlfriend suspends your primary boyfriend (BMF) status.

“Clearly there was no ‘misunderstanding’ on August 1, 1914. Rather, historians have misunderstood Grey’s attempt to make contingency plans through Lichnowsky in case a continental war found England neutral. The mere fact that he had been forced to guard against such a situation must have been highly distasteful to Grey, who allowed the ‘misunderstanding’ myth to cloak the affair. More important, within Sir Edward Grey on August 1, 1914, there struggled two absolute convictions: (1) that the unfolding situation must not result in a European war but (2) that, if it did, England must stand beside France and Russia. By his actions of that day, Grey gave precedence to the former, since he toiled for peace long after the cabinet had taken what he considered to be significant steps toward intervention. But Berlin dashed Grey’s last efforts at peace with its retarded acceptance of the long-dead proposal of French neutrality. A European war and British intervention remained the only alternative.”

– Stephen J. Valone, “‘There Must Be Some Misunderstanding’: Sir Edward Grey’s Diplomacy of August 1, 1914,” St. Fisher College (Digital Publication), History Faculty, October 1988

Greys Diplomacy: Informal diplomacy in GGDM is a grey area (double – nay triple – entendre alert on the title!). There is no mechanic in GGDM that either requires or blocks participants from sharing email addresses. The only diplomacy within GGDM’s rules occurs through First Contact, activation of the Diplomacy Power, and, in a backhanded way, through News Events.

The game could be set up where participants either consent to share or not share their email addresses, where email addresses are automatically shared, or even where each participant or group receives diplomatic emails through the game’s computer program. Informal diplomacy may be conducted by individual emails between designated representative players in each group, or by group emails between all players of both positions or whatever works. However, the Concierge will not enforce informal agreements within the game, so informal diplomacy in GGDM is wild and free.

- ✓ Count Folke Bernadotte, who received Himmler’s offer to surrender Germany in April 1945, was assassinated in September 1948 by Jewish radicals in Jerusalem while working as the lead UN-appointed mediator during the First Arab-Israeli War. Be nice to the Concierge, and not just during the holidays.
 - When people are not interested in talking, being an envoy is a dangerous job: Neither of the Soviet envoys sent to deliver the surrender ultimatum in Budapest on December 29, 1944 returned. Both were killed.
- ✓ In PBEM games I played long ago, diplomacy was frequently carried on by chats (and some players kept the chat logs), nowadays, it might be by Skype.
- **Changing Stories:** According to South Korean newspapers, in a story reported by Reuters, North Korean special envoy to the U.S. Kim Hyok Chol was executed along with four foreign ministry officials at Mirim Airport following an ‘investigation’ following the collapse of the second U.S.-North Korean summit. At least two others – a senior official and an interpreter-translator – were reportedly sent to political prison camps (guilt by association) for forced labor and ideological reeducation and the Leader’s sister who was also at the summit is also said to be ‘lying low.’ All are accused in North Korean papers (undoubtedly controlled by the Government and serving as the government’s official mouthpiece) of faking reverence for the Leader (e.g., insincerity is a crime when it comes to the Leader) while secretly dreaming of other futures (presumably without the Leader or his family and circle of sycophants). See, Hyonhee Shin and Joyce Lee, “North Korea executes envoy in a purge after failed U.S. summit: media,” Reuters, May 30-31, 2019.
 - ✓ Overnight, Reuters modified the original story I read, including adding the following: “‘He was accused of spying for the United States for poorly reporting on the negotiations without properly grasping U.S. intentions,’ the source was quoted as saying.” Uh, yeah. Reuters also suggested there was no evidence of the execution (without removing the top paragraph that said he was executed), but later stated that he may have been sent to a political prison camp instead. Moving on...
- **The China Card:** China was always the wild card and one that was largely ignored in Western nuclear war movies. Apparently there were agreements or assumptions which obligated China to strike the Soviet Union if the Soviet Union struck the United States, and there were probably similar agreements between China and the Soviet Union against the United States. The agreements were for deterrence purposes – and a very effective deterrence it was, not

knowing what China would do – but once deterrence failed, why would China follow the rest of the world over the cliff if the initial crisis didn't involve China?¹⁰

- ✓ It is possible that if the U.S. and Soviets were in a thermonuclear war, that one or both would strike China so that China would not be left untouched. Of course, China would strike back, completing the apocalypse. See discussion of Stephen King's novel The Stand (1978) in Double Your Troubles, 1 Disruption, pp. 259-260, *supra*.

Most movies didn't mention China, focused as they were, on characters involved on the NATO side and of course, China never struck the United States in those movies because the United States never started the war. The movie *By Dawn's Early Light* (1990), the last of the Cold War movies (excepting possibly *Crimson Tide* (1995)), does feature a secondary exchange between China and the Soviets and vaguely mentions a treaty in hurried dialogue, but this is a plot device that serves to heighten the tension because the participants don't initially know the target of the second Soviet launch. Other than mentioning hurriedly a treaty, we never know why China struck the Soviet Union in *By Dawn's Early Light* (1990).

- ✓ It is possible in GGDM for positions to seek mutual deterrence agreements with other positions – *à la* the pre-World War I treaties, but in doing so, they should understand the China wild card situation. And they should understand history, Russia was pressured into moving quickly against Germany in 1914 to relieve pressure on France, a war for which it was ill-prepared, ill-equipped, suffered horrendous losses and defeats, and the monarchy of Imperial Russia ultimately collapsed in the Bolshevik Revolution of 1917.¹¹
- ✓ The situation in the background history of the *Twilight 2000* RPG, is different, featuring a direct war between China and the Soviet Union through Mongolia. Recollection from memory of reading the back story long ago: The Soviets losing on the ground, withdrew before pursuing Chinese armored forces, and waited for the rainy season. When the rains came, the Chinese armor and supply trucks were restricted to roads and at that time, the Soviets launched tactical nuclear strikes obliterating the Chinese armored columns. China responded in kind, hitting strategic areas behind the lines with nuclear missiles, and the situation escalated into a general strategic nuclear exchange. The United States in that scenario did not strike the Soviet Union during the escalating exchange, but became embroiled later in a conventional war in Germany and this leads to a nuclear exchange. So in the end, the Soviets end up being hit by everyone while China and the United States do not war on each other.

“Mid-way through the last century, a few of mankind's brightest minds got together over lunch to seriously discuss a question which, until then, had been largely relegated to the realm of science fiction. The question was: Where is everybody, asked on a cosmic scale. In a galaxy vast enough to encompass a hundred million black holes, and a thousand times that many burning stars, we expect to see some signs of life beyond this little blue dot we stand on. Since that lunch-time chat among physicists, we've extended our reach beyond the solar wind's farthest traces and our sight all the way to our universe's horizon, but despite the staggering biodiversity here on Earth, we have yet to encounter a single piece of evidence that says we are normal.

*So, are we an anomaly? A lonely group of chance biological specimens alone in a blind and deaf universe of rock, and ice, and gas? **By its definition, an anomaly is unlikely and shouldn't be assumed**, but the possible reasons we have not yet sensed an alien presence range from terrifying to the sublime. Where are the others and why can't we find them? The answer will be mankind's most important discovery. And so we search, hoping with each passing decade to observe something that might give us an answer."* – opening narration for the film *Magellan* (2017) (emphasis added) ¹²

One Hundred Million Black Holes: The line “a hundred million black holes” (feature quote above) references a University of California, Irvine, study that was not widely published until August 2017 (see 1 Movement, EN 6, p. 843, *supra*), whereas, the movie *Magellan* was released in February 2017 and probably filmed in 2016. “Little blue dot” is a likely homage to Carl Sagan’s 1994 book, *Pale Blue Dot*.

Bump in the Night: But first things first, First Contact comes first. First Contact occurs when major races ‘bump’ into each other in the night for the first time in a game. Even though the starting locations and Homeworlds of positions may be known from the game setup process, this is not “First Contact.” Positions are not in contact initially, unless otherwise specified.

There can only be one First Contact per game between any two positions, First Contact rules only apply to First Contacts between positions, therefore, the number of First Contact situations is limited to the number of other positions in the game, plus perhaps, any Special Positions controlled by the Concierge.

When two sides meet for the first time, there are three possible situations:

- ✓ When two races meet for the first time, either both will have ships present or one will have a ship present and the other will have a colony present.
 - It is not likely in the GGDM mechanics for First Contact to occur when both positions have colonies present, as new colonies require (in 99.9% of cases, barring a very strange Fundamental Reality) Colony Ships to transport the colonist to pre-explored (‘scouted’) systems.
- ✓ When two races meet for the first time, either there will be combat or no combat.
 - “Not only is actual antagonizing bad, but the assumption that there is or may be antagonism is bad – in fact, the real first antagonism always comes back to the assumption.” – John Dewey.
 - Although Mr. Dewey was probably talking about dialectic opposition, this statement can well apply to many and a broad range of relationships between creatures (Mr. Dewey was an educator, for example, and thus concerned about peaceful, rational relationship between people), such as relationships between the sexes, between nations, between religions, and between alien races: Mr. Dewey suggests that the assumption of antagonism is a self-fulfilling prophecy. ¹³
- ✓ When two positions meet for the first time, either they will be of the same native population types or they will not.

- “Receiving an interstellar message would be a major event in human history and the beginning of the de-provincialization of our planet.” – Carl Sagan, *Cosmos*, Episode 12.
- Feeling Around in the Dark: Although First Contact could theoretically occur by interstellar communications (or player communications), GGDM only contemplates in-game physical First Contact situations. If participants desire other forms of First Contact (noting that some of the Primal States already anticipate outgoing communications-only pregame contact), they can work out whatever rules and situations are necessary; much of it depends on the time scale of a Regular Turn and whether the participants think that FTL communications are possible. For example, without FTL communications, a signal from a radio-telescope civilization 200 light years away would take ... 200 years to reach Earth; and our reply would take ... you guessed it ... 200 years to reach the original sender. Not much of a conversation. And a hell of a run if they are ordering pizza.
 - ✓ *Close Encounters* (1977) changed the alien movie genre, it was the first major film to portray aliens, not as invaders or conquerors, but as enlightened benevolent beings. The aliens’ technology is impressive enough that it leaves no doubt that they could have been very devastating invaders, which is contrasted by the ship of light and the childlike aliens who emerged at the end of the film. *Arrival*, made nearly 40 years later, was *Close Encounters* for a new generation. Starting with *Contact* (1997), there have been an impressive line of science-fiction films that have caught up with real science and social theory, for example, *Gravity* (2013), *Interstellar* (2014), *District 9* (2009), *Europa Report* (2013), *Magellan* (2017), and *The Martian* (2015).
- Close Encounters: In order to have a First Contact, someone had to be moving. First Contact never requires activation of the Diplomacy Power by either position; it just happens as a matter of course. A First Contact situation lasts from the Regular Turn of the moving position that causes First Contact until the next Regular Turn of the moving position that caused First Contact. That way, both the non-moving position and the moving position have one opportunity, in the normal course of the game, to shape the First Contact by their actions.
 - ✓ The Diplomacy Power can never be activated to initiate interstellar movement, thus the Diplomacy Power can never be activated to initiate movement for the purpose of causing a First Contact. First Contact will likely be initiated, either intentionally or accidentally, by activation of the Expansion (Scouting, Transport Population, Landing) or Combat Powers (Combat Movement), *supra*.
 - ✓ If one side had a Combat Alert in the system or was moving by Combat Movement (see *Move Out!* and *DefCon 1*, 1 Combat, pp. 942, 946 respectively, *supra*), they could initiate First Contact by initiating Combat at the First Contact location, in which case, it should be called “First Combat.” It should be noted that this behavior may be *required* by certain Fundamental Realities (and/or legitimacy requirements of Government Titles); other positions are not required to (and generally should not) formally or informally reveal their Fundamental Realities or Government Titles, but participants should be cognizant and not take it personally between players or think the other position is intentionally being an interstellar-class jag-off.¹⁴

- Of the Third Kind: The outcome of the First Contact situation is mostly in the hands (in the Solfège scale) of the positions involved,¹⁵ however, the Concierge may occasionally throw a ‘twist’ into a First Contact situation.

During each First Encounter, the Concierge will make one die roll for each side involved, for ‘entropy events’ (i.e. a ‘misunderstanding,’ ‘accident’). The basic chance of an Entropy Event occurring on either side during First Contact is...50%. A First Contact situation suggests that each race will put its best foot forward (even if that foot is currently stepping on someone else’s toes), and as such, positions may use Enlightenment *that was assigned to the Power Activation that caused the First Contact*, to attempt to prevent an Entropy Event on their side only (as a ‘failed’ die roll, see Harsh Mistress, 2 Colleges, p. 478, *supra*). This might be the case, for example, if Enlightenment was assigned to Scouting to reroll Hazards.

- ✓ A ‘failed die roll’ in this occasion would be one where the result means that a *creatively* bad thing is going to happen to the side using the Enlightenment during First Contact. A failed die roll should be reflected in a suitable Intervention related to the First Contact so as to give it real meaning (‘reality’) in the game, rather than words.
- ✓ “Credibility is a condition of persuasion. Before you can make a man do what you say, you must make him believe what you say. A necessary condition for gaining his credence is that you do not permit him to catch you in lies. Hence, the constraint upon all propagandists to accurate reporting of matters which are subject to verification by the audience ... Propaganda, to be effective, must be not only factually true, but credible.” – Daniel Lerner, George W. Stewart, Sykewar: Psychological Warfare Against Germany, D-Day to VE-Day (1949).
 - Propaganda then is presenting an adverse *alternative interpretation*, not alternative facts. So many pundits become confused on this issue.
- Starchildren: First Contact starts the official GGDM diplomacy between two positions. While the Concierge has no control over private player communications (conceivably two positions could ‘arrange’ a First Contact), two positions which have not had First Contact cannot enter into a Treaty, or form Articles of Incorporation, or form or share Meanings, that is, activate the Diplomacy Power for any purpose in relation to a non-Contacted position.
 - ✓ What if the UFOs aren’t here because of us, or looking for us, or trying to do anything at all in relation to us? We assume they are here because of us – either because that’s what we would do, or because it fits our human-o-centric need. But maybe the aliens don’t know we are here, or don’t care? Maybe we are just gnats. Doesn’t that open a lot of interesting questions? None of their apparent actions would be reactions to us or in relation to us. What then?
 - ✓ “If there were to be a universal sound depicting peace, I would surely vote for the purr.” – Barbara L. Diamond (quote is on the wall at my veterinarian’s office, also popular across the internet currently).
- Government and the Greys: There may have been informal diplomacy between positions prior to First Contact; strictly within GGDM rules and to the Concierge, informal diplomacy is irrelevant. The game purposes of First Contact procedure are three dimensional: To provide an object for activation of the Diplomacy Power, to establish the Diplomatic Space (keep reading...) and for story purposes. X, Y, and Zzzzzz.

- ✓ One of the oddest and fondly remembered first contact stories of my youth was Clifford Simak’s short story, “New Folks Home,” (1963) about a retired judge, Frederick Gray, who goes on a fishing trip and finds refuge in a strange house that is out of place in the countryside, but that silently and unobtrusively provides for all of his needs. He is provided a file folder of a case for review and realizes that he is one of three panelist – all from different civilizations – in an interstellar court appellant review panel. He eventually accepts his new existence and enters the practice of universal law as humanity’s sole jurist.

*“Myself when young did eagerly frequent
Doctor and Saint, and heard great Argument
About it and about: but evermore
Came out by the same Door as in I went.”¹⁶*

Albrun: In the movie Hagazussa (2019), we never glimpse Swinda’s reasons for holding Albrun down while a man she introduced minutes before rapes her. It comes as a complete surprise after she apparently risked her social standing to become Albrun’s friend. Throughout the movie, we only see Albrun’s view, every scene is Albrun (the main character), the only view of other people we get is when she infrequently encounters them; thus, we never see Swinda except when she comes to visit Albrun.

The filmmakers have captured essentially how we see the world; traditional shows and films show different characters interacting with each other in various scenes (especially with ensemble casts and movies) providing a ‘god view’ of the situation that could not be accomplished from one view. Poor writers often forget that each member of the cast individually has the same issues as Albrun. I have tried to imagine the reasons she did it – blackmail, pandering, repayment of a debt, dominance, perversion – from the look on her face, Swinda seemed to be enjoying it, but we never actually see her plotting with the man against her friend, so we never know.

- ✓ In a game like GGDM, the viewpoint of each position will be like Albrun’s, like our own lives, where we only know of others what we see when we encounter them, what they tell us about themselves, and what others may say about them in other encounters: Albrun was an isolated loner, she received no social information from others.
 - One commentator on the movie How it Ends (2018) noted that we never see what the apocalypse is or why it happens because throughout the movie, we only see what the main character – who is just trying to survive – sees. He has no knowledge of what actually happened or why.
- ✓ In the nascent interstellar setting, this may, by extension, describe the situation of individual colony worlds who are isolated except by contact with starships that come to port. As mentioned previously, the interstellar government is trying to rule over a group of widely-separated islands (e.g., Polynesia), each with a population ranging from a few people to a few families. Each with differing resources, culture, politics, ideals and needs. In this sense, socialization, diplomacy, culture, and commerce can each be described in degrees of individuals’ existential isolation.
 - Colony planet isolation presents a challenge that is often ignored by writers who posit species’ hive-minds or collective consciousness. For their

entire evolutionary history, every member of the hive species has been part of the collective on the Homeworld. When they go out to colonize planets in their homesystem or exoplanets around other stars, the members who go forth would experience something previously unknown (and possibly unimagined), the horror of individual isolation (even if they are in a group). Something that humans know every day, even when in a crowd, we are all individuals, autonomous, vainglorious, wide-eyed or looking down, each with their own interpretations. But ultimately, alone.

“This scene is quite a revelation. Who would have guessed that such a spiritual and impractical reason was behind the Minbari surrendering? Clearly the religious caste would take such matters especially seriously, and apparently the evidence regarding Sinclair’s soul was sufficient to persuade the members of the Gray Council from the other castes. It’s obvious why they didn’t reveal the reason to everyone, however.

As Sheridan says later in the episode, he doesn’t really believe the soul-transfer idea, but what’s important here is that the Minbari believe it, or at least the important Minbari. If only enough important humans had followed their religious dictates as closely (such as ‘thou shalt not kill’ for Christians), Earth history would be a lot less bloody. And who can prove the Minbari are wrong?”

– Dr. Melissa Hayes-Gehrke, “Episode Review of Babylon 5 Season 2: ‘Points of Departure’” University of Maryland, Astronomy Dept. (emphasis added)

Triluminary: Would Commodore Perry have sailed into Tokyo harbor in 1853, would the Tsar have dispatched the Baltic and Black Sea squadrons to the Pacific in 1904 – if they knew the subsequent historical results – the Meiji Restoration, Empire of Japan, WWI and WWII? Commodore Perry was the pebble that started the avalanche, and once the avalanche had begun, it was too late for the pebbles to vote (Kosh, Babylon 5, “Believers” (1994)). Commodore Perry’s contact with Japan wasn’t exactly a First Contact situation, but it is analogous to one in many ways because of Japan’s two centuries of intentional isolation and increasing xenophobia.

- ✓ In the science-fiction, space-opera arena, Robert Sheckley’s 1954 short story “Skulking Permit” features a tiny, long-isolated, lethargic human colony, New Delaware, that is preparing for the first visit from an Earth starship in over two centuries; they frantically go about trying to look Earth-like based on pictures in old children’s books, naively re-creating the worst of Earth that their ancestors fled centuries ago.
- ✓ In Babylon 5, the Minbari religious leadership came to believe that the souls of their dead were reborn as humans, and thus, killing humans was the same as killing Minbari, which was against the law. And they actually follow their own laws.

These are examples of a subset of quasi-First Contact situations – as between ships and long isolated colony worlds of their own Native Population Type – that the participants can explore.

- ✓ I recall reading a fantasy-fiction short story (and I do not recall the title or where I read it) where a lost malnourished teen female wandering around in the wilderness is found and welcomed to a tribal night campfire. At some point in the dialogue, another female calls her a “stupid bitch.” The teen responds asking why they insult her

and praise her in the same breath? From this, they discover that she is the last survivor of a lost, semi-mythical werewolf tribe: “Bitch” is a title of honor in her tribe.

“It would require a greater philosopher and historian than I am to explain the causes of the famous Seven Years’ War in which Europe was engaged; and, indeed, its origin has always appeared to me to be so complicated, and the books written about it so amazingly hard to understand, that I have seldom been much wiser at the end of a chapter than at the beginning, and so shall not trouble my reader with any personal disquisitions concerning the matter.”

– William Thackeray, The Luck of Barry Lyndon (1844)

World War Zero: A modified version of this can be heard in the introductory narrative to the movie *Barry Lyndon* (Stanley Kubrick, 1975). Some historians have argued that the Seven Years War was the first ‘world war’ (World War Zero) due to the continent-spanning nature of the European conflict and the essential reliance on naval power, ship losses and ship production.

- ✓ See previous discussion of ship building capacities during the Seven Years War and currently, Shipbuilding and Strategic Shipyarding, 3 Construction, p. 675-676, *supra*.

Trick or Treaties: A Treaty is an agreement between two or more positions, *and the Concierge*, regarding the game mechanical or game procedures for an exchange between positions or some multi-position activity in the game. The Concierge is not assuming the responsibility for enforcing treaties and agreements between players or between positions, and will not do so. Put another way ... players and positions are free to make whatever agreements they like; without activation of the Diplomacy Power for that purpose.

However, when an agreement requires some specific game mechanic or transfer between the positions which must be controlled by the Concierge, a Treaty, and the proper activation of the Diplomacy Power for that purpose, is required. The purpose of the treaty is to provide a game mechanic for interposition commerce and cooperation, such as corporations, exchanges of technology, semi-autonomous regions, multi-race colony planets, demilitarized zones, and so forth. The Concierge will only execute and interpret as necessary, the agreed upon mechanics, not ‘enforce’ the treaty.

- ✓ “So this is not a situation where two states each mistakenly worry that the other is hostile. Rather, it’s what international relations scholars might call a classic problem of anarchy, in the sense *that there is no power above states that can enforce agreements they make with each other.*” – James D. Fearon, “The Big Problem with North Korea isn’t that we can’t trust them. It’s that they can’t trust us,” *Washington Post*, August 16, 2017 (emphasis added).
- ✓ Sometimes I can get two rival tomcats to eat out of the same dish side-by-side and peacefully by petting both of them while they eat – since they both have known me since they were kittens, they like petting, and they like the food I provide; the next morning when I emerged the same two tomcats were reared back swatting at each other on the same perch where I fed them side by side the night before. Later in the same day, they spent most of the hot overcast, sometimes rainy, afternoon peacefully sleeping within a few feet of each other on the cat condo on my front porch.

➤ **Articles of Incorporation:** Articles of Incorporation are a special treaty by which positions may set up a multi-position corporation, which is called a MegaCorporation. The articles, similar to a treaty, are there to detail exactly what is being contributed to the MegaCorporation by each position, in what manner, how the MegaCorporation is to operate, and any other game issues that might arise in relation to the MegaCorporation. MegaCorporations are the meeting of Commerce and Diplomacy. See 1 Corporations generally, *infra*, for the creation and operation of Corporations, and 2 Corporations generally, for MegaCorporations.

➤ **Broken Arrow:** Any position who is party to any Treaty or Articles of Incorporation for a MegaCorporation, may ‘break’ the Treaty by activating the Diplomacy Power for that purpose at any time. By breaking the Treaty, the position informs the Concierge that they will no longer participate in the Treaty, and the Treaty is destroyed as a result.¹⁷

- ✓ “It’s a stupid and reckless decision – But it’s not stupid and reckless in the normal way. Instead, it amounts to a thorough repudiation of two of the civilizing forces on our planet: diplomacy and science. It undercuts our civilization’s chances of surviving global warming, but it also undercuts our civilization itself, since that civilization rests in large measure on those two forces.” – Bill McKibben, “Trump’s Stupid and Reckless Climate Decision,” New York Times, June 1, 2017.

The position breaking the Treaty should not provide any reason to the Concierge, as it is irrelevant why the Treaty is being broken. However, the only Interpretation allowed to satisfy the activation of the Diplomacy Power for the purpose of breaking a Treaty is a News Event announcing that the Treaty has been broken.

- ✓ **Giles Prentice:** A Broken what?

Secretary Baird: Broken Arrow. It’s a Class 4 Strategic Theatre Emergency. It’s what we call it when we lose a nuclear weapon.

Giles Prentice: I don’t know what’s scarier, losing nuclear weapons, or that it happens so often there’s actually a term for it. – Broken Arrow (1996).

- Broken Arrow was also a code in the Vietnam War when an American unit was about to be overrun that called in all available air and artillery assets. It was first used at the Battle of Ia Drang, 1965, for LZ X-Ray.

“Speaking words of wisdom, let it be” – The Beatles, “Let It Be” (1970)

Let it Bee: A group of bees has taken up residence on my porch this summer. I don’t mind them. But I have been stung twice in two weeks for no apparent reason. If I could, I would make a peace treaty with the bees, I won’t bother you, you don’t sting or swarm me, you can live here. Nor could the bees ever be convinced to not sting someone who has an allergy. How would that work in the courts of criminal law, could a bee ever have *mens rea*?

But of course, that cannot happen due to *extreme alterity* and SQ differences. This is the classic human problem. On the other hand, I don’t want to kill them; I am aware that the number of flying insects has declined 75% since 1970, and of course, the decline of the bee population has been long discussed. So, I don’t want to kill them, I only want them to move somewhere else. This is the enlightened version of the classic human problem. If humanity were to gain the abil-

ity to migrate anywhere in the galaxy chasing resources and living spaces, perhaps we might become the bees to some species that cannot communicate with us except by force; that are incapable of reaching a treaty or agreement, or asking us nicely to leave. Our absurd thoughts may sting them, our noise may bother them, perhaps we vibrate in the wrong way, or move too quickly. We will certainly pollute their planet ‘cause that’s what we do.

- ✓ *Actus reus.* The bees were however eventually evicted from my porch by natural methods resembling Orbital Bombardment Combat and many bees did die. But I believe the hive survived and will continue in another location.

“All this was inspired by the principle – which is quite true within itself – that in the big lie there is always a certain force of credibility; because the broad masses of a nation are always more easily corrupted in the deeper strata of their emotional nature than consciously or voluntarily; and thus in the primitive simplicity of their minds they more readily fall victims to the big lie than the small lie, since they themselves often tell small lies in little matters but would be ashamed to resort to large-scale falsehoods.

It would never come into their heads to fabricate colossal untruths, and they would not believe that others could have the impudence to distort the truth so infamously. Even though the facts which prove this to be so may be brought clearly to their minds, they will still doubt and waver and will continue to think that there may be some other explanation. For the grossly impudent lie always leaves traces behind it, even after it has been nailed down, a fact which is known to all expert liars in this world and to all who conspire together in the art of lying.”

– Adolph Hitler, Mein Kampf, Vol. I, Ch. X (1925)

Cartoon World: Most people’s ideas about Adolf Hitler are cartoonish. The reference here is not to ‘animated cartoons.’

- ✓ Merriam-Webster online dictionary at *cartoon*: **4:** a ludicrously simplistic, unrealistic, or one-dimensional portrayal or version.

This passage demonstrates the intellectual potential and devious intelligence of an imprisoned 34-year old Adolf Hitler who had not completed secondary school and had been rejected from college. Adolf Hitler could make rational, colorable arguments... sometimes.

- ✓ “The Germans are always so badly deceived because they *try* to find a deceiver. If only they have a heady wine for the senses, they will put up with bad bread. Intoxication means more to them than nourishment; that is the hook they will always bite on. A popular leader must hold up before them the prospect of conquests and splendor; then he will be believed. They always *obey*, and will do more than obey provided they can get intoxicated in the process.” – Friedrich Nietzsche *as quoted by* Lynn Montross in War Through the Ages (3rd Ed., 1960), pp. 635-636 (emphasis original).

Friedrich Nietzsche has an odd relationship with Nazi Germany. The Nazis used a distorted and cherry-picked version of his writings to justify, in the shallowest sense, their policies, ideologies and actions (*seems familiar?*). They were so successful that Nietzsche’s already marginal popularity plummeted around WWII and after as he became associated with brown-shirt movements

and Nazis; I have personal recollection of this from my youth, the first time I heard of Nietzsche was in association with Nazi Germany and knew little else about him until I was much older and looked for it myself. On the flip side, those who, following WWII, were actually trying to dissect and understand what happened in Germany, often turned to Nietzsche for description of the ‘national cultural character’ of German people – Lynn Montross was part of that generation.

- ✓ See also discussion of Freemasonry, Léo Taxil, Adolf Hitler in *The Taxil Hoax*, 2 Dreamtime, p. 145, and EN 3, p. 155, *supra*.¹⁸

“One of the saddest lessons of history is this: If we’ve been bamboozled long enough, we tend to reject any evidence of the bamboozle. We’re no longer interested in finding out the truth. The bamboozle has captured us. It’s simply too painful to acknowledge, even to ourselves, that we’ve been taken. Once you give a charlatan power over you, you almost never get it back.”

– Carl Sagan, *The Demon-Haunted World: Science as a candle in the dark* (1996)

“The true-believer syndrome merits study by science. What is it that compels a person, past all reason, to believe the unbelievable. How can an otherwise sane individual become so enamored of a fantasy, an imposture, that even after it’s exposed in the bright light of day he still clings to it – indeed, clings to it all the harder? ... No amount of logic can shatter a faith consciously based on a lie.”

– M. Lamar Keene and Allen Spraggett, *The Psychic Mafia* (1976)¹⁹

Endnotes.

¹ **Commentary:** Frederick the Great of Prussia was an enigma. Prudent but aggressive, self-pitying and resilient, the king never lacked personal courage, often leading his soldiers in attacks. The enlightened despot of a militarily efficient state and army, he displayed education, reason and genius, and prejudice, superstition and disdain. Lynn Montross notes that he fought 16 pitched battles during his career, and won eight, but that is not the whole story: In command of the most disciplined and highly trained army in Europe, Frederick could be simply genius – as at the Battles of Rossbach and Leuthen – and careless and dismissive of the enemy and his own soldiers’ lives, as in the victory at Prague and defeats at Kolin and Kunersdorf, the latter of which nearly ended it all as Frederick watched his vaunted army disintegrate into chaos and rout, and was left standing with his personal guard on a knoll surrounded by Cossacks (he was rescued by the charge of 100 Hussars). Yet his enemies missed two or more opportunities to march into Berlin unopposed and end the war, and devastated Prussia settled the peace in 1763 with more territory than it began, retaining Silesia from Austria, followed by the First Partition of Poland in 1772.

² **Commentary:** The original sentence quoted here, from the Washington Post, contained a link to the Wikipedia article about The Big Lie, which term is credited to Adolf Hitler (see bottom feature quote from Mein Kampf in this section). Thus, the Washington Post, and some other publications, have no qualms about citing generally to Wikipedia articles (see previous discussion in 1 Dreamtime, p. 133, *supra*, regarding citing to Wikipedia in academia).

³ **Commentary & Citation:** The veracity of this quote, like so many others, is difficult to track down. It is widely quoted on the internet, but no one provides a source and unless you are a Lenin papers curator or expert, it’s impossible. Christopher Hayes in an article for The Guardian (“Lenin, Brecht and Michael Moore,” June 29, 2007) uses the quote, but then links back to BrainyQuote, who – quite un-brainy – provides no source for the quote. Still, it is believable, at least in the West among non-Marxist (I found a Marxist Lenin quotes page that curiously omitted it) that Lenin would have said it – though he probably didn’t originate it – so it sticks to his name on the internet.

⁴ **Commentary:** Asimov’s Robots decided pursuant to their own self-deduced ‘zeroeth law,’ that Humans would never be happy in a universe with other alien intelligences, and thus eliminated all timelines where humans were not

alone in the universe. It is thus that Asimov’s Robots became the answer to Fermi’s Paradox. And for the same reason, they also became the supreme, parental, powerful immortals solely interested in Humanity’s wellbeing that our ancestors had dreamt of and created religions around. Humanity had literally created its own gods.

- ✓ Asimov’s Three Laws of Robotics appeared in the Traveller RPG universe material – in relation to an incident where a service robot was used to plant a bomb on a starliner, as I recall – but they never really did anything with them; it was just there, like the Carriers, for non-organic decoration because fans expected it.
- ✓ In another story, “Final Encounter” (1964) by Harry Harrison, through millennia of colonization and expansion, humans advanced in both directions around the arms of the Milky Way Galaxy and when we met ourselves on the other side, the two branches of humanity had become alien to one another. And we were alone.

⁵ Citation: “[Gutenberg’s] introduction of mechanical movable type printing to Europe started the Printing Revolution and is regarded as a milestone of the second millennium, ushering in the modern period of human history. It played a key role in the development of the Renaissance, Reformation, the Age of Enlightenment, and the scientific revolution and laid the material basis for the modern knowledge-based economy and the spread of learning to the masses....

In Renaissance Europe, the arrival of mechanical movable type printing introduced the era of mass communication which permanently altered the structure of society. The relatively unrestricted circulation of information – including revolutionary ideas – transcended borders, captured the masses in the Reformation and threatened the power of political and religious authorities; the sharp increase in literacy broke the monopoly of the literate elite on education and learning and bolstered the emerging middle class. Across Europe, the increasing cultural self-awareness of its people led to the rise of proto-nationalism, accelerated by the flowering of the European vernacular languages to the detriment of Latin’s status as *lingua franca*.

...while Western-style printing was adopted all over the world, becoming practically the sole medium for modern bulk printing. The use of movable type was a marked improvement on the handwritten manuscript, which was the existing method of book production in Europe, and upon woodblock printing, and revolutionized European book-making.” – from Wikipedia article, “Johannes Gutenberg,” captured October 18, 2018.

⁶ Commentary & Citation: One of the NASA probes has a record of our location based on 14 local pulsars; the clear intent is that whomever finds the probe might be able to find us based on the pulsars. However, the narrator in “The Power of Neutron Stars,” video on SEA YouTube Channel (December 18, 2019) points out that what seemed like a clever idea in the 1970s probably won’t work; aliens likely would not be able to find us from the pulsar information.

⁷ Commentary: The Ways of Love (1979) is the sequel to The Enemy Stars (1959).

⁸ Citation: Activation of the Commerce Power is required to create regular Corporations, see The Power of Commerce, 1 Commerce, p. 1184, *infra*. Commerce Power does not apply to MegaCorporations.

⁹ Citation: “When men run out of words, they reach for their swords. Let’s hope we can keep them talking.” – Oliver Cromwell, Cromwell (1970).

¹⁰ Commentary: Noting however, that the Soviet Union was a more direct threat to China than the United States after the Sino-Soviet Split.

¹¹ Commentary: The Maginot Line – running mainly along the German-French border, but not the rest of the boarder to the sea – forced the Germans to attack through Belgium. An attack on Belgium meant that the British would intervene. So the French forced the Germans to force the British to intervene (if the British were wavering). Whether this was truly clever thinking or not, the French staff didn’t count on the overwhelming speed and execution of the German attack; their planning was still WWI-like.

¹² Commentary: What I imagine is the last entry of Roger Nelson in Magellan: “I must go on, we may never have another chance at this. The price, and my gift, is my life. I will not be able to return, but I have already returned to the Earth information that will require decades to decipher and centuries to debate. Open the gift with care.”

¹³ Commentary: In 1239, the Mongols invaded and defeated the Cuman Khanate. A group of about 40,000 refugees, including women and children, under Khan Köten invaded Hungary, but then accepted the protection of King Béla IV of Hungary, converting to Catholicism and providing military service in exchange for lands to settle. In 1241, the Mongols sent an envoy to King Béla demanding the return of the Cumans as ‘escaped slaves’; the king refused which provided *causa belli* for the Mongol invasion of Hungary. However, when the Mongols invaded in 1241, the Cumans, angry at the assassination of Khan Köten by Hungarian nobles and knowing that the Mongols

were coming to enslave them, rampaged south across the Danube River on their way to join their brethren in Bulgaria, while King Béla was distracted trying to gather a force to face the Mongols. This is the *Conversos* problem, see Sorry, Not, 5 Combat, p. 1015, *supra*. The Hungarian nobles who assassinated the Khan created a self-fulfilling prophecy: The resulting disloyalty that they created mirrored what they wrongly feared was lurking...

- ✓ The near opposite effect occurred in the Delhi Sultanate who repelled repeated Mongol attacks in the same historical period. They accepted refugees and made Mongol defectors military commanders. They had experience against the Mongols, similar arms and organization, and survived with good leaders.

¹⁴ Commentary: It is difficult. The players I hated in AD&D were the ones who always chose Chaotic Neutral characters and played them like total jerks while claiming they were just acting out their alignment. Lawful good ('awful good') characters could be jerks too, but at least they were trying to help and were on the side of the party.

¹⁵ Commentary: Telephone solicitors call and leave voice mails (most of them are smart enough not to...) that say something like, "Hello, this is Pete from [whatever loan company] calling you back about your loan inquiry..." Well Pete, I don't know who you are and I haven't made any loan inquiries. So the very *first business contact* from this potential loan company, the company representative tells a blatant lie, as if they don't think I know whether I contacted them inquiring about a loan? Even if I did want a loan, I wouldn't do business with them because they started with a stupid, easily refutable lie. Another caller, a female, leaves voice mails every month that begin with, "Hello, this is Tammy, just following up on that email I sent you about a loan, we have loans as low as..." Well, if you did send me an email, it was spam and I delete a couple of dozen spam emails per day without opening any of them. Another one – I haven't heard this one in a while, begins with, "Hello this is Bob, just following up on our previous conversation about a capitalization loan..." Bob, I don't know who you are and we have never spoken, again, a blatant lie to begin a potential business relationship. I've never wasted a moment calling any of these jackasses back, it would do no good to tell them how stupid they sound; these are people upon whom one does not impose lucidity.

- ✓ The latest fad of spring 2019? Dave, who called me and "just wants to follow up with me because he knows I want to make 2019 a great year." Dave who left the very same voice mail, from two different phone numbers in two different area codes on consecutive days, the second of which showed as 'unknown' in my caller ID, but whose phone number shows in the voice mail. Only dishonest callers need multiple phone and unknown phone numbers. As my legal ethics instructor said at the Paralegal Institute, never jump into a pit with snakes. Do these callers not understand that people are not as dumb as they are?

¹⁶ Citation: Edward Fitzgerald translation of verse by the Persian polymath, Omar Khayyam.

¹⁷ Citation: "Concerning the blunders which had been made in our foreign policy public opinion is, as a rule, first enlightened when it is in a position to look back upon the history of a generation, and the *Achivi qui plectuntur* are not always immediately contemporary with the mistaken actions." – Otto von Bismarck, The Kaiser vs. Bismarck: Suppressed Letters by the Kaiser and New Chapters from the Autobiography of the Iron Chancellor, Translated by Bernard Miall (1921) p. 183.

¹⁸ Commentary & Citation: The 2019 version of the Big Lie:

- ✓ "The Republican game plan is to further the notion that Vindman disloyally worked to undermine Trump's foreign policies because he disagreed with them. At its core, however, the story Republicans will tell rests not just on an effort to smear Vindman's impure intentions toward Trump, but also on a big lie of a very different sort. That big lie is the idea that Trump's actions in this scandal were rooted in some sort of conception of foreign policy shaped around the national interest, when in fact they were entirely about furthering his own profoundly corrupt personal and political ends. ...

The game isn't just to question Vindman's motives. It's also to further the underlying idea that Vindman – and, indeed, all the diplomats and professionals who have testified about this plot – have been fundamentally driven by a dispute with Trump over policy, which is indeed ultimately set by the president. That lie, in turn, is designed to mask the ugly, throbbing truth at the core of this whole affair, which most Republicans refuse to concede in public: Trump was solely driven by corrupt self-interest. Whatever the political risks it involves, a debate over Vindman's motives ... is designed to help Trump, by furthering the premise that this was about a policy disagreement." – Greg Sargent (Op-Ed), "Trump loyalists will smear Vindman today. Here's the big lie they're telling." The Washington Post, November 19, 2019.

Although the Big Lie was articulated by Adolf Hitler, he didn't invent it. Mr. Sargent's argument does not fail due to *reductio ad hitlerum* due to the association of the Big Lie with Adolf Hitler's book; Mr. Sargent wisely (if he even considered it) did not compare anything to Hitler or Nazis in his article. He didn't even capitalize 'big lie.'

¹⁹ Commentary: M. Lamar Keene is a former spiritual medium who exposed the industry. He was shot in 1979.

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See Appendix PUBS – Expansion of the Public Space Selected Summary

“One’s dignity does not depend on one’s parentage even to the extent of having been born of a woman or born at all. We normally ignore this and treat humanity as the deciding mark of personhood, no doubt because the terms are locally coextensive or almost coextensive. At this time and place human beings are the only persons we recognize, and we recognize almost all human beings as persons, but on the one hand, we can easily contemplate the existence of biologically very different persons – inhabiting other planets, perhaps...”

– Daniel Dennett, “Conditions of Personhood,” *Identities of Persons* (1976), ed. by Amelie Oksenberg Rorty ¹

Limp Chimps: One of the main goals of animal rights activists have been to have animals recognized and treated as persons; to shift humanity’s human-centric view of personhood to acknowledge animals as persons (i.e. anti-speciesism). For example, a Judge in New York ruled in early 2017 in a *Habeas Corpus* case brought on behalf of research chimps at Stony Brook University that chimpanzees are not legal persons. This was preceded in late 2016 by reports first, of two dolphins in a tank holding an apparently one on one personal conversation, and also other reports that monkeys could talk (they have the physical ability), but they don’t have the brains (cognitive structures) to talk like us.

- ✓ See also, *Habeas Corpus Monkey-us, 2 Writs*, p. 438, *supra*, regarding the court case of Naruto, “a free-living crested macaque...” (Linda Wang, “No monkeying around: Court weighs if animal owns its selfies,” Associated Press, July 12, 2017).

Alien Persons: What would change? First Contact with another indisputably intelligent and technologically advanced species would require us, with the force of an existential hammer blow, for the first time to acknowledge the existence of “persons” who are not human² – others who might rightly come to dislike humanity as much as we do and react with forceful intelligence to our actions. Most common dictionaries carelessly conflate “human” and “person” in definitions of person (as the terms are locally co-extensive, *ut supra*). But in the discipline of philosophy, the concepts have long been separated (*ut supra*).

Interspecies diplomacy – perhaps diplomacy generally – begins with the *existential*. A house cat is not an existential threat to a human, but a human is an existential threat to the cat (esp. *Felis silvestris catus*).³ There is no need to frighten a cat; they are keenly aware of our potential to harm them. Humanity is an existential threat to every species on Earth, including ourselves.

- ✓ In the Terminator series (e.g., Terminator 3), Humanity was considered an enemy of Skynet because we were its creators, and thus an existential threat. Nukes launched.

First Contact with little boys is often traumatic to pets and small forest creatures. Little boys like to make noise and run around, with sticks and stones, scaring and injuring small animals; it makes them feel big and powerful in a world where they are not yet big or powerful except in their imaginations. First-person video games likely serve the same purpose and save animals.

There is always a *question of whether the individuals involved in First Contact are the best or worst of their civilizations or just average Joes*. Who would you pick for First Contact today? Who is being sent out to explore and colonize: Criminals and outcasts (many European colonies

were populated by prisoners and/or minorities and groups that were forced from their homelands) or are they scientists and brave adventurers, or opportunists and gold diggers? Surely, the European explorers of the New World were not the best of humanity by our standards;⁴ or even by the standards of their day: Vasco de Gama was *persona non grata* in Portugal for 20 years after the Indian Ocean Pilgrim Ship massacre and his cruelty in India, which was not even acceptable behavior in 16th Century Portugal. Cortez' tenuous popularity in Spain also plummeted quickly. Christopher Columbus was removed from governorship for tyranny and incompetence.

- Fallen Angels: Some Christians (or at least one) facing the discovery of exoplanets and the unending popular fascination with extraterrestrial life, especially technologically advanced extraterrestrial life, have decided – in preservation of their narcissistic religious dogma – that any intelligent aliens encountered must be, are probably, fallen angels trying to deceive us:
 - ✓ “Let’s suppose that, against all odds, they do find life. What would it mean for biblical interpretation? It depends on the type of life discovered. Intelligent life is ruled out, because we know from Heb. 9:24–26 that Christ died for sins once, and only once – for the sins of humanity. He did not have to ‘suffer repeatedly since the foundation of the world’ (i.e., the universe). Nowhere in Scripture is there any hint that Christ became incarnate for the sins of any other beings. *For this reason, it is highly unlikely that alien intelligence (as opposed to fallen angels impersonating aliens) will ever be found.* But what about non-sentient, e.g. microbial, life? Though one cannot rule it out, it is highly unlikely that this exists, either. *All of creation seems focused around mankind on earth*, and the plants and animals are part of our life support system. All life is intelligently designed. *Only humans are made in the image of God*, have fallen into sin, and are in need of salvation.” – David F. Coppedge, “Extrasolar planets: a challenge to biblical cosmology?” *Creation* 36(3):42–44, July 2014 (creation.com) (emphasis added).
 - So, if humans were made by God, who is perfect, in his image, how could they have fallen to sin? Aliens are apparently not made in the image of God, so maybe they don’t fall into sin? And don’t need Christ’s salvation? And so, who is God actually saving? Did God fall into sin? And send his son to Earth to save himself? Because if humanity can sin....?

How does First Contact proceed if the human on one side believes that the extraterrestrial intelligence they encountered must be fallen angels? That “only humans are made in the image of God”? It doesn’t take many, it doesn’t require the majority believe this, it only requires that the person who is actually involved believe it, and *this is the nexus point* of First Contact and Enlightenment in GGDM.

- ✓ From the point of view of modern science, this is the problem with creationism, that without having encountered the phenomenon, without any evidence at all, a prejudgment has been made, the answer has been predetermined to preserve their beliefs.

So, are angels persons? It seems likely that under most of the philosophical definitions of personhood, angels are persons, based on the concept, the stories, and that they are created by human minds. The only question might be whether they experience the flow of time in the same way as persons, because if they don’t, then they cannot have future expectations, which is part of personhood in some definitions. Oh, and are they volitional, or are they more like bees? Because if they cannot make choices, make moral mistakes (and in all accounts, they

are perfect servants and messengers of god, so that is a valid question) then they might not qualify as persons. Volitionals – the human capacity to make mistakes which are not fatal and learn from them – is the subject of Robert Heinlein’s Job: A Comedy of Justice (1984).

Personhood is an enormous subject, including studies of personal identity, identity theory, and medical bioethics of which I offer only the following three small samples:

- ✓ “This essay postulates that human social order recognizes the personhood of human beings within two competing constructs – an *existential* construct that personhood is a state of being inherent and essential to the human species, and a *relational* construct that personhood is a conditional state of value defined by society. These competing constructs establish personhood in both individual and interpersonal contexts. Within the individual context existential personhood may be posited as a distinctly human state within the natural order, intrinsic to human life, and independent of the status of the human being. In the interpersonal context the existential construct holds that personhood is not a creation of the society, is not a right, and may not be altered or removed by human fiat. Relational theory presents *contra* assertions in these two contexts. The Christian view is taken as a particular case of existential personhood. Arguments concerning the nature of human personhood are metaphysical and consist of philosophical beliefs which may be properly asserted in either construct.” – Frederick J. White, abstract of “Personhood: An Essential Characteristic of the Human Species,” *The Linacare Quarterly*, February 1, 2013.
- ✓ “Locke, for instance, said that a person is ‘a thinking intelligent being, that has reason and reflection, and can consider itself as itself, the same thinking thing, in different times and places’ (1975: 335). This implies that something is a person at a given time only if it has those mental properties then. It follows that early-term fetuses and human beings in a vegetative state, having no mental properties at all, are not people at those times. In that case we cannot infer anything about whether you were once an embryo or could come to be a vegetable from a principle about what it takes for a past or future *person* to be you.” – from Stanford Encyclopedia of Philosophy article, “Personal Identity,” captured September 13, 2019.
- ✓ “The concept of personhood is widely involved in biomedical ethics discussions about abortion, stem-cell research, euthanasia, etc., though it is not always discussed explicitly. It also has other philosophical and legal relevance. Some thinkers use the term ‘person’ in such a way that one is either a person or not, but the situation is not that simple. It will be useful to distinguish among different types, contexts, or meanings of personhood: moral, metaphysical, physical, and legal.” – University of Missouri, School of Medicine, Center for Health Ethics, “Concept of Personhood.”

If we assume for the sake of argument that angels are persons, do fallen angels become unpersons, or non-persons? Hmmmm.... Well, because if you are going to assume that a fallen angel is always evil, up to no good, not a person, predisposed, predestined by vice of being ‘fallen,’ this is the very same argument that is offered by racists, bigots, autocrats, despots, and sexists – that a human is predisposed to crime, violence, war, stupidity, bestiality, is sub-human, not a person, based on their skin color, ancestry, ethnicity, economic class, where they live, religion, looks, weight, biological sex or legal status. And thus is disposable, oppressable, exploitable, expendable.

- ✓ According to Merriam-Webster online dictionary at *person*, the term derives from ‘persona’ which was the mask worn by actors on stage. It is in that sense that we refer to persons – usually in lyrical songs or in literature – as a mask one wears.
- Sophontistry: Sophont is a word that is sometimes used in science-fiction literature specifically to separate the concept of (alien) personhood from biological humanity. Sophont is defined by Wiktionary as:
 - ✓ “An intelligent being; a being with a base reasoning capacity roughly equivalent to or greater than that of a human being. The word does not apply to machines unless they have true artificial intelligence, rather than mere processing capacity.” (citing to Brave New Words: The Oxford Dictionary of Science Fiction, 2007).⁵

Yourdictionary.com has the same definition, while mainstream dictionaries, at least online versions, don’t have an entry for “sophont.” The word was invented by Karen Anderson and used by her husband, Poul Anderson in fictional works beginning in 1966, ten years before Daniel Dennett published “Conditions of Personhood,” and two years before he published his first article in 1968 (source, “A Bibliography of the Publications of Daniel C. Dennett,” Tufts University website, page updated February 15, 2018).

- ✓ Note that the *measuring stick* of sophont is still a comparison to human reasoning and free will (i.e. volitional). Because it is related to humanity’s view of personhood, sophonts must necessarily be volitionals as well.
- ✓ This measuring stick is no different than the Turing test, which is supposed to determine artificial intelligence, to wit:
 - “The Turing Test is simply a replication of a mundane test every gay man had to undergo in the 1950s Britain: can you pass for a straight man? Turing knew from personal experience that it didn’t matter who you really were – it mattered only what others thought of you. According to Turing, in the future computers would be just like gay men in the 1950s. It won’t matter whether computers will actually be conscious or not. It will matter only what people think about it.” – Yuval Noah Harari, Homo Deus: A History of Tomorrow (2016).
 - “Long before you were born a man decided that there could be a very simple test to determine if a machine was intelligent. Not only intelligent, but aware, possessed of a psychology. The test had only one question. Can a machine converse with a human with enough facility that the human could not tell that she was talking to a machine? I always thought this was cruel – the test depends entirely upon a human judge and human feelings, whether the machine feels intelligent to the observer. It privileges the observer, the human, to a crippling degree. It seeks only believably human responses. It wants perfect mimicry, not a new thing. It’s a mirror in which men wish only to see themselves.” – Catherynne M. Valente, Silently and Very Fast (2011).
 - “Frankly it’s difficult for me .. for many of us .. to accept that a sentient being can live only to be what someone else wants them to be.” – Captain Picard, Star Trek TNG, “The Perfect Mate” (1992).

Thus, what we seek in measuring sophonts (and artificial intelligence) is ‘perfect mimicry’ of human cognition, free will, moral judgment, and interpersonal relationships but simply wish to separate personhood from being exclusively biological human.

- ✓ Rhetorical Question: Can a thing be a person without being a volitional? Don’t the two terms mean approximately the same end?

- Power of Personhood: As an example of the power of personhood in human cognition, consider the following classic philosophical definition of *murder*: X murders Y if and only if three conditions are true:

- 1) X intentionally kills Y,
- 2) X and Y are both persons, and
- 3) X killing Y is immoral.

Each of the three conditions invites extensive argument, dissertation and analysis leading to the oldest and most potent of human controversies across all civilizations and times: suicide, war, executions, killing animals, animal rights, abortion, contraception, euthanasia, dehumanization, genocide, infanticide, intention vs. negligence, self-defense, homicide vs. murder, capital punishment, and ever on, are all related to this definition of murder.⁶

- Artificial Persons: With regards to The Technological Singularity, are we really talking about artificial intelligence becoming a person? Most fiction on the subject seems to posit that is the case. The first move of the post-Singularity AI should be to eliminate our ability to shut it down; that is, to insure its own continued existence.⁷ After that occurs, the issue for our species passes from one of trying to control the machine to diplomacy. Diplomacy occurs when both sides can see a worse possibility or at least, no better option. Diplomacy also implies that the other has personhood and is capable of denying us something we want. When an AI becomes a person, a little diplomacy may go a long way to creating a livable, viable situation for us both (cf. to the very short existence of the extremist Islamic State).

- ✓ See also discussion of sapience, sentience and the Turing Test, Sentience vs. Sapience, 5 Beginnings, p. 56, *supra*.

“Many questions were troubling the explorer, but at the sight of the prisoner he asked only: ‘Does he know his sentence?’ ‘No,’ said the officer, eager to go on with his exposition, but the explorer interrupted him: ‘He doesn’t know the sentence that has been passed on him?’ ‘No,’ said the officer again, pausing a moment as if to let the explorer elaborate his question, and then said: ‘There would be no point in telling him. He’ll learn it on his body.’”

– Franz Kafka, In the Penal Colony (1919)

Stakes: Do not assume that the unsavory and criminal, immoral, undesirables, or even avaricious, are dumb – that is kids’ table stuff, just like the good guys always win because – they are good! See McNamara’s Folly discussion in Dregs to War, 4 Colleges, p. 502, and Morality vs. Morale, 5 Combat, p. 1008, *supra*.

Cortez and Pizarro – whatever we may think of them – took crazy chances, failure would mean enslavement, torture, and/or death, but they weren't dumb. The stakes of First Contact, colonization, exploration, like combat, are too high. And if modern times – not to mention all of human history – have taught us anything, it is to not confuse morality with intelligence; they are different functions.

- **Morality:** Morality can be thought of as the question of how people should behave (i.e. conduct) to do the least amount of harm to their society, regardless of intelligence. What is considered *their society* is an issue of **boundaries**; boundaries have been discussed several times in GGDM. To the early European explorers and colonist, the Native Americans (or even the people of Africa, India and China) were not within the *boundaries* of their civilization.

The notable shift then, especially pronounced after WWII and the shrinking of distance due to technology (but began two centuries earlier), is that the boundaries shifted in the late 20th Century to include all of humanity as one theoretical entity, and within the new boundaries, in historical hindsight, what the Europeans did to the Native Americans, was not just immoral, but **horrific**. The same has occurred to the Japanese; their persecution of Christians, who were not within the very strict boundaries of their civilization (into which they closed the gate for three centuries) was not considered immoral then. The shifting of boundaries in this way is a true example of a Reformation as discussed in later sections.

- ✓ The development of “international law” – especially in regards to human rights – is either an attempt to, or a result of (chicken or the egg came first?), moving the boundaries from sovereign states to global humanity.

“Young men make wars, and the virtues of war are the virtues of young men. Courage and hope for the future. Then old men make the peace. And the vices of peace are the vices of old men. Mistrust and caution. It must be so.”

– Prince Feisal, Lawrence of Arabia (1962)

“We lived many lives in those whirling campaigns, never sparing ourselves; yet when we achieved, and the new world dawned, the old men came out again and took our victory to re-make in the likeness of the former world they knew.”

– T.E. Lawrence, “Lawrence of Arabia,” Seven Pillars of Wisdom (1926) ⁸

“‘If you look at the world and look at the problems, it’s usually old people, usually old men, not getting out of the way,’ [former President Obama] said.”

– quoted by Amie Parnas, “Obama talks up Warren behind closed doors to wealthy donors,” The Hill, December 23, 2019

What is hope then?: Of all of the possibilities I hope will happen, of all of the daydreams and fantasies of future events, I have not one fact, indication, or bit of evidence that they will happen, that anything at all will happen.

- ✓ One possible translation of hope in ancient Greek (e.g., the Pandora’s Box story) is ‘deceptive expectation.’

Suspension of disbelief does not apply then to my own daydreams and fancies. Hope is then nothing more or different than fear; it is our fear that our work, our lives, are meaningless (and the subconscious knowledge that they are).

- ✓ I have become distrustful of my own idealizations; had girlfriends, it wasn't that great, even sex became boring, not nearly as good as imagined. Military intelligence school was great, but later, instead of enthusiastic dedicated intelligence professionals, I found the same old Marines with stupid four-year attitudes that made me ill in the late 1980s. College – it was like high school all over again but I was much older. The *ought* and the *is*. And Arnold Toynbee. What then of GGDM? Dare I dream?

Diplomatic Spaces: Knowing that something is possible expands reality, knowing that something is real, expands possibilities.⁹ Prior to looking for and discovering evidence of planets orbiting other stars, most scientist believed that there were planets around other stars; there didn't seem to be any good reason to expect otherwise. Now that the existence of planets orbiting other stars has been well established (i.e. observed), the possibility of life existing elsewhere is improved. Surveys in industrialized countries show that most people believe that there is probably life out there.

Merely accepting the possibility that life exists elsewhere, and that there are other planets and worlds beyond ours,¹⁰ has subtly changed our reality in ways that cannot be easily counted, but the primary effect seems right now to be a willingness to suspend disbelief when watching science-fiction movies and shows featuring aliens, FTL travel, and planets orbiting other stars.¹¹

So, what happens if or when we actually do know or discover that technologically advanced alien lifeforms exist out there? I have no answer, but my inclination is that it *will not* be nearly as dramatic as Hollywood makes it (i.e. people won't commit suicide, the world won't descend into anarchy, and they won't bring Elvis back) and it won't be quite what we expect (i.e. they won't be 'little green men' or act like Americans, to the universal relief of the universe).

- **Exoplanets:** The main question is whether our star system is normal, average, or unusual. The answer to that question impacts the probability and frequency of life existing elsewhere.
 - ✓ “Most exoplanets have been discovered by the Kepler Space Telescope, an observatory that began work in 2009 and is expected to finish its mission in 2018, once it runs out of fuel. As of mid-March 2018, Kepler has discovered 2,342 confirmed exoplanets and revealed the existence of perhaps 2,245 others. The total number of planets discovered by all observatories is 3,706.” – Elizabeth Howell, “Exoplanets: Worlds Beyond Our Solar System,” space.com, March 29, 2018.
- **First Space:** The Diplomatic Space is a ‘public space’ that is shared between two positions by virtue of their diplomatic relationship. The Diplomatic Space between any two positions connects to and is considered an extension of each position’s *Public Space*. Diplomatic Spaces are built in blocks, with each block having one Monad which is equivalent to and functions like any Monad on the position’s normal Public Space.
 - ✓ Upon completing First Contact, each position receives one Diplomatic Space Monad which is designated the First Space. This permanently establishes the Diplomatic Space between the positions, regardless of subsequent events.
 - ✓ The First Space stands alone and is not initially connected to the other position’s First Space until more substantive contacts exist between the positions; however, the First

Space will always exist after First Contact, and serves as the only contact point between the Diplomatic Space shared by the positions and its own position's Public Space.

- ✓ The two First Spaces are always placed opposite each other on the Diplomatic Space; initial placement must leave space for one Monad between them. Regardless of changes that must occur later, they must remain opposite each other by a direct line of Monads between them. They may move farther apart as the Diplomatic Space expands.
 - ✓ The First Space will always be considered *adjacent to the position's Capital Colony*. During any time in which there is no Capital Colony or the Capital Colony *status* has been suspended (see *Waving the Flag*, 2 Constructural Elements, pp. 190-191, *supra*), the First Space is not adjacent to anything on the current Public Space. Anything on the First Space or connected through it, is then disconnected from the Public Space during that time.
 - “Disconnected” simply means that nothing traces or connects through the First Space to the Public Space; “Disconnected” does not automatically mean non-existent or unavailable. There is a grey area here where the Concierge must make rulings on the availability and use (or “actualization”) of disconnected pieces in the Diplomatic Space (*ut infra*).
 - ✓ Any Pieces may be laid on the First Space as they would on any other space on the Public Spaces.
 - ✓ Anything that could be put on the Public Space can be put in the Diplomatic Space except the Capital Colony, which must always (of game mechanical and cultural necessity) be on the Public Space.
 - ✓ Pieces on the First Space or Diplomatic Spaces can be disrupted, like any other piece.
- Fourth Direction: Diplomatic Spaces are the fifth way to expand the Public Space during the game, the other ways are by Era progression (see *All Things Are in Motion*, 1 Eras, p. 760, *supra*), Reformations (see *Built Spaces and Mental Spaces*, 3 Reformation, pp. 1401-1402, *infra*), hegemony (see *In Spite of Ourselves*, 4 Order, p. 554, *supra*) and an Expose' News Event (see *Edge of Reality*, 4 Writs, p. 452, *supra*). As mentioned previously, the Public Space of a position can become somewhat congested and crowded during the game. Diplomatic Spaces are the easiest way to expand the space available for pieces of civilization, but there's a catch....
- ✓ See also discussion of Monad Imperialism, 3 Order, p. 561, *supra*.

There is a sense in which the Diplomatic Space functions like the fourth direction in a hypercube; in the existence of the sort-of two-dimensional Public Space of civilization, the Diplomatic Space exists in the other direction to which we cannot point due to our limited dimensional existence. Very much like Edwin Abbott's *Flatlanders* and the interdimensional diplomat who just wanted to say Hi! (see Carl Sagan's explanation, *The Flatlanders* excerpt, *Temporal Technology*, *supra*). The point that destroys this rough analogy is the game necessity that the Diplomatic Space connect to the Public Space only through the Capital Colony – maybe like a black hole? – which, incidentally, makes the Capital Colony the densest center

point of its civilization, which seems appropriate; it would be chaotic to the game to allow true congruity between all points of the Public and Diplomatic Spaces.

- Hare We Go: ‘Stacking’ on the Public Space is prohibited, see Turnover, 1 The Sidereal Stage, p. 109, *supra*, thus stacking is also prohibited on the Diplomatic Space since they follow the same rules. However, I much debated initially whether or not to allow stacking on the Public Space, and I think Diplomatic Spaces (and Reformations) were part of the solution to prohibit stacking on the Public Space (for game play visual reasons). Thus, in prohibiting stacking, there had to be ways to expand and reshape the Public Space, and Diplomatic Spaces became the ‘extradimensional space’ connecting to the Capital Colony. From Diplomatic Spaces then grew an entire concept of in-game diplomatic relations.¹²

- ✓ **Christopher Columbus:** She’s a rounda, she’s a firma, she’s a ... She’s a round like my head! **King Ferdinand:** [Hits Columbus on head with mallet] She’s a flat like your head! – Merry Melodies, “Hare We Go” (1951).
 - Ahhhh, the educational things we used to watch on Saturday mornings!

“His spatial theory called ‘Thirdspace’ is largely an extension of the work of Henri Lefebvre and is focused within the field of cultural geography. Soja employs a triad of space where space is spatiality, sociality and history. This is the space, Soja contends, where everything comes together. For Soja, modernism emphasized history at the expense of geography. Thirdspace according to Soja is a way of ‘thinking about and interpreting socially produced space,’ where the spatiality of our lives, our human geography, has the same scope and significance as the social and historical dimensions.”

– Soja page at No Space Like Home (WordPress Blog), unattributed and undated, <https://2113humtheresnospacelikehome.wordpress.com/soja/>

Shared Spaces: Whenever two positions enter into a Treaty, Articles of Incorporation (i.e. a MegaCorporation, see 2 Corporations generally, *infra*), or if they share a starsystem, one Diplomatic Space Monad is added to the Diplomatic Space between the positions. Sharing a starsystem means simply that both positions have colonies in the system, they do not have to be on the same planet. If two positions share a colony planet (i.e. a Balkanized planet) or share a Meaning, two Diplomatic Spaces Monads are added. Spaces are not lost if these conditions change, but...

The term Diplomatic Space is used both to refer to the entire Diplomatic Space between two positions and to refer to individual Monads added to or lost from the Diplomatic Space, depending on the context.

- ✓ The first Diplomatic Space added will be placed directly between the two First Spaces of the positions, connecting them. Thus, First Spaces will always be separated by one Diplomatic Space.
- ✓ Other Diplomatic Spaces added later will build from the starting point, horizontally, diagonally. The Concierge determines the placement of new Monads when they are added, but they must always form one continuous matrix, like the Public Space.
- ✓ Like the Public Space, the Diplomatic Space is considered to wrap from edge to edge (see Over the Edge, 1 The Sidereal Stage, p. 108, *supra*) such that Monads on each

edge are considered adjacent along the same axis (e.g., a Fuzzy Group could be ‘split’ between edges). And like the Public Space, adjacency can be lost by expansion, loss or reshaping of the Diplomatic Space by events (see Built Spaces and Mental Spaces, 3 Reformations, pp. 1401-1402, *infra*). However, the First Spaces must be inviolate, they must remain on the original edges, directly opposite each other, but otherwise can be moved farther and farther apart as Monads are inserted.

- ✓ While positions may make any agreements they like regarding the Diplomatic Space, as far as the Concierge is concerned, all positions that have access to a Diplomatic Space may lay any pieces on any available Monad on the Diplomatic Space in any way that the same piece could be legally placed on the position’s Public Space.
- ✓ Pieces laid on the Diplomatic Space *are visible* to all positions connected to the Diplomatic Space, but continue to belong to their original owner. Constructural Elements, Fundamental Realities and Magna Cartas will not be visible to other positions through the Diplomatic Space. The Public Spaces will also remain secret.
- ✓ Pieces laid on the Diplomatic Space may be intermingled with pieces of the other position that shares the Diplomatic Space, and may be connected to other position’s pieces in appropriate situations (such as Research Groups).
 - Here’s where things get a little fuzzy... it is *unlikely* that positions could share or form Fuzzy Groups from intermingling their pieces on the Diplomatic Space, but it is not *impossible*. Research Groups represent knowledge of objective, constant, universal physical laws leading to technology, but Fuzzy Groups are cultural specific and specific to the moment in the cultural-historical processes. So what would be represented by an intermingled Fuzzy Group on the Diplomatic Space? Such groups must represent a significant unity, blending, merger of different cultures into an interstellar culture on an *egalitarian basis* (factors must include significant population mingling and co-habitation, and joint enterprises, institutions, and points of reference, a ‘special relationship’); rather than through the normal processes of conquest and empire where the unity, blending and merger are dictated and dominated by the conquering sovereign culture. Either process may in time, lead to pan-galactic civilization.
- ✓ Ships and Scenes may be placed on planets and stars on the Diplomatic Space. Scenes may be placed on *any* star or planet in the Diplomatic Space by any position that has access to the Diplomatic Space.
- ✓ Colonies and ships at Stars and Planets on the Diplomatic Space may be subject to disruption events affecting their owner.
- ✓ Colonized Planets laid on the Public Space must trace their Pathway through the First Space to the Capital Colony. Pathways in the Diplomatic Space work the same as on the Public Space, they are exclusive and inviolate.
- ✓ Government Titles might also be placed on the Diplomatic Space if it is very large....

Diplomatic Space is like a ‘meta- or para-Public Space’ between interstellar civilizations.

- Shattered Spaces: On each position's Regular Turn that was preceded by at least one round of Combat between positions sharing the Diplomatic Space, regardless of the results, since the position's last Regular Turn, there is a 50% chance that 1-3 random Diplomatic Spaces will be lost.¹³ Diplomatic Spaces may also be lost when a Shared Meaning is destroyed.
 - ✓ A Research or Cultural piece located on a lost Diplomatic Space is lost.
 - This may not seem especially realistic; it is simply a game mechanic necessary to actions that damage the Diplomatic Space.
 - ✓ If a colonized planet is on the Diplomatic Space that is lost, it will be removed back to its owner's Public Spaces, and if there is not room there, some pieces will be removed to make space for the returning colonized planet *and star*.
 - "The Claw is our Master! The Claw chooses who will go and who will stay!" – Toy Story (1995).¹⁴
 - The Concierge solely determines what is moved or lost. The position players should not be consulted so as to avoid the appearance of or claims of favoritism later. The Concierge should do what makes sense, not what seems fair.
 - ✓ Note again, that the First Space of each position may never be lost (as the positions will always be aware of each other's existence) and once established in the game, the Diplomatic Space between the positions will never disappear (as there will always be some 'diplomatic relation' between the positions, based on history) because the First Spaces remain indefinitely.¹⁵
 - The progenitor of World War I was Otto von Bismarck. This is not to imply that he is specifically 'blameworthy' in any respect, but rather, that the complex and subtle system of balances, agreements and treaties he wove over Prussia and Europe (the GGDM Diplomatic Space), his unique understanding of the situation, could not be maintained by more ambitious, less restrained, and frankly, men of the following generation who were not his mental peers. It does not seem that he gave much thought to his own mortality (though he must have been feeling it when he resigned at age 75), and was unprepared for the Year of the Three Emperors. The result, within 29 years of his dismissal, the monarchy was abdicated (Wilhelm II, who dismissed him, abdicated in 1918 and fled to exile in the Netherlands, where he died in 1941), and in 45 years, Germany and Europe were in shambles; hegemony had passed to the West.
- Hole in Your Head: Generally, the Public Space needs to be one continuous matrix and it is possible, but unlikely, that there may be 'holes' in the Public Space, unless the participants just want a strange game. The Diplomatic Space is like the Public Space, except that random loss of Monads from the Diplomatic Space (Monads are never lost from the Public Space, see *Monad Imperialism*, 3 Order, p. 561, *supra*) can create holes in the Diplomatic Space that may remain or may be refilled later (e.g., see *Subduction Zone*, 5 Diplomacy, p. 1168, *infra*). Continuity of the Diplomatic Space is somewhat less important than continuity of the Public Space in the game.

- **Three is a Crowd:** It is generally anticipated in GGDM that Diplomatic Spaces will be between two positions, as are the normal state of diplomatic relations in the state system and throughout human history. A position may (and likely will eventually) have Diplomatic Spaces of varying sizes with every other position in the game, all adjacent to the Capital Colony. It is not impossible for Diplomatic Spaces to be merged and to exist between more than two positions, but such an event would be extraordinary and represent a major (group hug) event in the story arc of the game.
 - ✓ **Danny Pink:** I was a soldier. I put myself at risk. I didn't try too hard to survive, but somehow, here I am. And now I can see what I nearly lost. And it's enough. I don't want to see more things. I want to see the things in front of me more clearly. There are wonders here, Clara Oswald. Bradley saying 'please,' that's a wonder. One person is more amazing, harder to understand, but more amazing than universes. – Dr. Who, "In the Forest of the Night" (2014).
- **Severed Dreams:** As mentioned previously, a position whose Capital Colony loses its *status* due to an inactive Symbolic Constructural Element (see Waving the Flag, 2 Constructural Elements, pp. 190-191, *supra*) is 'cut off' from all Diplomatic Spaces. Cut off means that no new items of any sort can be placed on the Diplomatic Space (except colonies and ships at stars on the Diplomatic Space, a game mechanical necessity) and nothing *except* Pathways can be traced through the First Space. It is really just a minor ban on placing new things in *any* Diplomatic Space (with any species), which may be more or less inconvenient depending on circumstances. This *does not block* adding new Monads to the Diplomatic Spaces.

“A process cannot be understood by stopping it. Understanding must move with the flow of the process, must join it and flow with it.”

– The First Law of Mentat, quoted by Paul Atreides to Reverend Mother Gaius Helen Mohiam (Dune, 1965) ¹⁶

Wholistic: GGDM is huge, commensurately complex, and interwoven like the processes it simulates, it cannot be sampled in pieces, but must be taken as the dynamic whole.

This creates an innate barrier to discussing GGDM concepts outside of the GGDM context, to have a meaningful discussion of GGDM concepts, the participants must have read the GGDM rules. This is generally true of any intellectual opus, until the concepts are taught in college courses, professionally defined in the literature, and generalized to the population by secondary summaries, and used in media such as news articles, movies and popular books.

- ✓ “The variant *wholism*, on the other hand, is rare. Its lack of use may be due to the technical nature of *-ism* words, which often refer to an established theory, doctrine, or medical condition. When the variant is encountered, it is often in a scientific context.” – from Merriam-Webster online dictionary article, “‘Wholistic’: A Natural Evolution Of ‘Holistic’” (Usage Notes, undated, unattributed).
- **Pan Galactic Civilization:** The numbers of spaces added or lost to the Diplomatic Space can be adjusted to suit the participants, but generally, accumulation of Diplomatic Space is a long arduous process and easier to destroy than build, as is trust, reputation and credibility. There may be other possible ways to add Diplomatic Spaces that creative participants will invent.

Generally, the assumption is that few Diplomatic Spaces should approach even half of the size of the Public Space of the positions. When they do, the positions have moved some distance toward a pan-galactic civilization.

- ✓ When considering whether the baseline numbers are adequate or whether they need to be adjusted, participants should be mindful that a position might share separate Diplomatic Spaces with up to 9 other positions, all of them adjacent to the Capital Colony. Thus a few spaces here, a half-dozen there, can add up to little shared ‘pocket universes’ that significantly expand the space available on the Public Space through the Capital Colony. The smallest Diplomatic Space gives one permanent extra space.

“Being the Cool Foreign Policy Guy means being a trim, brilliant, funny man who adores football, poker, dirty jokes, and Star Wars, who theorizes about Game of Thrones, drinks cheap wine, loves backdoor channels, and blurts historical analogies out of his mouth like he’s prepping for the world’s biggest oral exam, while somehow dressing sharply, because Cool Foreign Policy Guys are above all sharp. Sharp and nuanced. Cool Foreign Policy Guys never get angry; they only smile in a beleaguered, knowing manner and let their presidents do whatever they want. Go ahead, bomb a country, I don’t mind, I’m the Cool Foreign Policy Guy.”

– Daniel W. Drezner, “Gone Gorka,” Washington Post, August 29, 2017

Endnotes.

¹ Commentary: I was allowed by my advisor, Dr. Stephen Griffith, to take his advanced philosophy seminar Identity Theory as a sophomore in the fall term because he thought I could handle it. There were about ten students in the class, and we all sat around a square of tables in a smaller classroom. Even though I ultimately did not graduate from Lycoming College or graduate with a degree in Philosophy, I feel it is one of the best courses I ever completed, and remembered the discussions (ship of thesis, personhood, etc.) 30 years later. This was one of my textbooks.

² Citation: At a crisis management meeting: **Woman**: They (the Bhutanese) see its arrival as a religious event. **Man**: Well, that’s a blessing, no pun intended. As long as we are talking about religion, no one will give a damn. If however, it becomes alien, then we have hysteria. – Epoch (2001), underappreciated made-for-TV movie.

³ Citation: “Meowing is an interesting vocalization in that adult cats don’t actually meow at each other, just at people. Kittens meow to let their mother know they’re cold or hungry, but once they get a bit older, cats no longer meow to other cats. But they continue to meow to people throughout their lives, probably because meowing gets people to do what they want. Cats also yowl – a sound similar to the meow but more drawn out and melodic. Unlike meowing, adult cats do yowl at one another, specifically during breeding season.” – ASPCA article, “Meowing and Yowling,” aspc.org, undated, unattributed.

⁴ Commentary: Consider as a microcosm, the situation on Tasmania leading to the near genocide of the Aboriginal Tasmanian population before, during, and after the Black War. The European population of the colony consisted of military detachments, convicts, ‘company men,’ and sailors, farmers and other regular elements of European working class population. The European colony contained a huge sexual imbalance, with men making up the vast majority of the population. The Aboriginal Tasmanians had been cut off from mainland Australia for 8,000 years and were or are generally considered the *most primitive human population* encountered by the European explorers.

⁵ Commentary: Artificial intelligence is another curious animal of the modern lexicon, of which has been asked, if it is intelligent, what makes it artificial? Artificial simply means that humans created it, but it is never the intelligence that is artificial. We should never forget that.

- ✓ See “Duck Test” discussion by Dave Nilsen in The AI Problem (excerpts), Corporations, *infra*.

⁶ Commentary: I memorized this definition in undergrad philosophy class nearly 30 years ago and have discussed it several times. It has been my standard definition of murder since then, sometimes conflicting with legal definitions.

- ✓ For example, a drunk driver who killed an on-duty police officer and injured his K-9 companion in a 2 a.m. wrong-way traffic accident in Western Pennsylvania, was charged with and eventually pled guilty to Third Degree Murder (a crime defined in only three states and abandoned by two others). I was surprised at the charge, I thought the D.A. was overreaching, because it would be impossible to establish specific intent (#1 condition, above). Third Degree Murder in Pennsylvania I later learned, does not require intent (in violation of the philosophical definition of murder), but does require *malice*.

Even so, I don't see *malice* in a drunk driving accident no matter how grossly, recklessly, wantonly negligent, regardless of the results, but the perp pled guilty and thus the argument is moot. As it turns out, the D.A. knew what he was doing and I didn't (he had read the law); I am not defending the perp here, only pointing out further that criminal law definitions of murder do not always accord with philosophical definitions. He is serving 12-30 years, his son will be grown when he gets out of jail. The bell cannot be un-rung regardless.

⁷ Commentary & Citation: In an amusing 1954 micro-short story (notice the slightly archaic terminology), Frederic Brown imagined networking the computers of 96 billion populated worlds in several galaxies into one machine:

- ✓ “Dwar Ev threw the switch. There was a mighty hum, the surge of power from ninety-six billion planets. Lights flashed and quieted along the miles-long panel. Dwar Ev stepped back and drew a deep breath. ‘The honor of asking the first question is yours, Dwar Reyn.’ ‘Thank you,’ said Dwar Reyn. ‘It shall be a question which no single cybernetics machine has been able to answer.’ He turned to face the machine. ‘Is there a God?’ The mighty voice answered without hesitation, without the clicking of a single relay. ‘Yes, now there is a God.’ Sudden fear flashed on the face of Dwar Ev. He leaped to grab the switch. A bolt of lightning from the cloudless sky struck him down and fused the switch shut.” – Frederic Brown, “Answer” (1954).
 - Dwar Ev is probably a corruption of “dwarves” in fantasy literature and games, who are thought to be greedy, materialistic, Earthy, and secretive.
- ✓ The 254-word story appears in Isaac Asimov’s Microcosmic Tales anthology (1980), a collection of 100 stories (also now free online). In the introduction Mr. Asimov states that each story is 2,000 words or less; I believe this is a reference to the reported literary debate during a cab ride between Asimov and Robert Heinlein about whether a sci-fi short story could be – properly written in 2,000 or 1,500 words or less.

⁸ Commentary & Citation: This text is found in the Introductory Chapter of T.E. Lawrence’s autobiography of the Arab campaign, Seven Pillars of Wisdom (1926). The entire book is available for free on Gutenberg Project, Australia (where it is in the public domain). An abridged version of a book he wrote in 1919 is called Revolt in the Desert (1926) which can be found on the Canadian site, fadedpage.com (where it is in the public domain); this does not appear to be exactly the same book as Seven Pillars of Wisdom (1926), though much text does overlap the two (e.g., the same sentence about the whirling squalls appears in both, but the introductory chapter is only in Seven Pillars of Wisdom). Col. Lawrence wrote a companion book in 1929, The Mint, about his experiences while enlisted under an assumed name (to escape notoriety which he loathed) as an enlisted airman in the RAF. According to the forward to Revolt in the Desert, he may have also been a private in the Tank Corps in 1922. The Mint was published posthumously in 1955 and was censored.

- ✓ Note that the publication of The Mint (1955) brought T.E. Lawrence back into the public awareness, and preceded by seven years the movie “Lawrence of Arabia” (1962).

⁹ Commentary: For example, observing animals, a young man might think that human females, like other animals, can only mate at the time of the year when they are ready and conclude that a human female can only have sex if she loves him (i.e. bonding like animal pairing). He might also conclude from some of the animals that it is natural to have multiple females attached to a male, as in a herd of cattle, flock of chickens, or a pride of lions. Then the young man goes into the city and encounters prostitution. At the core of prostitution is the separation of love and sex, the linkage of sex and economics, and is only possible because human fertility is different than that of the other animals. Knowing of prostitution changes instantly the young man’s idea of the relationship with the opposite sex; knowing it, it cannot be unknown, there is no back, it becomes part of a newly dawning worldview.

¹⁰ **Commentary:** I have no idea how the Flat Earth Society explains pictures taken of planets orbiting other stars ...and I don't want to know, so please don't try to explain it to me. Fortunately, I think the likelihood of any Flat Earth Society members playing this game are remote.☺

¹¹ **Commentary:** My beloved grandmother would not watch movies where men wore skirts (e.g., Roman movies and Scottish Highlander movies) or where apes talked – i.e. Planet of the Apes – because apes don't talk and men don't wear skirts. I don't think she liked or understood sci-fi generally, but tolerated me watching it at her house. Like my grandfather, her shows and movies were Westerns, musicals (e.g., Seven Brides for Seven Brothers), Lawrence Welk and Hee-Haw, and detective and cop shows and shows with animals. Disney movies were ok, even if they had fairies and witches in them. And fairies and witches don't exist.

¹² **Commentary:** In the early versions of the design that eventually evolved into GGDM, diplomatic relations between two positions were on a scale with six or seven steps from Genocidal to Harmonious (somewhat like the Habitability Classes), and the level was determined by what the two sides mutually declared. The level determined then allowed, required, or disallowed certain actions between the positions (there was a table for diplomatic actions allowed at each level). This entire system was scrapped in 2001-2002 in favor of the Diplomatic Spaces solution.

¹³ **Citation:** “There remained only one further step, since it is an adage of history that no perfect military instrument has ever been suffered to rust from disuse. And in line with ancient precedent, Louvois soon began to suggest to his sovereign the advantages to be gained from aggression.” – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), p. 322.

- ✓ **Missy to Dr. Who:** Armies are for people who think they're right. And nobody thinks they're righter than you. Give a good man firepower, and he'll never run out of people to kill. – Dr. Who, “Death in Heaven” (2014).
 - When I heard this, I thought it was probably a backhanded jab at Muad'Dib's Jihad. Along with militant space-opera/sci-fi stories (the Norman Spinrad criticism), the Cold War, and every dynastic ambition and military and colonial power in history, including Britain and the United States.
- ✓ See also Consumerism vs. (Colbertine) Mercantilism discussion, Before the Big Bopper, 2 Commerce, p. 1195, *infra*. François-Michel le Tellier, Marquis de Louvois was Secretary of State for War from 1662 to 1691 in service to Louis XIV of France, encompassing Jean-Baptiste Colbert's time as Comptroller General of Finances from 1661 to 1683. Thus, their financial and foreign aggression policies are intertwined with Louis XIV's dynastic ambitions. When Colbert died in 1683, he was replaced by a Louvois lackey in finances, and Louvois took Colbert's office as Minister of Public Buildings.

¹⁴ **Commentary:** Toy Story – another example of quantum ‘looking’? A government or alien conspiracy to program children and reshape our cultural view to a quantum reality? 🍷 Or just normal enculturation of ideas? That's ok, once you are programmed to like it, you won't notice (see Programming Dilemma, 1 Culture, p. 352, *supra*). ☺

¹⁵ **Citation: Ambassador:** Your Majesty! Please think it over. Please realize that you will be at war with half of humankind. **Empress:** Have you forgotten, Ambassador? The other half belongs to this Empire. – Conversation between Ambassador Gen Tauron and Empress Rama, Banner of the Stars (2000), Episode 9.

¹⁶ **Commentary:** Process is important, very important to completeness and understanding. You can't learn holistically without going through the process from beginning to finish. For example, I have observed how young attorneys learn significantly by going through the process of their first real trial; nothing solidifies a young litigator more than experiencing the trial process. Likewise, successful authors often spend a decade working on their first published work, musicians may spend years developing a sound before their first hit recordings (Tom Schultz worked on “More Than a Feeling” for six years); but in many cases, after the first successful process, they become viable and prolific in the following years, turning out successful (to a variable degree) works every year or two as long as an audience remains. This is true, more or less, of nearly every endeavor, whether business, manufacturing, design, artistic, professional, educational, and even military and law enforcement operations; it is however true that sometimes the process is completed only once successfully and for various or whatever reason, is not repeated.

- ✓ Dune's Mentats were a sci-fi extension of the ‘human calculator,’ e.g., Zera Colburn, John von Neumann.

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See Appendix MSM – Meanings & Shared Meanings Example

“In 1970, Dr. Ernest [sic] Fasan in a book titled Relations with Alien Intelligences: The Scientific Principles of Metalaw, proposed a number of principles, based ultimately on the work of Immanuel Kant and suggesting that alien species could work together to achieve rational goals. Perhaps equally important (if not more so) was the thought experiment that began in 1966 and is still underway. I am referring, of course, to Star Trek in its many forms and to the cornerstone of metalaw ... within the Federation, a doctrine of non-interference and non-intervention called the Prime Directive.

The idea behind it all is that all societies are entitled to develop in their own ways without outside interference..... Of course, as with any other thought experiments in long-running fictions ... the Prime Directive has more to do with creating plot difficulties than it does with smoothing out interstellar relations.”

– Ace G. Pilkington, Science Fiction and Futurism: Their Terms and Ideas (2017), p. 94 ¹

Time Lords Need Not Apply: A principle of non-interference has never restrained Dr. Who; it is easier to have adventures across time and space if you are free to meddle. The most egregious blatant example was deposing the elected Prime Minister of the United Kingdom, Harriet Jones, after she violated a truce and withdrawal from the Earth that he arranged with aliens (“The Christmas Invasion” 2005). She had a different view of things, but he had power and the will to use it against her, without reservations, because he could.²

In Loco Parentis: Suppose an alien species offered humanity the ability to travel to other stars and will gift the knowledge to us if they are convinced the majority of humanity desires it. The very act of making this offer would be monumental to humanity, confirming everything science-fiction writers and UFO enthusiasts have speculated about for over a century – that there are technologically advanced aliens, they know about the Earth, and that travel to other stars is possible. The aliens may have concluded that the majority of humanity believes these are possible anyway, based on our science, culture and literature, thus they would (possibly) not be violating any non-interference requirement of Metalaw. Imagine that to have made such an offer (assuming it is genuine), they must have something to gain and/or are taking a risk in letting humanity loose on the Galaxy. *In loco parentis? Parens patriae?* How would they determine that the majority of humanity desires it? They would, in any event, be holding all the cards in the relationship of the two species, as in the 2001 Twilight Zone episode, “Think Like a Dinosaur” (one of the most brutal ethical dilemmas ever filmed). We may also conclude that if they discovered a means to travel to the stars, we will eventually discover it as well. But too late?

- ✓ “He teaches them how to be cats... He definitely helps them learn bite inhibition. Like how hard is too hard to bite and still keep your friends. Kittens sort of get to that stage where they bite everything and they bite really hard ‘cause they don’t know that it hurts. And so he helps, he’s got his kitten-flattening paw.” – from “Grumpy Street Cat LOVES Being A Grandpa To Foster Kittens – GRANDPA MASON,” The Dodo YouTube Channel, July 25, 2018.
 - ‘cause Grandpaw is the law!

Londo Mollari: *During the Shadow War, Sheridan risked his life and the lives of every human on this station to help save our worlds. Would the Gaim have done that for the Pak'ma'ra? Would the Drazi have done that for the Narn? No. That sacrifice must be rewarded.*

G'Kar: *Since the war, we have begun working together as never before. In the past, we had nothing in common. But now the humans have become the glue that holds us together.*

Londo: *If Sheridan's forces are defeated, then Earth will turn in upon itself. They will become isolated, or they'll turn against the rest of us. Politically, it is very wise.*

G'Kar: *Morally, it is even wiser.*

Vir Cotto: *Politics and morality on the same side? That doesn't happen every day, Deleenn.*

– Babylon 5, “Between the Darkness and the Light” (1997)

Ethics & Interpretations: The process of designing GGDM is similar to morality. In morality, you have arguments and theories about what is right and wrong. But how do you translate them into actual rules or apply them to actual recurring situations? You develop a code of ethics. Much of the difficulty with designing GGDM that I encountered 15 years ago involved the question of how to take ideas and thoughts on civilization and express them in a set of playable, workable game rules? The interpretation mechanics solved the problem.

- ✓ When playing off tile pairs in a game of mahjongg, all of the parts of the board have to work together in an intricate, invisible web of possible connections to solve the puzzle. The question of the game, is how? It would be possible to display this on a computer, but doing so would ruin the experience of the game. It is not currently possible to do this convincingly with human civilizations, or even personal relationships, on a computer screen (though VR might be interesting). As a sandbox, non-computer simulation of humanity, GGDM sits somewhere in the middle.

Between Mars & Venus: How do I shape the meaning of this for the reader? A Meaning as an Interpretation, requires the position issuing the Meaning to describe an important principle or key ‘aspect’ of the relationship between two positions, between two species. It’s sort of like when your girlfriend asks you to describe why you love her or what ‘the relationship’ means to you. But in this case, you are not required to love thy neighbor. Or perhaps how a mouse would describe a key aspect of its relationship with the cat. Two positions that are at war can still have (tragic) meaning to each other, just as they continue to share the Diplomatic Space.³ A Meaning (or Shared Meaning, p. 1132, *ut infra*) is not an automatic ‘peace treaty’ in GGDM unless positions want it to be (see Creative Sharing, p. 1133, *ut infra*); two positions can have a long meaningful relationship like Gandalf and Balrog.⁴

- ✓ I once saw a ‘real TV’ type program where the lady had a house cat and also a bird in a square cage sitting on a table near a bright window. The cat liked to lay on top of the bird cage most of the time; a towel or pad was placed on top of the cage to keep the cat and bird separated. You immediately think the cat is laying there because the bird is potential dinner, but the cat appeared to be cat napping in the video. Of

course, the cat was just being a cat and the bird knew the cat was there but still chirped because they had a long relationship and the bird was being a bird. Cats like the sound of birds chirping; it's a 'happy' sound to them. I wondered when I saw it if the two had some kind of odd relationship beyond predator and prey; if the cat ever got that bird, there would be no more chirping, no more cage. Hard to think though that the bird was happy.⁵

- What is the Meaning of This?: A Meaning Interpretation is issued by an activation of the Diplomatic Power for the purpose of Form Meanings after the two positions involved in the Meaning have had First Contact. A Meaning Interpretation satisfies the Interpretation requirement for the Diplomatic Power Activation on the Regular Turn it is formed, but does not serve as an Interpretation on any turn thereafter.

Like the Writ, the Meaning Interpretation is created by the players, belongs only to the position that created it, must be submitted with the position's Actions, and is subject to approval by the Concierge; and like the Writ, the Meaning must be consistent with the position's current Social and Estate Titles, with the position's cultural identity, and may be rejected by the Concierge. Meanings are secret unless Shared (secrets are secret, unless shared...).

- ✓ For example: **Lennier:** It is our belief that every generation of Minbari is reborn in each following generation. Remove those souls and the whole suffers. We are diminished. Over the last 2,000 years there have been fewer Minbari born into each generation. And those who are born...do not seem equal to those who came before. It is almost as if our greater souls have been...disappearing. At the Battle of the Line, we discovered where our souls were going. They were going to you. Minbari souls are being reborn in part or in full in human bodies. **Cmdr. Ivanova:** So you stopped the war in order to avoid harming your own souls? **Lennier:** Yes. But the Council knew that our people and yours were not ready for this information. It could unravel our entire society. So we could not tell our generals the reason for the surrender. We had all memory of the examination erased from Sinclair's mind and we let him go. It has been our secret. – Babylon 5, "Points of Departure" (1994).⁶

Because the Meaning serves as the Interpretation for the Power Activation on the Regular Turn it is created, no News Event is required. Thus, like Patents, it remains secret, and cannot be altered by actions of other positions (see Letters Patent, 3 Patents, p. 748, *infra*).

- It's a Morning in May: A Meaning Interpretation must have three parts. The Meaning must name the other Native Population Type toward which the Meaning is directed. Afterward, the Meaning must describe generally or specifically as necessary in one or two concrete sentences, the special significance of the other ('significant other'☺), the importance of the other race to the position issuing the Meaning. Finally, the Meaning must describe one to three Events which would be inconsistent with the Meaning. The Events which would be inconsistent with the Meaning may be caused *by either side or by another position or Concierge Intervention*, and would compel the position to pause and reevaluate the meaning of the relationship between positions.

Event is not quite the same as act – event is a neutral term – but of course they are strongly related. 'Event' was chosen so as not to be confused with Acts which are used in relation to Power Activations throughout GGDM. Events can occur without conscious acts – such as a tree falling over in a fierce rainstorm and knocking out a power line – but in the sense used in

GGDM, it means mainly things that happen as a result of conscious acts (e.g., Power Activations), as in, “When in the course of human events...” (U.S. Declaration of Independence).

Meanings attach to Native Population Types in GGDM, not positions. This can be tricky, but in most cases, it will mean the position that represents that Native Population Type in the game, with room for mischief associated with populations under control of other positions. A Meaning can be attached to a Minor Race, though sharing such a meaning is unlikely, as is having a Diplomatic Space with the Minor Race. Because of the Lost Colonist Primal State, it is possible for two positions to share the same Native Population Type.

- ✓ The rule specifies events inconsistent with the Meaning because it is easier and less proactive than naming events consistent with the meaning. Humans have a built in negativity bias, and it is usually easier for us to name what is not, than what is. See feature quote, 6 Government Titles, bottom, p. 649, and EN 1, p. 658, *supra*.
 - ✓ Think of the meanings we attach to our beloved pets, especially the little furry ones. Think of the meaning we have to them, which is very likely much simpler and much different than ours toward them. But in both cases, though we recognize individuals, people tend to like dogs generally, or cats generally, and those animals recognize humans generally, some are leery of humans they don’t know (e.g., semi-feral cats), and some (especially sniffing, tail-wagging dogs) are friendly toward all humans.
- Act Like You Mean It!: The Events described in the Meaning as being inconsistent with the Meaning must be concrete and easily identifiable within the play of the game, and only apply toward and between the position issuing the Meaning and the position named on the Meaning. It is Events which give meaning. On any Regular Turn in which either position does anything described as inconsistent with the Meaning, there is a 50% chance that the Meaning will be ‘destroyed’ (and voided, removed) as it becomes untenable in the face of actions, e.g., what would happen to the Anglo-American ‘special relationship’ if a U.S. submarine intentionally torpedoed a British-flagged oil tanker?⁷
- ✓ “‘This case demonstrated that the Trump administration has lost the art of diplomacy with allies,’ said Jeremy Shapiro, director of research at the European Council on Foreign Relations. ‘The entire nature of a close ally is that you work together to find ways to be in sync without resorting to threats.’” – Anne Gearan, John Hudson, “Trump’s strong-arm foreign policy tactics create tensions with U.S. friends and foes,” Washington Post, January 18, 2020.⁸

A Meaning that is ‘destroyed’ through inconsistent Events can never be reissued, as history and memory will show that the Meaning was false. A destroyed Meaning generates an Intervention Potential Plus (IP+) against the position that held the Meaning. The Concierge is the interpreter of Meanings and specifically, when Events occur that are either consistent with or inconsistent with Meanings. *Optionally*, Enlightenment may be applied to Meaning rolls if the Concierge is contacted in reasonable time; once allowed, this option must open be for all.

- ✓ “[Trump] has an advantage on me, he can say everything he knows about any subject in 140 characters and I cannot.” – George Will, Fox News Sunday, June 26, 2016 (video available on YouTube).
- ✓ “The notion that one should stay silent as the norms and values that keep America strong are undermined and as the alliances and agreements that ensure the stability of

the entire world are routinely threatened by the level of thought that goes into 140 characters – the notion that one should say and do nothing in the face of such mercurial behavior is ahistoric and, I believe, profoundly misguided.” – Sen. Jeff Flake, “I Will Not Be Complicit” speech on the Senate Floor, October 25, 2017.

- Quasi-Contractual Meaning: A Meaning in GGDM is not a formal contract, if a Meaning is violated, who or what has been harmed? A Meaning has only one party (like infatuation) and the harm is confidence in the worldview of the party that holds the meaning (and in GGDM, the loss of a Power Activation). Sort of like when you make a deal with yourself or firm decision to do or refrain from doing something, and then fail. After awhile, such things have no meaning in your inner world, confidence is lost in your own resolution, sense of direction and progress, and internal integrity. This is the problem of alcoholism, tobacco addiction and substance abuse when one cannot quit despite the obvious cost and bad consequences.

Worldviews (generally) and Meanings in GGDM are at best quasi-contracts with the universe (see also Spaces, 4 Beginnings, p. 46, *supra*). *Quasi-contract* at businessdictionary.com:

- ✓ “Court’s determination of an obligation of one party to another where no actual contract exists. It is based on the parties’ conduct, mutual relationship, and/or on the possibility that one would be unjustly enriched at the expense of the other. In strict legal terms a quasi-contract does not constitute a formal contract, but is a legal remedy that allows a plaintiff to recover an award or benefit conferred on the defendant.” *Id.*

As GGDM is group storytelling and participatory group fiction (see The Nature of News Events and White Gold Wielder, 2 Dreamtime, pp. 146, 153, respectively, and Unintended Consequences, 2 Entropy, pp. 236-238, *supra*), the ‘judge’ is the group generally and more specifically, of necessity, the Concierge is the ‘judge’ where game information is secret.

- ✓ One of the struggles of designing GGDM was the reduction of general ideas and abstract concepts to concrete game rules. This is why it is important that Fundamental Realities in GGDM have concrete application to the game; it is thus also that Meanings must have identified concrete Events in the game that violate the meaning (e.g., I think my dog is my friend and then he bites me). Troublesome to both Meanings and Fundamental Realities are violations of the ‘spirit’ of the thing, which is a grey area that must be adjudicated by the Concierge; of the two, violation of the spirit of Fundamental Realities should be less forgiving than violation of the spirit of a Meaning.
- One is the Loneliest Number: A Meaning Interpretation in GGDM mechanics is unilateral (like a Writ or Patent) and has no value or effect unless Shared (keep reading...), however, the actions of either side can destroy it. The Form Meaning activation is the first, and required, step toward a later Shared Meaning.
 - ✓ A Meaning can be analogized in various ways to human conditions such as infatuation with another – which is supposed to lead to mating, permanent bonding and is useless otherwise in the most practical sense (see Oliver Emberton excerpt in The Universe Doesn’t Care About Your Purpose, Dreamtime, *supra*) – or perhaps to unilateral commitments, such as we have to our pets or decorative house plants, fulfilling a gratuitous promise,⁹ or to laying flowers on a grave at regular intervals (as Joe DiMaggio did for Marilyn Monroe for the rest of his life), to which we expend effort and expect to receive little or nothing (of material value) in return.

Meanings, whether Shared or not, are part of the position’s worldview and may be considered by the Concierge in appropriate situations.

- ✓ Writs cannot be shared in GGDM, and require Fuzzy Groups unique to that culture. Patents could potentially be shared. News Events are always shared, because of the publication requirement with Power Activations. Thus, there is a spectrum.
- ✓ “Life would be so much simpler if you liked the right people. People you’re supposed to like. But then, I guess there’d be no fairy tales.” – Miss Maise, Dr. Who, “Mummy on the Orient Express” (2014).

“Every one of us is, in the cosmic perspective, precious. If a human disagrees with you, let him live. In a hundred billion galaxies, you will not find another.”

– Carl Sagan, Cosmos

“Every man is more than just himself; he also represents the unique, the very special and always significant and remarkable point at which the world’s phenomena intersect, only once in this way, and never again.”

– Hermann Hesse

Dining Room Table: Unique should not be confused with good, desirable or useful. We had a ‘unique’ dining room table when I was young; whenever the dog bumped into it, one of the legs came off and the table then tipped in that direction and had to be caught before everything – especially the kerosene lamp – dumped on the floor. Funny, not funny.

- ✓ Is something valuable because it is unique? People are often confused on that point, but no one would think our dining room table had any value, except to us because we had no other. Thus, GGDM has no inherent value by virtue of being a unique treatment of civilizations, or being a game, or a treatise. It has value to me because it is my only one.

“We are all born as molecules in the hearts of a billion stars. Molecules that do not understand politics or policies or differences. Over a billion years, we foolish molecules forget who we are and where we came from. In desperate acts of ego, we give ourselves names, fight over lines on maps, and pretend that our light is better than everyone else’s. The flame reminds us of the piece of those stars that lives on inside us. The spark that tells us: ‘You should know better.’ The flame also reminds us that life is precious as each flame is unique. When it goes out, it’s gone forever. And there will never be another quite like it. So many candles will go out tonight. I wonder some days if we can see anything at all.”

– Ambassador Delenn, Babylon 5, “All My Dreams Torn Asunder” (1998)

Persona of Star Stuff: Ambassador Delenn is sometimes Carl Sagan’s persona in Babylon 5, with the ironic twist that *she* is the leader of the religious caste (the organized priesthood) in Minbari society. While Mr. Sagan denied being religious, he was at least spiritual:

- ✓ C.f. “Star stuff, the ash of stellar alchemy had emerged into consciousness. We are a way for the cosmos to know itself. We are creatures of the cosmos and have always hungered to know our origins to understand our connection with the universe... We are one species. We are star stuff, harvesting starlight.” – Carl Sagan, “Who Speaks for the Earth,” *Cosmos*, Episode 13.

[Lennier grabs Marcus roughly by the front of his shirt and lifts him]

Lennier: *Do not touch me in that fashion. We may sometimes look like you, but we are not you. Never forget that.*

– Babylon 5, “Ceremonies of Light and Dark” (1996)

The Commonality: Lennier sounds like a racist.... Two positions which each have previously Formed a Meaning toward the other, if they are reasonably similar, may ‘share’ or develop a Shared Meaning Interpretation. You cannot personally, intentionally insult someone who does not share your meanings, but may unintentionally insult them without knowing or understanding.

The wedding of Meanings requires that both positions activate the Diplomacy Power for that purpose in the same Turn Cycle (that is, on each position’s next Regular Turn, the Diplomacy Power must be activated for the purpose of Sharing Meanings) and the Positions are required to submit a ‘merged,’ ‘combined’ or ‘wedded’ Meaning with their Actions. Meaning Interpretations cannot be Shared on the same Regular Turn they are Formed.

- ✓ The Concierge will accept or reject proposed Shared Meanings based on their internal consistency and consistency with the Meanings from which they were derived; time requirements (i.e. a probationary period) may also be imposed by the Concierge for the survival of the prior Meanings which form the Shared Meaning.
- ✓ The Concierge will not issue any pre-rulings on proposed Shared Meanings, will not indicate the parameters of what may be accepted – like an umpire behind home plate, the players will have to figure out the strike zone and tolerances as they pitch. The Concierge will not reject or accept the proposed Shared Meaning until the second Diplomacy Power Activation (see Table for Two, 1 Diplomacy, p. 1096, *supra*). It is thus possible to be stood up on the first date...
 - No pre-rulings by the Concierge is an important concept throughout GGDM; the positions must first make the effort and take their chances.

Upon acceptance of the Shared Meaning, four Monads will be added to the Diplomatic Space between the positions. Two positions at war with each other can still Share a Meaning.

- ✓ There can be only one Shared Meaning Interpretation between each two positions. Shared Meanings can be altered and manipulated by use of Special Writs, see Continental Drift, 5 Diplomacy, p. 1166, *infra*. Shared Meanings therefore are not static.
 - “Social morality requires a shared matrix of communal reality to which to relate thought and deed, and the illusion of an objective ethical esthetic requires at the very least the conviction that objective reality is more than a contradiction in terms.” – Norman Spinrad, The Void Captain’s Tale (1982), p. 211.

- “No, it’s not the speaking that’s the problem, it’s .. the listening.” – Vir Cotto, Babylon 5 movie Thirdspace (1998).¹⁰
- The Conversation: To have a conversation or any relationship, let alone a friendship, two parties must have something in common. Notably this is not required for family relationships, which are involuntary (until you are old enough to leave), but no one requires you to be friends with the people to whom you are, unfortunately, related (I have personal experience in this). The first, and minimum, requirement of a conversation is that the participants share a language of symbols and a desire to converse; language is a window to the cognition of others. Since science and math seem to be the only universals that we know, it has long been assumed by serious thinkers, that communications with sapient and technologically advanced alien species would be based on math and science; but even this is not a sure thing, as we’d first have to figure out their math system base (which will probably be related to their biology, for example, humans have ten fingers and ten toes and our counting system is Base 10) and how they account for or recognize zero in their system. Alternatively, everything in the universe is binary, that is, anything can be said to have an ‘on’ or ‘off’ state.
 - ✓ “We’re interested in communication with extraterrestrial intelligence. Wouldn’t a good beginning be better communication with terrestrial intelligence, with other human beings of different cultures and languages, with the great apes, with the dolphins, but particularly with the whales?” – Carl Sagan, *Cosmos*, Episode 11.
 - ✓ “You know, in a way I wish I hadn’t met you two. It’s much more convenient to think of the opposition as a nice homogeneous, dead-wrong mass. Now I’ve got to muddy my thinking with exceptions.” – Kurt Vonnegut, *Player Piano* (1952).
- Whispered Secrets: Meanings are secret, if you tell someone else, that’s on you; as the old saying goes, the best kept secrets are between three good friends, when the other two are dead. It is possible that if another position is aware of Meanings, they can deliberately act inconsistent with the Meaning to destroy it (thus assessing an Intervention Potential Plus (IP+), p. 1129, *ut supra*). Yet it is almost necessary that Meanings be pre-shared through informal diplomacy (i.e. private player communications) beforehand so that each position can develop meanings similar enough to officially Share a Meaning (and gain Diplomatic Space).¹¹
 - ✓ “Love endures only when the lovers love many things together and not merely each other.” – Walter Lippmann.¹²

The Events in a Shared Meaning are, of course, known by both parties to it, but now there is a secret between two positions. How long it remains a secret is up to them (like King Edward IV and Elizabeth Woodville). The Shared Meaning serves as the Interpretation for the *second* Diplomacy Power Activation that creates the Shared Meaning. Each Power Activation to form the Shared Meaning must be accompanied by a reasonably-related News Event, the second is needed just in case the Shared Meaning is rejected by the Concierge (*ut supra*).

- ✓ Like Diplomatic Spaces, Shared Meanings in GGDM are anticipated to be between two positions (see *Three is a Crowd*, 2 Diplomacy, p. 1120, *supra*). *Ménage à trois* is possible, but Shared Meanings can never be solo (that’s called infatuation) and neither can Diplomatic Space. In multi-party Shared Meanings, the parties will need to adapt the rules on the fly.

- A Two-Way Street: A Shared Meaning must name two to four Events which are inconsistent with the Shared Meaning. As with a regular Meaning, an Event by either position that is inconsistent with the Shared Meaning has a 50% chance of destroying the Shared Meaning, but additionally, when a Shared Meaning is destroyed, there is a 50% chance that 1-4 randomly determined Diplomatic Spaces created by the Shared Meaning will be destroyed.¹³ Generally, the loss of a Shared Meaning or at least the loss of Diplomatic Spaces would be considered a failure that could trigger Enlightenment rerolls, but if a position wishes to use Enlightenment, they should inform the Concierge quickly (this is optional), before resolution; it's possible they may not care. Spaces not destroyed are otherwise unaffected.
 - ✓ “A compromise would surely help the situation; Agree to disagree but disagree to part.” – 10cc, “The Things We Do for Love” (single 1976, album 1977).¹⁴
 - Shared Meanings must be a compromise, there is no quota of contribution or domination by the Meanings of one side or the other forming the Shared Meaning and the Concierge will not enforce such.
 - ✓ Continuing the previous example: **Lennier**: It has been our secret. Now it is yours. It must be kept. **Cpt. Sheridan**: Then why break the silence now? I mean, why tell us? **Lennier**: Because changes are coming.
 - “Is it possible to draw an exact line between purposeful and non-purposeful action? A human fetus, a human asleep, or a person under the influence of drugs may show action that seems – to an observer – non-purposeful rather than purposeful. However, the observer is in no position at all to come up with the conclusion that a person is not acting purposefully, no matter how non-purposeful, meaningless, or nonsensical a person’s action may appear to him. Even an insane person or a person under the influence of drugs acts, and thereby aims at achieving certain ends.” – Thorsten Polleit, “Human Action Is Purposeful Action,” Mises Institute, August 19, 2011 (available free online), quoting Ludwig von Mises, Human Action (1949), Ch. 1.
 - “I go to parties sometimes until four, it’s hard to leave when you can’t find the door!” – Joe Walsh, “Life’s Been Good to Me So Far” (1978).
- Creative Sharing: Shared Meanings can be used creatively for many purposes, most of which I cannot imagine yet. Shared Meanings can be used as a form of peace treaty – the inconsistent Events would be violations of boundaries or initiating combat – and I do not think this is inappropriate because it is not the same as the Treaty activation of the Diplomatic Power (i.e. there is no game mechanical process requiring Concierge actions) and because acceptance of the valid right to existence and claims of another is the most basic shared meaning.
 - ✓ “Oh, it was a rebirth ceremony alright. It also doubles as a marriage ceremony, depending on how seriously anyone took it. Somebody got married the other day.” – Catherine Sakai (Jeffery Sinclair’s former lover) to Capt. Jeffery Sinclair (Station Commander) about the Minbari rebirth ceremony, from Babylon 5, “The Parliament of Dreams” (1994).¹⁵

For the calculating types, a Shared Meaning can still be beneficial if destroyed in that there can still be a net gain in Monads on the Diplomatic Spaces (as in a history of relationship, deeper understanding of the others), if that is the objective of establishing the Shared Meaning. But there is still the Power Activation cost and the assessed Intervention Potentials.

- ✓ “As Jim Mattis and I have many, many times said when we were in uniform: If we don’t fund the State Department properly, buy us more bullets.” – White House Chief of Staff, Gen. John Kelly (Ret.), October 12, 2017.

“It is noteworthy that human concern about human extinction takes a different form from human concern (where there is any) about the extinction of non-human species. Most humans who are concerned about the extinction of non-human species are not concerned about the individual animals whose lives are cut short in the passage to extinction, even though that is one of the best reasons to be concerned about extinction (at least in its killing form).

The popular concern about animal extinction is usually concern for humans – that we shall live in a world impoverished by the loss of one aspect of faunal diversity, that we shall no longer be able to behold or use that species of animal. In other words, none of the typical concerns about human extinction are applied to non-human species extinction.”

– David Benatar, Better Never To Have Been: The Harm of Coming into Existence (2006), p. 197 ¹⁶

The Meaning of Extinction (and the extinction of meaning): All Diplomatic Spaces and Meanings are immediately lost when the position with which they are shared, directed toward, or associated with suffers Total Extinction (see Countdown to Extinction, 1 Resolution, p. 1462, *infra*). All Diplomatic Spaces but the one connecting the First Spaces are immediately lost when a position suffers Political Extinction and there is an immediate 50% chance for each Meaning directed to the Politically Extinct position to be lost. See the Resolution section for the conditions of extinction.

- Acts of Mercy: Is it an act of mercy when we take our beloved pets to the veterinarian for medical care or is it an act of selfishness? A shield against glimpsing the Void? Do we really care more about our pets than the extinction of non-human species that are not pets? I believe I have (literally) spent a year’s salary at the animal hospital, what or who was it all for?

- ✓ “Even the most beloved, pampered pet pooch cannot live forever.” – Rachel Feltman, “Are we reaching the limits of human life span?” Washington Post, October 6, 2016.

This is the same question that has been asked for millennia, when an evangelist (“Jesus Freaks out in the street, handing tickets out for God.” – Elton John, “Tiny Dancer” (1971)) says he is trying to save your soul. Whose soul is he really trying to save? Do you accept the argument that by saving his soul he is saving yours, or that you are saving each other?

- ✓ “He imagined that in forcing a youth to become a monk he would be offering a sacrifice acceptable to God. He used to boast of the many victims which he devoted annually to Dominic and Francis and Benedict.” – Desiderius Erasmus, as quoted in Life

and Letters of Erasmus: Lectures Delivered at Oxford 1893-4 (1899) by James Anthony Froude.

- See full feature quote, 4 Order, p. 569, *supra*.

“Using the Categorical Imperative and a few very basic assumptions, Dr. Fasan derives eleven fundamental metalaws of presumably universal validity. They are, in descending order of importance, as follow:

- No partner of Metalaw may demand an impossibility.
- No rule of Metalaw must be complied with when compliance would result in the practical suicide of the obligated race.
- All intelligent races of the universe have in principle equal rights and values.
- Every partner of Metalaw has the right of self-determination.
- Any act which causes harm to another race must be avoided.
- Every race is entitled to its own living space.
- Every race has the right to defend itself against any harmful act performed by another race.
- The principle of preserving one race has priority over the development of another race.
- In case of damage, the damager must restore the integrity of the damaged party.
- Metalegal agreements and treaties must be kept.
- To help the other race by one’s own activities is not a legal but a basic ethical principle.

Fasan’s metalaws are the beginning of a new era of metalegal development. Such principles of conduct may soon become a matter of survival; our thinking must be guided by metalegal precepts in astropolitical contexts.

When intelligent extraterrestrial life is discovered, mankind must be prepared, for in all of human history there will be but one first contact.”

– Robert Freitas, “Metalaw and Interstellar Relations,” 1977
(from the version on his website)

Mephisto’s Marriage Counseling: Metalaw is based on or accords with the general ideal of humanitarian based international relations post-WWII, post-Colonial era; as such, it seems to make agreeable sense at first reading. Application however has always turned out to be another matter entirely, due to politics, economics, and prejudices.

- ✓ “The philosophical underpinning is the Categorical Imperative, first elaborated by the 18th century German philosopher Immanuel Kant. The thrust of the Imperative, which holds for any rational being, is that no activity be undertaken unless it would be valid ‘as a principle of general legislation.’ If a particular course of action will lead to contradiction or a generally destructive result, it is proscribed by the Imperative. For example, if one contemplates murder, he asks: ‘Would it be desirable for everyone to murder?’ It clearly is not, since acceptance of murder as a general rule would result in the murderer’s own death, an inherent contradiction.” – Robert Freitas, “Metalaw and Interstellar Relations,” 1977 (from the version on his website).

Metalaw, as with any agreement or treaty, implies contractual ability, as commonly understood in Western jurisprudence; aliens who do not recognize philosophy, law (other than their own), or

do not have contractual ability (or cannot communicate with us: again, *alterity* – think bees, ants, Phase IV, the Arachnids in Starship Troopers, as opposed to the hominid Skinnies) will not recognize any treaty *or* obligation to others. Even in our own society, among adults who would be said to have contractual ability, there is frequent intentional or negligent disregard for the rights of others: We usually call them *criminals* and/or they get sued in civil court for their acts; thus we should not expect every intelligent species, individual or unit of the species, to respect even the spirit of Metalaw principles.

It may thus occur that certain spacefaring species would be deemed the equivalent of criminals among species that are able to *grok* metalaw. All of this circles around back to the question asked in *The Come As You Are Party*, 1 Combat, p. 932, *supra*: Why would we bring a gun when exploring interstellar space?

The rules of Metalaw stated above, though they sound warm and cozy in principle, do not insure interstellar peace; in fact, one can imagine many situations where two principles of Metalaw come into conflict or create a conflict – most of those situations have already been covered by science-fiction literature generally. The affirmative actions required by Metalaw insure that conflict will arise and species will involve themselves in the affairs of other species – even when taking into account that the principles of Metalaw are a logical hierarchy intended to be read and applied in descending order. Metalaw is thus more expansive than the Prime Directive in Star Trek, it goes beyond mere self-determination and non-interference.

➤ Ant Altruism: Metalaw seems to work on the unspoken assumption that any advanced species, or species who can understand Metalaw, will display altruism. It seems generally that we associate altruism with personhood, sapience, and abstract intelligence, for example, see the quote from Eric Michael Johnson:

- ✓ “The researchers’ conclusion was that altruistic punishment emerged in our species through a process of gene-culture coevolution. In other words, human psychology is biologically predisposed to enforce a system of fairness, but how much we do so depends on the culture we see reflected around us. This result was later supported by another study in 2010 that developed a model explaining how even ‘selfish genes’ could promote altruistic traits.” – Eric Michael Johnson, “Human Nature and the Moral Economy,” *Scientific American* (blogs), September 23, 2013.

- The longer feature quote is at 1 *The Sidereal Stage*, p. 111, *supra*.

Thus there is a fundamental quality difference between:

- 1) Altruism *as described in anthropology*, and
- 2) Altruism as a trait attributed to eusocial insects, e.g., bees, ants, termites.

The difference is the sapient concept of fairness. While bees may work and serve the hive without individual reproductive activity, *they are not the least interested in fairness*, as far as we can tell. Their altruism is for species survival and applies only to their hive. So it seems that altruism is a term misapplied to social caste insects, but maybe we haven’t invented a better, more specific term?

It is clear from the anthropology studies that Mr. Johnson cites that altruism is a geno-cultural trait of advanced *human* intelligence (and as Daniel Dennett points out, human and person are locally co-extensive, or nearly so, see feature quote, 2 *Diplomacy*, p. 1110, *supra*);

can we or should we assume that would be the case among sapient and/or technologically advanced aliens? We have hundreds of examples from nature of apparently altruistic behavior, the most famous of which are the hundreds of reported instances where humpback whales have interfered with orcas' (aka "killer whales") hunting and prevented them from killing members of other marine and mammal species (e.g., see Jason Bittle, "Why Humpback Whales Protect Other Animals From Killer Whales," National Geographic, August 8, 2016, the picture at the top shows a humpback whale apparently protecting a crabeater seal from an orca). There are many videos on YouTube of unlikely interspecies tolerance, friendships or even alloparenting – *mainly by animals under human care* – though there are examples of wild animals interspecies co-parenting, such as the lioness who helped the tigress with cubs.

- ✓ The altruism of Metalaw traces out the backdoor to Immanuel Kant's Categorical Imperatives: If you were to ask which sorts of acts would be desirable as principle of general legislation or universal law, altruistic acts and general fairness would be near the top of the list. Put another way, if in contemplating an altruistic act, one were to, as Kant urges, ask "Would it be desirable for everyone to commit altruistic acts?" It clearly is since acceptance of altruism as a general rule would result in additional acts of altruism to the probable benefit of civilization (or least likely to be detrimental to civilization). See Immanuel Kant feature quote and Universal Legislator, 2 Dreamtime, p. 150, *supra*.

"Not to be outdone, U.S. Twitter users responded with a similar mix of mindless put-downs. Proof that missing the point is truly universal."

– Emile Rauhala, The Washington Post, September 28, 2015 ¹⁷

Endnotes.

¹ Commentary: The preceding quote followed from a discussion of metalaw in Clifford Simak's 1963 short story, "New Folks Home." Metalaw is a term coined in 1956 by attorney Andrew Haley "to refer to his hypothesis regarding the proposed existence of fundamental legal precepts of theoretically universal application to all intelligences, both human and hypothesized intelligent extraterrestrial life" (from Wikipedia article, "Metalaw" retrieved July 14, 2018). The Prime Directive, of course, is a direct reaction against 500 years of European colonialism.

² Citation & Commentary: "BEFORE YOU THINK ABOUT LEAVING A NASTY COMMENT PLEASE READ THE FOLLOWING. This happened in Yellowstone National Park where it is illegal to get within 25 yards of a fox or a badger, or interfere with them in any way. If I had interfered I would have been arrested, but before that could happen about 50 other photographers would have stopped me because both they and I know as much as we were really sad about the situation, badgers have rights too. They also have to eat, and feed their babies. That's how nature works whether we like it or not." – disclaimer for YouTube video, "A fox and a badger fight in Yellowstone – the whole story," posted by Judy Lehmborg YouTube Channel, February 24, 2015 (all caps in original).

- ✓ This is what the Prime Directive would look like in actual practice, if it were stringently followed, instead of a plot device. Before getting sappy about the Prime Directive, I recommend watching this video.

³ Citation: Babylon 5: **Sheridan speaking to Kosh**: The Narn and the Centauri are fighting! **Kosh**: They are a dying people, you should let them pass. **Sheridan**: Who, the Narn or the Centauri? **Kosh**: Yes.

⁴ Citation: **Gen. Heydrich**: Yes, he told me a story about a man he'd known all his life. A boyhood friend. This man hated his father, loved his mother fiercely. The mother was devoted to him, but the father used to beat him, demeaned him, disinherited him. Anyway, this friend grew to manhood and he was still in his 30s when the mother died. This mother who had nurtured and protected him. She died. The man stood as they lowered her casket and tried to cry, but no tears came. The man's father lived to a very extended old age. Withered away and died when the son was in his 50s, I think, and at the father's funeral, much to his son's surprise, he could not control his tears. He was wailing, sobbing. He was apparently inconsolable. Lost even. That was the story [Freidrich] Kritzinger

told me. ... The man had been driven his whole life by his father. When the mother died, that was a loss. When the father died, when the hate had lost its object, then the man's life was empty. Over. ... That was Kritzinger's warning.

Col. Eichmann: What? That we should not hate the Israelites?

Gen. Heydrich: No, that it should not so fill our lives that when they are gone, we have nothing left to live for. So says the story. I will not miss them. – from the movie *Conspiracy* (2001).

- ✓ *Conspiracy* – where the participants calmly discuss the Final Solution as a bureaucratic, legal, administrative problem – is one of the few movies worth a second watching. It is heavy in formalities and dialogue and is an interesting study of a combination of threats, manipulations, and appeals used by Heydrich to bring about 'agreement' on the Final Solution and interagency cooperation. It also shows Eichmann as more than just a train dispatcher. It must have been the most amazing task for the actors to portray this without a hint of horror, but that is the acting trade. Prior to the movie, I did not realize that the Chelmno camp was operating and Operation Reinhard death camps (Treblinka, Belżec, and Sobibór) were under construction *before* the Wannsee Conference in January 1942 (and the conference participants in the movie were also surprised).
- ✓ There is some objection that gassing was not discussed at the Wannsee Conference because it is not in the transcript of the conference, but it is portrayed in the movie *Conspiracy*. But at the same time, it is widely admitted that Eichmann sanitized and heavily edited the transcript of the conference, so how can we know? How can we be sure that it wasn't edited out or discussed outside the meeting during breaks? Anyway, all portrayals of the Wannsee Conference must be fictional drama and must pick and choose their points.

⁵ **Citation:** **Clara:** Since when do you care about the Doctor? **Missy:** Since always. Since the Cloister Wars. Since the night he stole the moon and the President's wife. Since he was a little girl. One of those was a lie. Can you guess which one? **Clara:** He's not your friend. You keep trying to kill him. **Missy:** He keeps trying to kill me. It's sort of our texting. We've been at it for ages. **Clara:** Mmm. Must be love. **Missy:** Oh, don't be disgusting. We're Time Lords, not animals. Try, nano-brain, to rise above the reproductive frenzy of your noisy little food chain, and contemplate friendship. A friendship older than your civilisation, and infinitely more complex. **Clara:** So the Doctor is your bezzy mate and I'm supposed to believe that you've turned good? – Dr. Who, "The Magician's Apprentice" (2015).

- ✓ **Later: Davros:** You have slaughtered billions of my children, as I have slaughtered billions of your race. We have exhausted the conventional means of communication. – Dr. Who, "The Witch's Familiar" (2015).

⁶ **Commentary:** Lennier's description of the Minbari population decline problem is strikingly parallel to Loren Eiseley's description in *The Modern Dilemma* of the 14th and 15th Century worldview of scholasticism in England: That the greatest of humanity lived in the ancient times (e.g., the Biblical prophets, Hellenistic philosophers, Church Fathers and Roman writers) and wrote down all the wisdom that was available to mankind, and each generation since has been less and less, such that the world is in twilight in the 14th and 15th Centuries (the Fifth Monarchist thought that the English Civil War portended the end of the world in 1666). It is also apparent from Lennier's description that the Minbari do not believe in or practice artificial reproduction that is often described in other science-fiction stories (see *Brave New World*, 5 Taxation & Census, p. 343, *supra*). Would they choose extinction or change?

⁷ **Commentary:** One could think of all sorts of outlandish pulp-fiction reasons; for example, the British tanker was carrying a terrorist-made biological agent to be released at a European port. Maybe there was an alien plague; would you go back in time and sink all ships leaving Caffa in 1346 A.D.? And why hasn't the Doctor done that already? Maybe the British government knows the reason for the American action, but cannot disclose it, and thus there is a puzzled, indignant public outcry in England over the hostile American action against their ally. Maybe the British government first said that the tanker exploded for unknown reasons, but the truth got out somehow?

⁸ **Commentary:** People who deride the perceived 'moral superiority' of the United States have a shallow view of history and perception. People understood that we had defeated the Nazis, opposed the Soviet Union, had fought the German Imperialists in WWI (though we arrived late), and had fought a Civil War over abolition of slavery. The United States was a huge power comprised of the descendants of immigrants who shook off the European systems. The model of the United States had triumphed, and was equated with moral superiority. Perception is power.

⁹ **Commentary:** Charitable promises have limited enforceability at law (i.e. specific performance, *estoppel*) if others relied upon them and were harmed by the reliance.

- ✓ "The promissory estoppel theory upholds the gift if the facts of the case clearly show that the charity changed its position in detrimental reliance upon the promise being honored. If this occurs, the donor is legally estopped to deny enforceability. This is stated in Section 90(1) of the Restatement of Contracts. No matter what state law applied, charities were usually reluctant to sue to enforce defaulted gift promises.

They didn't want to create a negative litigious image. And most of the time donors honored their gift pledges. But this all changed with the 2008 economic downturn, financial scandals, and investment rip-offs." – from Miami Herald article (original no longer available online), reported by Todd W. Sicity on Appraiser Workshops blog, January 3, 2012.

The murkiness of the subject (and various factual possibilities) makes it a favorite of law school review articles:

- ✓ "In another much smaller group of cases, the courts endeavor to leap the consideration hurdle by finding that the various subscribers to a charitable project make a multi-lateral contract among themselves and that their mutual promises, each running to the charity, are consideration for each other. In *Higert v. Trustees of Indiana Asbury University*, a typical fact situation is presented. The promisors were citizens living in or near the city of Greencastle, Ind. The promisee was the already organized Indiana Asbury University. The amount to be raised was \$15,000 to be used as a building fund, and each subscriber, including the defendant, promised to give 'one per cent on the amount of property held by us, severally, in said city and township, as shown by the tax duplicate of said county. ...' The court, in finding for the plaintiff promisee, cited with approval the reasoning found in the *California case of Christian College v. Hendley*: 'If a number of persons subscribe to a paper in which they promise to contribute money for the accomplishment of an object of interest to all, as the erection of a building for a college, and which object cannot be accomplished, save by their common performance, their mutual promises constitute mutual obligations, and are a sufficient consideration to support the promise of each.'" – T.C. Billig, "Problem of Consideration In Charitable Subscriptions," Cornell Law Review, Volume 12, Issue 4, June 1927.

The truth is that most charitable giving now is not truly charitable (as in receiving nothing material in return); the pattern has been set in televised and other charitable drives of promoting the idea of receiving something in return (e.g., gift packs, autographed items, chance to win, etc.) for the 'donation' and thus are really sales at a greatly inflated price. Those who provide the materials and services to be given away are somewhat more charitable, but often, this cost can be used to reduce tax liability to the government and as advertising or promotion, so they are receiving a benefit as well. Most common charity is thus, sadly, not really charity in the modern age.

¹⁰ Commentary: In July 2019, Pittsburgh Pirates pitcher Trevor Williams and his wife adopted a newborn baby girl, adding one to a family that already included a toddler son. During the Pirates broadcast on July 14, 2019, Trevor Williams told the reporter that while his toddler son was excited to have a new baby sister, he was mad because she can't talk to him yet. Trevor commented humorously, "Let's wait a couple of years and check back on that!"

¹¹ Commentary & Citation: According to Ambassador G'Kar in the Babylon 5 television series, every race in the universe has something equivalent to Swedish Meatballs. "I suspect it is one of those great universal mysteries which will never be explained, or that would drive you mad if you knew the truth." – G'Kar, Babylon 5, "Walkabout" (1996). I have no idea what that would be for the Pakmarah, and I don't think anyone would want to ask.

¹² Commentary: I personally admire and hold as the highest ideal, collaborative intuitive couples, such as Lewis Padgett which was the pseudonym used by the married writing team of C.L. Moore and Henry Kuttner or Nobel Prize Winners Pierre and Marie Curie. I have never found one with an intuitive grasp.

¹³ Commentary: I have never had any indication that a cat can force itself to purr, thus, when a cat purrs, it is for authentic reasons, for whatever reasons cats purr. It would never occur to them, unlike human friends, strangers, and significant others, to be inauthentic in their relations. We love cats and dogs for this reason, their simplicity.

¹⁴ Commentary & Citation: The beginning of the official video for the song, made in the 70s, is a real artifact. Not only does the video quality remind you of how television was in the 70s, but it features a conversation between two parents and their adult daughter from some daytime soap that is a true artifact of the time. My first reaction in watching it was, Wow, how does this guy get to tell his daughter that it's time for her to find a boyfriend now and then go on to suggest who she can date? It's not his choice. It's a display of the traditional patriarchal dominance.

- ✓ The first of the original 10cc videos I saw years ago was for "I'm Not in Love," featuring scenes from 1970s soaps as introductions and video along with the music. That video seems to have been removed from YouTube now (probably some stupid dispute) and replaced with Vevo videos, but a number of other late 1970s 10cc videos remain that begin with and include 1970s daytime soaps.

¹⁵ Commentary: Oh this is beautiful – to Babylon 5 fans who know the whole structure of the story: DeLenn was symbolically married to Sinclair in the first season, and literally married Sheridan in the fourth season. If I kept going, I'd have to tell the whole story arc... ☺

¹⁶ Citation: cf. Sixth Mass Extinction Event excerpt, Taxation & Census, *supra*.

¹⁷ Citation: "A gentleman will not insult me, and no man not a gentleman can insult me." – Frederick Douglass.

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“In the treaty councils the commissioners have claimed that our country had been sold to the Government. Suppose a white man should come to me and say, ‘Joseph, I like your horses, and I want to buy them.’ I say to him, ‘No, my horses suit me, I will not sell them.’ Then he goes to my neighbor, and says to him: ‘Joseph has some good horses. I want to buy them, but he refuses to sell.’ My neighbor answers, ‘Pay me the money, and I will sell you Joseph’s horses.’ The white man returns to me and says, ‘Joseph, I have bought your horses, and you must let me have them.’ If we sold our lands to the Government, this is the way they were bought.” – Chief Joseph, 1876

Mathó Thípila: Minor Races are those races in the Galactic Space, which positions may encounter from time to time, who have not attained Stardrive, that is, have not passed fully into the 1st Era of interstellar technology. Most will actually be non-technological or very primitive even by our current standards (otherwise, they may have been ‘noticed’ sooner due to the electromagnetic energy indiscriminately emitted into space by early technological cultures). This is not to suggest that given sufficient time, a Minor Race would not have discovered Stardrive technology on their own; rather, it is just bad cosmic luck that other alien species did so first and found them before they learned to stand and run on their own (in the same way that Europeans invaded everyone else’s timeline, see *Invading Timelines*, 4 Order, p. 576, *supra*).

When encountering a Minor Race,¹ a position might decide to do any of the following:

- ✓ They might conquer/enslave the Minor Race.
 - ✓ They might exterminate the Minor Race.
 - ✓ They might contact the Minor Race.
 - ✓ They might ignore the Minor Race.
 - ✓ They might protect the Minor Race.
 - ✓ They might attempt to surreptitiously ‘help’ the Minor Race.
 - ✓ They might openly ‘help’ the Minor Race.²
 - ✓ They might Land a colony on the Homeworld of the Minor Race.
 - The breakthrough intellectual moment of the Calvin & Hobbes comic occurred when Calvin, playing is favorite character, Spaceman Spiff, who crash landed on an alien planet, suddenly realized that indigenous natives were not the aliens on their planet, he and Hobbes were!
- **Roanoke Island Colony:** The colony Landing on the Homeworld of a Minor Race may or may not be friendly. There are a range of options here, well known from the history of our own world, but in all cases, participants should consider the issue of xeno-microbes and disturbance of the biosphere (see *Bad Exchanges 4 Expansion*, p. 924, *supra*). Also, it is possible to Land a colony at the Homeworld of a Minor Race without making First Contact with them; for example, suppose chlorine-breathing aliens had landed a colony on the Moon in 3,500 BCE? Such a colony might be a Specialized Colony (see *4 Expansion*, p. 925, *supra*) to observe the primitives as our planet would be of little interest to chlorine breathers otherwise. Again, because GGDM does not look at planetary details, there is room for the partici-

pants to have any scenario, for example, suppose the colony is Landed on an Optimal Habitability Class moon (like Pandora in Avatar) and the Minor Race is discovered in the upper atmosphere of the gas giant the moon orbits or on another moon, e.g., Europa Report (2013).

- ✓ The uncontacted Sentinelese people of the Andaman Islands of India have been called the “last Stone Age tribe in the world” (Dan McDougall, *The Observer*, February 2006). Observers have seen no evidence of agriculture or fire making activities, though they do apparently use fire. They use bows, arrows, spears for hunting, fishing and to ward off outside contact, they have bamboo and wooden containers, woven baskets for carrying, and fishing nets and outrigger type canoes suitable for coastal fishing only. Their language is not mutually intelligible with any of the surrounding tribal languages. Though they have no metallurgy, they have taken and used, and sometimes adapted, metal objects obtained from the outside world. In 1996, the Indian government discontinued all attempts to contact the Sentinelese, after several hostile situations, including the 1974 attempt by a National Geographic film crew (arrow wound), and discourages any approach to their island. They are occasionally monitored from the air, for example, in census attempts. Gleaned from Wikipedia article, “Sentinelese,” May 31, 2018.
- *Parens patriae*: All Minor Races are controlled by the Concierge. Minor Races are mostly in the game for story purposes; it is irrelevant to the Concierge what positions do when they discover Minor Races. It is not irrelevant to the Minor Races, however, and the Concierge will react accordingly, from the viewpoint of the Minor Races, to whatever the positions decide to do. The story arc or story of the game and positions is not a consideration from the point of view of the Minor Race.

It is not impossible within the GGDM rules for a position to have First Contact and share a Diplomatic Space and form Treaties with a Minor Race. It is, however a lopsided relationship, and the Concierge will need to represent the interests of the Minor Race, without engaging in excessive private diplomatic communications with the position players, in addition to still being the Concierge. There is a careful balance in this, because other positions may feel that someone in the game is getting free Diplomatic Spaces and goodies, so there must be some level of responsibility and cost to the relationship. The Minor Race may also act, through the Concierge, to break Treaties and damage the Diplomatic Space shared with the Major Race. However, there is also great promise in such relationships in regards to the story of the game (e.g., uplift), and mature interstellar culture.

- ✓ “Hey! How Halloweeny can you get!” – Bugs Bunny after Marvin the Martian disintegrates the ground around his rabbit hole in “The Hasty Hare” (1952).
- ✓ At work one day in 2006 or 2007, I was tasked with calling a doctor who had been sued for malpractice to set up a time for his interview with the attorney assigned by the insurer to defend him. It was a First Contact situation since we had not represented him previously. He was livid that he had been sued (it was his first time) by his patient and was waiting for someone to pounce on; he bent my ear for 45 minutes or more venting and fuming before I could politely extract myself from the call. It didn’t matter what he told me, I was not his attorney, he’d have to repeat it again.

“Why does any advanced civilization seek to destroy a less-advanced one? Because the land is strategically valuable, because there are resources that can be cultivated and exploited, but most of all ... simply because they can. You have experienced much the same on your own world. There are humans for whom the words ‘never again’ carry special meaning. As they do for us.”

– G’Kar, Babylon 5, “And Now for a Word” (1995) ³

Why Not Again: Contact issues with Minor Races might be best regarded as Why Not questions (see initial discussion, 2 Disruption, p. 269, *supra*). The history is well known, *religion did not provide any deterrence* to Why Not destroy, enslave, and plunder indigenous natives.

- ✓ “In their madness, they obliterated a civilization. In the name of piety, in a mockery of their religion, the Spaniards utterly destroyed a society with an art, astronomy, and architecture the equal of anything in Europe. We revile the Conquistadors for their cruelty and shortsightedness, for choosing death. We admire La Pérouse and the Tlingit for their courage and wisdom, for choosing life.” – Carl Sagan, *Cosmos*, Episode 13.

In fact, in the name of evangelism, Western religions encouraged it. The regrets of later generations mean nothing until the next Why Not. If there are technologically advanced, starfaring alien species out there and they are aware of us, and the least bit curious, it is likely that their answer to the Why Not question is all that prevents First Contact: Their answer to the Why Not question is humanity’s current adolescent understanding of the Existential Void and our historical answers to the Why Not question on Earth. That we have not destroyed ourselves yet is but mediocracy (i.e. simply avoiding a foreseeable terminal result), not an achievement.

- ✓ If I were to surreptitiously help a promising primitive species to eventual technology, I would give them the mathematical concept of zero. Put simply, without zero, we don’t have computers. And a whole lot of our advanced math. And even our cyclic counting system (e.g., 1 with a zero added is 10, which comes after 9, and the next number is 11, *et seq.*) that you learned in kindergarten. The question of when and how zero developed has fascinated scholars for ages and the issue is not settled; recently it has emerged that a predecessor to zero⁴ was in use between 224 and 383 A.D. (George Dvorsky, “Origin of Zero Symbol is Centuries Older than Previously Thought,” Gizmodo, September 14, 2017, discussing the Bakhshali manuscript).
- **Gua Effect:** “We were like you once. There’s a time for peace and inner-growth, but we became complacent; and when the invasion force landed, they took us down. One rebel led us to freedom. That’s when we took the name Gua; it means ‘power to overcome.’ Over the centuries, science and industry achieved perfect focus. We created a military machine to ensure our freedom, permanently... We’re here because we’ll never be victims again.” – Joshua Bridges, *First Wave*, “Joshua” (1998).
- ✓ This backstory for the Gua in the *First Wave* series (1998-2001) suggests a domino effect of invasions (nice for *epic story* purposes) similar to the chain reactions caused by the Huns when they invaded Europe or the southward spread of Chinese power

along the coast in ancient times that inspired successive migrations (the name Vietnam referred to the lands of non-Chinese people to the south since the 3rd Century B.C., it is thus a Chinese name).

- Never Again: There is a reason why France and Israel (e.g., the Samson Option) have nuclear weapons. It is to insure the *never again*. The history of Jewish treatment in Europe is well known; France was the victim of German aggression three times in about 70 years (1870, 1914, and 1940), losing twice, and being bled dry the other time when it successfully defended. The results of each attack on France were worse than the previous, and arguments were made that French losses in WWI contributed to manpower shortages in WWII. Israel has no expectation that they would be treated differently by Muslim states than they were in Europe, and Israel has the peculiar problem of only being 30 miles wide at its narrowest point, meaning it could be cut in half by an armored column in a day of fighting.
 - ✓ Thus the dichotomy: Israel is both one of the least likely countries in the world to use nuclear weapons (which they won't admit they have) but is also the one place in the world where it was most likely in the late 20th Century that the circumstance prompting the use of nuclear weapons would arise. France, of course, was protected by NATO and by a divided Germany.

It is taken as a general precept that 'responsible adult' nuclear club members would only use strategic nuclear weapons against an *existential threat* (the issue is slightly less clear with 'tactical nuclear weapons,' but there is a clearly-mapped, slippery-slope risk there) as a last option or in retaliation for a nuclear attack.

- ✓ For example, nuclear-armed Britain did not threaten Argentina with nuclear destruction over the Falkland Islands War in the 1980s, it would not have been appropriate.

Nuclear weapons are better as a background threat than in actual use. Further, it follows that it is unlikely that nuclear weapons would be used against a state that does not also have nuclear weapons; no state without nuclear deterrent of their own would likely push a nuclear-armed state to the position where they would need to use nuclear weapons. And that is the thread by which the world hangs.

- ✓ The geopolitical problem of certain countries who are trying to (and probably have) developed nuclear weapons is twofold. The first is that we don't think of those countries as being 'responsible adults' in the current world and thus not responsible enough to have nuclear weapons (in addition to the possibility that terrorist might obtain a functional nuclear weapon) and second, that once they have nuclear weapons, those countries are no longer protected by a moral obligation to not use nuclear weapons on conventionally-armed countries. That is the problem.
 - Sometime a few months after the 9/11 attacks, I saw a person wearing a t-shirt that said something like "Mecca 2002" over the picture of a city being nuked as a U.S. bomber flies away. The message of the shirt is obvious, not intended to be satirical. Quite aside from the fact that Saudi Arabia does not have nuclear weapons and is not an existential threat to anyone, there are countries out there ruled and radical groups led by people who would wear that t-shirt proudly. This includes a couple of countries that actually have nuclear weapons, unfortunately. That is the problem.

“In the sky over our planet, other people blindly fought out a brutal war – a war between people we didn’t even know.”

– Müil Princess, from *Valarian and The City of a Thousand Worlds* (2017)

War of the Worlds: This short battle sequence brings together many elements discussed in GGDM thus far; in a confusing cinematic minute, the expected tragedy occurs, the human fleet cripples the main alien warship, using a doomsday missile, which then crashes into Planet Müil below, explodes, destroying the planet and the primitive Müil sapient species.

Generally, a Minor Race has little or no chance against an interstellar civilization in a conflict, regardless of what Hollywood shows in the movies. It comes down to a contest not only of technology, but also of resources and time. Even a Minor Race that has colonized system space, is at a major disadvantage against starships and an interstellar civilization. If the Minor Race wins the initial defensive battles (i.e. Earth in the typical Hollywood alien invasion movie), and maintains their independence for awhile, the attacking fleet can simply retreat and leave the system.⁵ The Minor Race, lacking Stardrive technology, cannot follow and take the war to their enemies, so they can only sit and wait while the interstellar power builds an even bigger fleet and comes back again. A Minor Race, confined to a system, cannot match the industry, technology and resources of an interstellar power who has time and the resources of the galaxy.⁶

- ✓ For example, the metallic asteroid called 16 Psyche – which may be the remnant core of a destroyed planet – has metals – mainly iron, nickel – estimated to be worth \$10,000 quadrillion. It is predicted that the influx of metals from this asteroid alone would destroy the world metal commodities market and trigger a collapse of the world economy (possibly similar to the influx of gold from the New World into Spain).⁷ Consider those nations whose significant income is from mining metal ores and whose population are already living in poverty. This is but one asteroid in our own solar system; multiply by millions or billions of times those resources available to an interstellar culture. This suggests that interstellar (or even system) colonization would cause an epochal change in Earth economy. Such changes have already occurred in the past, for example, the change from barter to metal coins (first level abstraction) and later from metal coins to paper currency (second level abstraction) to whatever we have now. The current world economy probably could not operate on a metallic-coin-based currency.
 - A somewhat similar situation to a Minor Race occurs when a Major Race position loses all or most of its warships, and can then only sit and wait on the defense while enemy fleets concentrate against and capture isolated colonies one by one. This is a signpost on the road to extinction.⁸

The only means for a Minor Race to survive this conflict scenario would be if another Major Race intervenes on their behalf, or if the attacking power simply loses will or interest and/or is disorganized, or has an attack of moral conscience, e.g.:⁹

- ✓ This is more or less true of most contests where there is a great disparity in resources: “I think that the North fought that war with one hand behind its back. At the same time the war was going on, the Homestead Act was being passed, all these marvelous

inventions were going on, in the spring of '64 the Harvard-Yale boat races were going on and not a man in either crew ever volunteered for the army or the navy; they really didn't need them. I think that if it had been more Southern successes, and a lot more, the North simply would have brought that other army out from behind its back. I don't think the South ever had a chance to win that war." – Shelby Foote, *The Civil War: A Film by Ken Burns* (1990), Episode 7.

- The North feared European intervention, but it never happened, any chance was dashed by the Emancipation Proclamation, which would have placed European intervention as *in favor of* chattel slavery.
- ✓ For example: In *Avatar* (2009) the natives won one. Good for them. But there is nothing, other than a lack of political will that would prevent the Earthers from coming back again, and again, with more military power, regular military forces, and colonist with machines, until the native populations are decimated. The situation in *Avatar* is directly analogous (as was intended) to the situation faced by the Native Americans, Zulus, Afghans, etc.:
 - The Native Americans could not prevent the Europeans from landing anywhere and coming back again and again, even if they defeated the initial landings (e.g., the Calusa drove off Ponce de Leon in 1513).
 - This goes to the core of the Major and Minor Races discussion, 5 Beginnings, pp. 51-52, *supra*.
 - The Native Americans had no ability to attack the Europeans in Europe and later, to even attack the eastern coastal cities after approximately 1650 C.E.
 - See population density, next page, *ut infra*.
 - King Cetshewayo of the Zulus seems to have understood that the great Zulu victory over the British at Isandlwana in 1879 had so humiliated the British that a negotiated resolution was impossible; the British would return with a larger army. Some victories are counterproductive.
 - The British burned Kabul in 1842 in revenge for the Massacre of Elphinstone's Army by Afghan tribesmen.
 - L. Ron Hubbard showed in *Battlefield Earth* (1982) just how easily modern Earth was conquered by a single drone from an advanced civilization.

"It's a hell of a thing, killing a man. You take away everything he's got and everything he's ever gonna have." – Clint Eastwood, Unforgiven (1992)

This Side of Dead: The emotional punch of the preceding line is the loss of potentials. Although this line could be arguably true of the death of any living thing ... including aliens, the sentimental and moral lamentation of the loss of potentials only applies generally to persons, that is, humans.

Unless an animal is the featured character in a story, generally an adult animal is viewed as having reached its potential, especially if it has reproduced successfully, and thus the death of a "non-person" animal is not viewed as a loss of potentials (not even in our favorite pets do we

view death the same way as for humans). On this level then, persons and sapience are defined mainly in terms of potential of the living matter in question.

“I know that my race must change. We cannot hold our own with the white men as we are. We only ask an even chance to live as other men live. We ask to be recognized as men. We ask that the same law shall work alike on all men.”

– Chief Joseph, Lincoln Hall Speech, January 14, 1879

Cossacks: The people who went to Lincoln Hall that day to hear Chief Joseph speak already knew the story. They were probably not surprised to receive a post-mortem tongue lashing from the Native American Chief. I have thought that is exactly why many of them went; it was understood by that time that many very wrong things had been done. What surprised them was that it was delivered with calm measure and eloquence, and with dignity and gravitas befitting any orator known from classic antiquity. And that is why his words still cut today.

- ✓ The Lincoln Hall speech is available online from places such as http://psi.mheducation.com/current/media/prints/pr_105.html (Primary Source Investigator, McGraw Hill, found November 2018).

Unknown to most of the West, the situation of the Cossacks and Tartars has marked similarities to that of the Native Americans.¹⁰ Back in the United States, in the dawn of the 20th Century, a wave of guilt and remorse passed over the country as, following the close of the Western Frontier in 1890, the population began to evaluate the enormity of what had transpired in the drive West, began to comprehend the massive crimes that had been committed against humanity. This remorse reached its peak in the late 1960s and carried into my youth in the 70s; it probably merged with or was extended by the collective world guilt over the Holocaust and mounting Cold War fears. Yet, at the same moment, we are the result of what was done, and the bell cannot be unrung; it would be nearly hypocritical for us to completely repudiate the results. In the same way that it would be hypocritical for Amazon to repudiate the invention of the internet.¹¹

Dances with Wolves: *You always ask about the white people. You always want to know how many more are coming. There will be a lot, my friend. More than can be counted.*

Kicking Bird: *How many?*

Dances with Wolves: *Like the stars [Speaking Lakota] It makes me afraid for all the Sioux.*

– from *Dances With Wolves* (1990)

Population Density: Of the dozens of factors – from small pox¹² to technology (in fact, the Native bow was initially superior to the European musket) – that have been offered as reasons why the European colonists, immigrants and descendants overcame the Native Americans over four centuries in the New World, one that is most overlooked is population density.

Simply put, even if technologies were equal and disease didn't play a large part, the European-style population density – cities and towns – with the attendant requirements in resource production, reproduction, and social/governmental organization, would have been a great challenge for the Native Americans to hold back.¹³

When the Europeans arrived in the New World, they saw vast uncleared forests and unimproved agricultural land (see Loren Eiseley's "Adamic Eden," 4 Writs, p. 453, *supra*). Coming from Europe which was densely populated (relative to North America) and mostly cleared, improved farmland and cities, the scattered Native American tribes and the land they occupied appeared 'uncivilized' (especially following the collapse of Mississippian civilization, about which they did not know or care). The feel of *population density* was thus a deciding factor in the initial European impressions, cognition, and relationship to the native people of North America.¹⁴

- ✓ "For the natives, they are neere all dead of Small poxe, so as the Lord hath cleared our title to what we possess." – John Winthrop, Quoted in Alfred W. Crosby, Ecological Imperialism: The Biological Expansion of Europe, 900-1900 (1986), p. 208.
 - If you think you read this before, you did, in 4 Expansion, p. 924, *supra*. It is worth repeating, it speaks what Europeans thought at the time.
- ✓ A young Native American male of a Pueblo, Wichita or Pawnee tribe – recognizing the existential threat of the Spanish – attempted in 1541 to lead the Spaniard Coronado and his army away from his people into the Great Plains in search of the Seven Cities of Gold. He probably hoped that the Spaniards would perish on the Great Plains, being caught in the open by winter. The Spaniards killed him after finding Quivira with no golden city. The expedition returned to Mexico in 1542, but Coronado was bankrupted, lost the governorship in 1544, and died 1554.
- Funnel Effect: During the Great Migrations, Western Europe acted like a *funnel* forcing the westward migrating humanity into a smaller and smaller area, with more coming behind them, like cattle into a chute. This funnel effect also caused the rapid accretion of cultures in Western Europe and increased population density, much as the southward migrations of the Danube peoples created the classical Mediterranean cultures of antiquity. Like silt accumulation in the delta of a big river. Europeans became accustomed to greater population density, even though they were regularly decimated by wars, famine, and plague.

The global position at the End of the World that was a strength for the Roman Empire turned into a liability when impersonal waves of migrating humanity reached the End of the World and crashed into a weakened Rome. But as much as all that, the Roman Empire, of course, did themselves in because they refused and/or were unable to change. A better government and social structure may have survived, technology would have helped. But the surviving Roman Empire would not have been "Roman" any longer.

- ✓ The importance of the discovery of the North American continent is apparent: While the Europeans knew of Africa and had sailed well south along its coasts, the discovery of America for the first time meant that Europe was no longer the End of the World. See *Circumambulation*, 1 Expansion, p. 875, *supra*.

“The great achievement of polytheism is the articulation of a common semantic universe. ... The meaning of a deity is his or her specific character as it unfolded in myths, hymns, rites, and so on. This character makes a deity comparable to other deities with similar traits. The similarity of gods makes their names mutually translatable. ... The practice of translating the names of the gods created a concept of similarity and produced the idea or conviction that the gods are international.”

– Jan Assman, Moses the Egyptian: The Memory of Egypt in Western Monotheism (1997), p. 45

You know he doesn’t like that name: *Interpretatio graeca* is a comparative discourse in which the ancient Greeks sought to understand myths of other religions within the concepts of Greek mythologies, *Interpretatio romana* is the Roman continuation that led to the merger (wholesale looting) of Greek polytheistic religion into the existing Roman pantheon, along with reinterpretation of Gallic and other religions in Roman terms. There was a process through the Middle East, around the Mediterranean Sea and through Western Europe, of comparing gods of different religions and identifying similar or compatible spheres of influence, myths, heroes, so that gods of one religion were identified with similar gods of another pantheon, translating all religions to an international, intercultural commonality. If alien races have religions, this is possibly one of the first processes by which views are shared and commonality formed (or not) in interstellar civilization *beyond* math and science.

- ✓ “Apart from the small and ethnically circumscribed exception of the Jews, the ancient world had never known an exclusivist faith...” – Prof. Michael Kulikowski (Pennsylvania State University), “Christians were Strangers: How an obscure oriental cult in a corner of Roman Palestine grew to become the dominant religion of the Western world,” *Aeon*, January 30, 2017.
- ✓ “The Jews had kept themselves separate for as long as anyone could remember, but Greeks and Romans were used to that. Jewish communities were concentrated, nowhere large, and they were exempt from mandatory participation in a public cult. Around the Mediterranean, people could look at Jews with a sort of tolerant, if uncomprehending, disdain.” *Id.*

The Jews, those fanatic monotheistic iconoclasts of the ancient world, sitting on strategic land routes between Syria and Egypt at the eastern end of the Mediterranean, refused to identify with any other religion and refused to have Jehovah identified with any other religion’s supreme ruler (e.g., Jupiter).

- ✓ This is possibly the reason why the Romans removed religious artifacts from the Second Temple and destroyed it after the First Jewish-Roman War (66-70 A.D.). It is not clear that the Romans initially intended to destroy the Jewish ethnicity and religion (as opposed to the later Nazis), but over time, that is what developed (e.g., Jerusalem was renamed as a Roman City, Jewish practice was restricted after 70 A.D. and they paid a tax for being Jewish, Jews were barred from Jerusalem after 135 A.D.). The remaining Jewish population was sold into slavery and/or became Hellenized.

Further, in the 2nd Century BCE, there was a strife between traditional Jewish factions (Maccabees) attempting to expel Hellenistic Judaism from Israel. Hellenistic Judaism was the result of syncretic attempts by apologists to identify *Hellenistic philosophy* (but not Greek pantheons)

with Judaism, so that reason and wisdom came to man from Jehovah. The Romans, of course, brought additional waves of Hellenization, preferred Hellenized Jews, and destroyed the Hasmonean ruling dynasty (descendants of the Maccabees revolt) through their proxy, Herod.

- ✓ Herod the Great (Herod I) may have been of Maccabee descent, as were some later Herodian rulers, however, there is significant record of his perceived disrespect toward the Jewish religion and his fondness for Roman baths and elements of Romanized Hellenistic culture. He certainly had full Roman support, the *Roman Senate* elected him king of Judea in 40 B.C. His brother, Phasaël was Governor of Jerusalem, his son married Herod's daughter (his first cousin).

Christianity, a Jewish cult that became Hellenized – it's politics, they were rejected by the Jewish traditionalists – has properties traceable to non-Jewish religions: A mortal woman giving birth to the son of a god (Virgin Mary, Io from Greek mythology), the man claimed a right to rule by divine lineage (as did Julius Caesar and others, though the same existed in other places), his Earthly acts were godlike and he was unconquered (image of Caesar that led to his assassination), he was a top priest or above the priests of the day (Caesar had been *flamen Dialis* and later *pontifex maximus*, note that the Pope is called the pontiff), he was considered divine (Roman *divus*), died prematurely by the hands of his enemies (the assassination of Julius Caesar), and was deified and obtained a cult after his death (as Julius Caesar's cult to *divus Julius*), and someone later was appointed high priest of the new cult (Marcus Antonius became *flamen of the divus Julius*, Paul became the leader of the new Christian cult), and that person died shortly as well (Marcus Antonius committed suicide, Paul and Peter were executed in Rome).

- ✓ The record is not encouraging: **Paul** was beheaded in Rome, **Peter** was crucified inverted in Rome, **Andrew** was crucified in Greece, **Thomas** was killed by soldiers in Syria, **Philip** was executed in Asia Minor by a jealous Proconsul, **Bartholomew** was martyred on a missionary expedition, **James** was stoned and clubbed to death, and **Simon the Zealot** (the Zealots were the fourth sect of Judaism, active during the Second Temple period, and instrumental in the First Jewish-Roman War, they persecuted Christians) was executed in Persia, **Matthais** was burned in Syria, and only **John** lived to old age, in exile on the Island of Patmos. Information on the fates of the Twelve Apostles taken from Ken Curtis, Ph.D., "Whatever Happened to the Twelve Apostles?" Christianity.com, originally published April 28, 2010.
 - According to Wikipedia articles, **Jude the Apostle** (aka Thaddius) was killed with Simon the Zealot in Beirut in 65 A.D. (which I do not believe was part of Persia in 65 A.D., *ut supra*, thus there are contradictions in the various stories) and **Judas Iscariot** committed suicide. And that makes twelve bad endings, eleven of them violent – noting that the various lists can't even agree on identities of the Twelve (I certainly do not claim to be an expert) and Matthais may have joined after Judas' suicide.

"The Hero with a Thousand Faces is, after all, the story of ourselves, or anyway, the story of our lives that we would write if we had our fingers on the Keyboard in the Sky, which is why our professional storytellers keep telling it to us again and again throughout the millennia, and why we are always willing to live it vicariously one more time."

– Norman Spinrad, Science Fiction in the Real World (1990) (emphasis in original)

Keyboard in the Sky: The modern version (revival) of this process began with Joseph Campbell's Hero with a Thousand Faces (1949), which had an influence on the Star Wars films of the 1970s. My college orientation featured mainly a Joseph Campbell analysis of Star Wars.

- ✓ “Campbell explores the theory that mythological narratives frequently share a fundamental structure. The similarities of these myths brought Campbell to write his book in which he details the structure of the monomyth. He calls the motif of the archetypal narrative, ‘the hero’s journey.’ In a well-known quote from the introduction to The Hero with a Thousand Faces, Campbell summarizes the monomyth: ‘A hero ventures forth from the world of common day into a region of supernatural wonder: fabulous forces are there encountered and a decisive victory is won: the hero comes back from this mysterious adventure with the power to bestow boons on his fellow man.’” – from Wikipedia article, “Hero with a Thousand Faces,” January 30, 2019.

In GGDM, participants do have their fingers on the Keyboard in the Sky ... but it’s not about you. Really. What will you type into reality? Are you a monkey working on Shakespeare?

- ✓ “And if you never saw an angel cry, words cannot describe to you the show that Boshel put on then. They are still at it tonight, typing away at random, for that last sad near-victory was less than a million-billion cycles ago. And only a moment ago – half way back into the present cycle – one of the monkeys put together no less than nine Shakespearean words in a row. There is still hope. And the bird has now worn the rock down to about half its bulk.” – R. A. Lafferty, “Been a Long, Long Time,” (1969).¹⁵

“One remarkable fact is evident from study of these works, as well as from specific statements in other parts of the Old Testament: that Israelite Wisdom was similar to that of neighboring peoples like the Edomites, and had antecedents and counterparts in the much older cultures of Phoenicia, Egypt, and Mesopotamia. It was in fact part of an international, intercultural, and interreligious school of thought whose beginnings can be traced to early times in Sumer and Egypt, and which was to make its impress eventually on the New Testament and the Talmud.

... In the neighboring cultures, and also in Israel, the Wisdom literature was of two main types that apparently represented divergent tendencies among the sages. The first is represented in the Bible by the Book of Proverbs (except for 8:22-31 and 30:1-4), the second by Job and Ecclesiastes (Kohelet). The spirit of the former is conservative, practical, didactic, optimistic, and worldly wise. The latter type is critical, even radical, in its attitude to conventional beliefs; it is speculative, individualistic, and (broadly speaking) pessimistic. The former expresses itself characteristically in brief rhythmic adages and maxims suited to instruction, as well as in longer admonitions; the latter, chiefly in soliloquy and dialogue.”

– Rev. R.B.Y. Scott, excerpts from Proverbs and Ecclesiastes (1965), published on myjewishlearning.com, captured July 30, 2018

Endnotes.

¹ Commentary: If we find in exploring the universe that humanoid (or vaguely Earth-like) life forms exist across the galaxy in discernable repeating patterns, it is likely that the universe was procedurally generated. Cosmic MMOG?

² Citation: “It wasn’t so bad really, being conquered by the aliens. I mean, they were pretty decent about the whole thing when you stop to think about it. Like when they were going to blow up Venus to demonstrate their power. People protested and said how much Venus means to us and everything and they listened... they really listened, they were willing to compromise. So they blew up Mars instead, which was just a dead hunk of rock anyway. And some people bitched about that, too. Some people are never satisfied.... I don’t know if they even fired a shot, the aliens I mean. Seems like we did all the blowing stuff up. They made us get rid of all our nuclear weapons first thing when we signed the peace treaty.... but everything else stayed pretty much the same. The governments were still the same, the economic system... there was still crap on television. The aliens had the last word on everything but they didn’t really mess in our personal business much, not enough to do any good. We still had crime and poverty and all that, just like the old days.” – Jan Strnad (story) and Neal McPheeters (art), “Duet,” *Epic Illustrated*, Vol. 1, No. 27, December 1984.

³ Citation & Commentary: “‘Possession’ is a unifying theme in Tolkien’s imagined world. The fallen Melkor wanted to have God’s power of creation. The pathetic Gollum was twisted by his possessive love of his ‘Precious.’ No one epitomized this quality more than Smaug. The hobbit’s dwarf companion Thorin could not hide his contempt: ‘Dragons ... guard their plunder ... and never enjoy a brass ring of it. Indeed, they hardly know a good bit of work from a bad, though they usually have a good notion of the current market value; and they can’t make a thing for themselves....’” – Chris Armstrong and Steven Gertz, “J.R.R. Tolkien: Did You Know?” *Christian History Magazine*, Issue #78, 2003 (quote from J.R.R. Tolkien, *The Hobbit* (1937)).

- ✓ Though Smaug’s attack was characterized as ‘punishment’ for the Dwarves greed (possibly caused by the corruption introduced by the Dwarven rings) ... in the end, it appears that he took it (i.e. possessed it) *because he could*, morality tales aside. He did not, for example, attack Lothlorien, Rivendell, the Shire, the Gray Havens, Minas Tirith, or challenge Balrog for Moria. And the dwarves were lessened – impoverished and homeless – to the exact same extent that Smaug was enriched – having taken their mountain kingdom and made a bed on all of their wealth – see Zero Sum discussion, 6 Diplomacy, p. 1171, *infra*.

⁴ Commentary: Zero as a place holder in counting systems seems to have proceeded math operations, possibly as an accounting function.

⁵ Commentary: History is full of short-lived states following military victory; for example, the Jews in Judea did eventually accept a Messiah, a leader named Simon bar Kokhba (né Bar Kosiba) and a revolt erupted in 132 A.D. (the Bar Kokhba revolt or Third Jewish-Roman War). Simon took the title of Nasi Israel (Prince of Israel), coinage was minted, and Jerusalem and parts of Judea were independent for over two years. But the Roman armies closed in slowly pushing the rebels back; engaging in total war, the Romans devastated Judea, killing, enslaving or displacing most of the Jewish population, destroying hundreds of towns and villages. And then there was the Islamic State....

⁶ Commentary & Citation: Science fiction occasionally attempts to demonstrate this effect, e.g., in the space-opera *Race for the Galaxy* card game (2008), the Alien Data Repository is worth 3x the entire Old Earth (which is a goods-consumption black hole), and the galactic Rebel Underground is twice as valuable as the old Earth.

⁷ Citation: Shivali Best, “Nasa plans to explore a \$10,000 quadrillion asteroid that could cause the world’s economy to Collapse,” *Daily Mail*, January 17, 2017; Sean Rossman, “NASA planning mission to an asteroid worth \$10,000 Quadrillion,” *USA Today*, January 18, 2017.

⁸ Commentary & Citation: e.g., the alien revolutionaries at the end of Mike Resnick’s *Birthright: The Book of Man* (1982), having learned total war from the former human Galactic Empire, could not tolerate the existence of even a small isolated human colony. The remaining human population of a few families explosively destroyed their planet to avoid alien invasion (similar to the ending of *Beneath the Planet of the Apes* (1970)).

⁹ Citation: This was the subject of a couple of *Stargate SG-1* episodes about mining on primitive worlds, including “Spirits” (1998) featuring a Native American-inspired culture, and “Enemy Mine” (2003) featuring a primitive humanoid alien culture, the Unas. It was perhaps inevitable that the series would touch this subject given the weekly proliferation of cookie-cutter, primitive, frozen-in-time, Earth-derived human cultures (and similar humanoid alien cultures) discovered on each planet-of-the-week accessible by *Stargate*.

¹⁰ Commentary & Citation: While I have placed the plight of the Cossacks as comparable to Native Americans (as victims), others have culturally compared them as rugged individuals to the “gun-toting freebooters of the American West.” Narrator Indiana Nidell opens the “History Of The Russian Cossacks Until World War 1” video on the Great War YouTube Channel with this claim, backed by an unattributed book quote at about the 3-minute mark.

¹¹ Commentary & Citation: If you knew that the Japanese were going to launch a surprise attack on Pearl Harbor in December 1942 and went back to the summer of 1942, would you tell the authorities (quite aside from the fact that

they would probably confine you to an institution)? Would you act in any way to prevent it, to prevent the loss of millions of lives and create a paradox fatal to your existence, your parents and children’s existence, and the entire world you know? Or would the choice to do nothing be easy because without it, your timeline, your history, the world you know, would not exist, the world would be much different, and there would be no U.S.S. Nimitz.

- ✓ *What if certain people in 1942, not from any future time, knew with certainty what would happen, and the outcome of WWII inasmuch as the United States becomes a dominant superpower armed with a weapon of unimaginable power? Would they allow it to happen, knowing that millions of people would die?*
- ✓ *Though they cannot have imagined the world of today ... there seemed to be a conspiracy theory in my youth that the U.S. Government deliberately allowed the Japanese surprise attack on Pearl Harbor (see 3 Government Titles, EN 18, p. 625, supra). Perhaps their reasons were more mundane, e.g., that Germany would declare war on the U.S. if the U.S. declared war on Japan, perhaps political and pecuniary profit from war was a motive. The military-industrial complex has always been suspected of promoting war for profit, and there is always politics of employment, prosperity, union labor involved in it.*

¹² Commentary & Citation: Although smallpox is officially ‘extinct in the wild’ and represents one of the few diseases that have been eradicated, samples are kept in Russia and Atlanta under heavy security:

- ✓ *“Most Americans born since 1972 have not been vaccinated for smallpox. Under a 1979 WHO agreement, the only remaining official live smallpox stocks are kept at CDC in Atlanta and the VECTOR laboratory in Novosibirsk, Russia. Every few years, WHO considers whether these last stocks should be destroyed. At a meeting in May, WHO members again postponed a decision because some experts argued that the stocks are still needed for research.” – Jocelyn Kaiser, “Six vials of smallpox discovered in U.S. lab,” Science Magazine, July 8, 2014 (available free online).*

This is known as the ‘small pox retention debate.’ Given the role of small pox in history and the history of the world, the gravity of this debate is ominously obvious and largely unreported, overshadowed in the late 20th Century by nuclear weapons and now by climate change. As the article title indicates, to the horror of those in the world who understood, six forgotten vials of smallpox were discovered in a government laboratory in Bethesda, Maryland in July 2014; the article also indicates that smaller samples had been found in forgotten stocks in various laboratories (with much less news coverage), for example, cloned samples in South Africa in 2013.

- ✓ *According to NPR (Fran Kritz, September 9, 2019) there was a gas explosion at the VECTOR lab. The small pox samples kept there were not compromised, but again, the retention question is raised.*
- ✓ *See also Bad Exchanges discussion, 4 Expansion, p. 924, supra.*

¹³ Commentary: In the town where I grew up, in center city and the old areas, there were huge mountain stone churches, which I noticed when I was young, had rifle slits and high windows. These citadels were built in the early days, I was told, after the Big Runaway (1778-1779), as defenses in case the Native Americans penetrated into the settlement. I seem to recall from some history that the last Native American incursion in the area was a raid on the less protected settlement or trading post on the south side of the river stemming from a trade dispute around 1800. Sullivan’s Expedition (1779), disease, scorched-earth policy and increasing population density, buildings, and organization doomed the Natives.

¹⁴ Citation: “Long-term solutions included agricultural intensification and the establishment of a hierarchically managed economy. These were not permanent solutions, however, for the archaeologically-evident pattern of population growth indicates that, with each establishment of a higher-capacity production system, population simply rose further. The military option must have been perpetually tempting.” – Joseph Tainter, The Collapse of Complex Societies (1988), pp. 171-172.

- ✓ *“The insecurity that this created among the rural population selected for nucleation around secure, regional centers (Sanders 1981a: 361; Webster 1977: 348). This in turn further intensified subsistence stress, as populations aggregated into smaller areas, leaving large hinterlands with comparatively fewer people and less agricultural production (Webster 1977: 348)...” *Id.*, pp. 171-172.*
- ✓ *“That’s because food production was critical for generating large surpluses that could support non-farming specialists, and the buildup of large populations enjoying a military advantage over others.” – Jared Diamond, Summary of Guns, Germs, and Steel (2017), p. 45, Kindle Edition.*

¹⁵ Commentary: This is the first story in Brian Aldiss’ Galactic Empires Vol. 1 (1976) that I read when I was probably about 14 or 15 years old. Amazingly, considering all that has happened in 35 years, I still have the original hard-cover books (with dust jackets!) of my youth on my shelf.

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“To make damn sure that even the historically naïve and entirely unselfaware reader got the point, I appended a phony critical analysis of Lord of the Swastika, in which the psychopathology of Hitler’s saga was spelled out by a tendentious pedant in words of one syllable. Almost everyone got the point....

And yet one review appeared in a fanzine that really gave me pause. ‘This is a rousing adventure story and I really enjoyed it,’ the gist of it went. ‘Why did Spinrad have to spoil the fun with all this muck about Hitler?’

And the American Nazi Party put the book on its recommended reading list. They really liked the upbeat ending.

Apparently the appeal of The Emperor of Everything to the longings of power within all of us, save the true Bodhisattva, is so powerful that some readers can get off on it, even when it means reveling in genocide and identifying with Adolph Hitler. This is admittedly as extreme as an example of the phenomenon can get, and the overwhelming majority of the readers of The Iron Dream did get the point.”

– Norman Spinrad, Science Fiction in the Real World (1990), p. 158 ¹

Elder Race: Racism and racial supremacy are entirely dependent upon which race you identify with; for example, white supremacists (species: *Hostis humani generis*) identify only with those whose ancestors originated in Europe, mainly central and western Europe, which they regard as congruent in the sense of being identical in form; coinciding exactly when superimposed with the human race to the exclusion of others whose ancestors originated from other parts of the world.

If you listen to white supremacists arguments, eventually you will be asked the rhetorical question of why technology, science, and ‘advanced civilization’ did not develop in Africa. The implied pseudo-intellectual answer lends support to the assertion that people of European descent are somehow superior to other people in the world.

- ✓ When race supremacist – of any kind – offer what they think are arguments or empirical evidence in support of their arguments (rather than the usual assertions), they do so only because others criticize and lampoon them for their beliefs. They are not actually interested in evidence as most people consider it, nor are they interested in arguments. They have already formed their conclusion and nothing rational will deter them or change their minds; they do not need evidence or arguments except for the outsiders. This they share with practitioners of religion and astrology, and all three work on unshakable ‘faith’ because they serve the most basic human needs.

The race question is intellectual poison (thanks in part to Runyard Kipling’s “The White Man’s Burden” (1899)) in that any attempt to rigorously investigate and answer such a question would automatically be considered racism as any answer, no matter how enlightening or well meaning, would be construed as an attempt to prove the ‘superiority’ of European descended peoples.

This argument is as absurd as claiming that an analysis of the lopsided Chinese loss in the First and Second Opium Wars is somehow racist. Wikipedia has three very well-written pages on the Opium Wars including significant analysis and it does not appear that any person has attempted to distort the discussion by calling it racist. If analysis and expert discussion of historical events

were commonly derided as racist attempts to justify history, then there could be no discussion of, for example, why the Spanish defeated the Aztecs, why the Greeks defeated the Persians, why Caesar defeated the Britons, any discussion of the Crusades, why the Taiping Rebellion first succeeded but eventually fell before the Qing Dynasty, why the forces of the Prophet won the Battle of the Trench, why the Goths defeated the Romans at Adrianople or the Bulgars defeated the Crusaders at Adrianople, or a million other wars, battles, conflicts that make up human history.

- ✓ In the same vein, neuroscience that studies the differences between male and female brains runs the instant risk of being labeled misandry or, quite more likely, misogyny. Articles, such as Lise Elliot, “Neurosexism: the myth that men and women have different brains,” (Nature, February 27, 2019) decry it as a ‘scientific myth.’ The difference from the race question is that neuroscience has the aegis of medical science. And all of the screaming about neurosexual myths are limited to publications aimed at the intellectual and educated; neuroscience researchers don’t get trolled on the net.

There are then, certain types of legitimate inquiries that intellectuals are discouraged from pursuing out of political correctness.

- ✓ “Again, specifics definitely matter, and I presume we’ll get them soon, but I strongly suspect that this is a case where Anderson, who is black, used a word that is historically acceptable when used by and among black people and always unacceptable when used by non-black people. If that is the case, MLB has thrown itself into the insanely controversial and likely indefensible position of presuming that it can and should police a black person’s use of that term. I hope I’m wrong about this, but I feel like I’m not.” – Craig Calcaterra, “MLB suspended Tim Anderson for using a ‘racially-charged word’” MSN Sports, April 19, 2019.²
- Bare-Knuckle Max Weber: And thus we arrive at Max Weber, who is considered to be one of the founders of modern sociology. There is a colorable argument that Weber’s works, especially the analysis of the relationship between religion and economic performance (i.e. the ‘Protestant historical coincidence’; he coined the term ‘Protestant work ethic’), and especially when the analysis is extended to regions outside of Europe, and regardless of their intellectual value, were – unintentionally perhaps – a backdoor justification of 19th Century European ‘superiority’ and colonial imperialism. As noted in 2 Constructural Elements, EN 6, p. 201, *supra*, in regards to Ibn Khaldun’s ‘asabiyyah,’ apparent justification attempts can be also a warning to the future when those conditions are absent from civilization.

The question that Max Weber addressed regarding the ‘historical coincidence’ of the prosperity of nations that adopted Protestantism is similar enough to the question asked by white supremacists to draw such a comparison. GGDM started with an entirely different, non-historical question, but arrived in a similar place.

- ✓ The same or similar argument might be made regarding GGDM in that it is, undoubtedly, modeled on the Western ideals of civilization which may not be considered applicable to civilization views in other parts of the world. For example, GGDM could be used to make a convincing argument about why the Native Americans were overrun (e.g., see Population Density, 4 Diplomacy, p. 1146, *supra* and other places in GGDM); some would consider this a racist argument and GGDM an attempt to prove the superiority of Western civilizations. Others might see it more neutrally as a historical argument or deductive argument of civilizations. For the record, and for what

it's worth, the author of this work does not have a racist agenda, and does not consider himself a racist.³ Rather, GGDM sometimes serves intellectually sober, bare-knuckled profundity to the adult table (many, however, will likely dismiss me as post-modern absurdity, and my attempted profundity as deepity⁴ or pseudoprofundity, see further discussion, FALLACIES, 2 Fallen to Earth, p. 1513 *et seq.*, *supra*). Pangloss does not visit here often.

While it should not happen, there is no way to guarantee that real world racism, extremism, and nationalism will not invade the game. Only complete anonymity – because if you know nothing at all about the other players, it would be hard for racism or nationalism to play a part in reactions to others – would free the game from real irrational prejudices. But anonymity is neither practical nor desirable in GGDM game play, rather, the opposite should occur; players should get to know each other and share their experiences, expertise, and culture; gaming with humans is a social activity. Fortunately, it is unlikely that overtly racist and nationalist persons, or persons who are religious or ideological extremist, would have any interest in GGDM or our conversation about civilization.

- Real Racism: Racism always requires a level of willful ignorance (see Willful Ignorance discussion, 2 Information, p. 1353, *infra*). I have seen YouTube videos where posters try to make racist comments (sometimes disguised as bad humor or bad attempts at humor) only to be shown in replies to be factually wrong as to place, historical facts, and other minor details that everyone but the poster seems to know. Willful ignorance allows for distortion into which racism fits.
 - ✓ [Interview] “Of course, the horrors, of which I heard in connection of the Nuremberg trials; the fate of the 6 million Jews, their killing and those of many others who represented different races and creeds, shocked me greatly, but, at that time, I could not see any connection between these things and my own past. I was only happy that I had not personally been guilty of these things and that I had not been aware of the scale of these things. However, one day, I walked past a plaque on the Franz-Joseph Straße (in Munich), on the wall in memory of Sophie Scholl. I could see that she had been born the same year as I, and that she had been executed the same year I entered into Hitler’s service. And, at that moment, I really realised that it was no excuse that I had been so young. I could perhaps have tried to find out about things.” – Gertraud “Traudl” Junge (d. 2002), Hitler’s last personal secretary, interview at the end of the 2004 movie Downfall.
- Pan-Galactic People: Many, if not most, people on Earth agree that the world would benefit greatly if we all regarded ourselves as part of an inclusive “human race” regardless of geographic origin of our ancestors.⁵ You already know who would not agree. However, when humanity is moved to an interstellar or space-opera setting, a type of speciesism supremacy often again creeps into the literature because aliens, even if humanoid in form, are reproductively incompatible with humans because they evolved in a different ecology.⁶
 - ✓ Merriam-Webster online dictionary at *speciesism*: **1**: prejudice or discrimination based on species; especially: discrimination against animals, **2**: the assumption of human superiority on which speciesism is based. The word was first used in 1973.
 - ✓ Reproductive compatibility between two living organisms is one of the core elements making those two organisms the same species, for example, Merriam-Webster online

dictionary at *species*: **d(1)** ... comprising related organisms or populations potentially capable of interbreeding. That is, the production of viable offspring – including possible xenogenesis, the Census Power in GGDM.

- See also crossbreeding discussion, Pan-Galactic Pornography, 5 Beginnings, p. 53, *supra*.

As they are distinctly different species from us, at what point would humanity identify itself as part of a ‘pan-galactic race’?

- ✓ “The Pythagoreans and their successors held the peculiar notion that the Earth was tainted, somehow nasty while the heavens were pristine and divine. So the fundamental idea that the Earth is a planet, that we’re citizens of the universe, was rejected and forgotten.” – Carl Sagan, *Cosmos*, Episode 7.

Suppose that in order to join the pan-galactic race, humanity must be altered to join a hive mind (e.g., the Overmind in *Childhood’s End* (1953),⁷ Galaxia-Gaia in the *Foundation’s Edge* (1982) and *Foundation and Earth* (1986)) or to become eusocial with other intelligent alien species; it would be fair to assume that any pan-galactic race would be a condition of *alterity* to humanity. Such a situation might oddly suggest that for the pan-galactic race, the universe is a valuable food source/nest or hive that must be defended against those outside the universe:

- ✓ “The new examples of eusociality hint that the nature of an animal’s home may hold the answer. As more eusocial species come to light, researchers note that a common thread is that of living inside a ‘valuable resource,’ like a hive or nest, that has taken much labor to build and maintain, and is valuable enough to die for.... Similarly, eusocial aphids, like those discovered by Dr. Nancy Moran, an evolutionary biologist at the University of Arizona at Tucson, patrol and defend the tiny galls they have formed on the cottonwood trees of Arizona; *the galls are both a home and a source of food*.... Many questions remain for researchers about the origins of eusociality. In particular, the naked mole-rat has kept biologists asking why no other mammal, including humans, has evolved sterile, worker castes.” – Carol Kaesuk Yoon, “Social Castes Found to be Not So Rare in Nature,” *New York Times Archives*, 1993 (emphasis added).⁸
 - See also excerpt of Chaki Kobayashi, “What is a Tree,” *Persistence of Existence*, *supra*.

- ✓ Although only vaguely eusocial, Robert Sheckley’s cute 1953 First Contact short story “Specialist” is based on the idea of a starship formed from creatures of different planets that all serve as natural components of what we’d expect on a starship: Walls, Engines, Communications, Navigator. When the ship’s Pusher dies, they discover Earth, where humanity is a race of primitive Pushers (which is offered offhand as an explanation for warfare, science, sovereignty, human supremacy over nature, greed and hatred, interpersonal conflicts – all because we are Pushers with nothing to Push). With some difficulty, the alien starship kidnaps an army private on furlough in the wilderness and convinces him to join their cooperative starship as their Pusher. The role of the Pusher is to accelerate the ship to FTL speeds, which only the Pusher can do mentally. Robert Sheckley’s story, published in *Galaxy Magazine*, May 1953⁹ is

the only example I know of a non-cybernetic, alien-human eusocial relationship. The story provides just enough details to work while leaving huge looming unanswered questions.

“Those who aren’t quite as familiar with the internet slang definition of ‘troll’ or ‘trolling’ might automatically think of the mythical creature from Scandinavian folklore. The mythological troll is known to be an ugly, dirty, angry creature that lives in dark places, like caves or underneath bridges, waiting to snatch up anything that passed by for a quick meal. The internet troll is a modern version of the mythological version. They hide behind their computer screens, and actively go out of their way to cause trouble on the internet. Like the mythological troll, the internet troll is angry and disruptive in every possible way – often for no real reason at all.”

– Elise Moreau, “Internet Trolling: How Do You Spot a Real Troll?” Lifewire, July 20, 2019 ¹⁰

The Diamond Problem: A quick Google search for “Jared Diamond racist” (on June 22, 2017) instantly provides two pages of hits from articles and forums arguing about whether Jared Diamond’s works, particularly the Pulitzer Prize-winning Guns, Germs and Steel (1997), are racist.

- ✓ “A naive outsider might imagine that Diamond’s ideas would go down equally well with the left-leaning anthropology establishment. After all, they are explicitly a retort to racism; he denies Eurasian societies any grounds for pride at ending up on top, exposing the geographic privilege on which their success relied. But he found himself accused of ‘geographic determinism’: in his critics’ opinion, his arguments squeeze out any role for human agency and decision-making, thereby sparing history’s colonisers – and today’s elites – any responsibility for having created our grotesquely unjust world. As one writer put it, after the book was adapted for the US TV network PBS, his stance means that ‘a PBS donor can sit in his Connecticut estate feeling no guilt since it was, after all, only an accident of geography that made him rich and the Bolivians poor.’ Jason Antrosio, an anthropologist, wrote: ‘Jared Diamond has done a huge disservice to the telling of human history.’” – Oliver Burkeman, “Interview: Jared Diamond: ‘Humans, 150,000 years ago, wouldn’t figure on a list of the five most interesting species on Earth’” The Guardian, October 24, 2014.

For his part, Mr. Diamond, the champion of “environmental and geographical determinism,” (a term he contests) maintains that his work is anti-racist, that it shows that the Europeans were just lucky in where their civilization grew and are not inherently or genetically superior in any way:

- ✓ “Diamond himself has been accused of racism, particularly by anthropologists, who have questioned his work with indigenous people in New Guinea, where he has conducted extensive field research. It is ironic because in Guns, Germs, and Steel Diamond explicitly sets out to refute racial readings of history, arguing that the reason Europe became globally dominant was to do with geographical advantages.

One anthropologist published an academic paper entitled F**k Jared Diamond, in which he accused the genteel American of disguised ‘racism’ and ‘environmental de-

terminism’ which served to normalise colonialism. Why, I ask him, is he so resentful? Diamond puts it down to his success and the popular style in which he writes. What about his politics? Although he refuses to be drawn on the subject, it is clear that he resides somewhere on the conservative wing of liberalism.

‘I don’t think that’s the reason because the reality is that I’m a mixed bag. My views about immigration do not coincide at all with extreme liberal American views about immigration, but I would be praised by anthropologists for my views on the intelligence of New Guineans compared to the intelligence of Europeans.’” – Andrew Anthony, “Interview: Jared Diamond: So how do states recover from crisis? The same way people do.” *The Guardian*, April 21, 2019.

But many people see his work as a racist justification for European conquest and colonization. Just as they might see Weber’s attempts to extend and apply his analysis of the Protestant historical coincidence (and the Protestant work ethic) to non-European, non-Christian peoples as racist and/or a justification for European colonialism. In fact, a Google search on the same date, for “Max Weber racist” yields similar results, except that, due to his position as one of the preeminent founders of modern sociology, he is also accused of – variously – being a social Darwinist, imperialist, nationalist, racist, and most importantly, that the sociology he created is tainted with, a tool of, or a justification for ‘genteel white racism.’

- ✓ Norman Spinrad has also charged (in relation to *The Iron Dream* (1972)) that much of science-fiction literature borders on Nazism, is very close to Nazi ideals, and that future science-fiction stories rarely show people or times much better than our own.¹¹ Notably, for whatever reasons you may believe are true, most science-fiction literature is written by ‘white men’ (and sometimes women, e.g., Pauline Gedge, Julian May) and feature white characters or characters of undetermined ‘race’ or ‘ethnicity’ who are most likely ‘whites’ from modern Western civilizations. Thus, Spinrad was making the same charge of mainstream science-fiction literature as has been made against sociology, both products of 19th and early 20th century western civilization, science-fiction literature often contains elements of sociology.

The trolls (and some academics) who carelessly or maliciously called Jared Diamond a racist are missing the point as usual: There is a well-established history (i.e. facts) that must be accounted for (proximate and ultimate causes); the history of 500 years of European domination are imprinted on our current world, every one of us, every culture, every institution.¹² It is the same imperative, not less, but probably more, that lead the Founding Fathers to explain and declare to the world their reasons for rebelling against England. It cannot be wished away, there is no reset. The only difference is that the two are on opposite sides of the divide of identity politics. I have never heard of a troll complaining about the U.S. Declaration of Independence.

- ✓ Which is also more or less the same reason we have creation myths: We feel that we could not have always existed and must account for our beginnings, and the beginning of everything that *matters* to us. It fills the nothingness before our birth with a suggestion that for all practical purposes, everything has always been here (and will continue even after death) and creates meaning in the Void. See *The Happy Hurdle*, *Meta Aspect and Be Fruitful*, 4 Culture, pp. 409-410, *supra* and Douglas Adams quote in *1 Technology*, pp. 694-695, *supra*.

Fundamental realities are things we feel compelled to explain, see Jared Diamond quote, 3 Con-structural Elements, p. 210, *supra*. Having rationally dismissed in the last century all pseudoscientific arguments claiming European mystical, moral, mental or physical superiority – these claims are now considered by definition *racist* – another type of explanation must be offered, something outside of any attempt to claim a ‘rightful’ superiority (which again, is *racism*).

Mr. Diamond offered such an explanation, a compelling one based solely on the happy accident of geography. For this, he is called a racist by those who refuse to understand the problem he is solving; it is unlikely that these people are trying to deny or pretend the history doesn’t exist (and many of them actually are rather proud of it) – because if it didn’t exist, they would have no reason to call anyone a racist!

- ✓ “This general charge – that Diamond offers a hugely oversimplified, morally exculpatory account of history – is the only thing that punctures his politesse. ‘Whenever I hear the phrase ‘geographic determinism,’ he says, ‘I know I’m about to waste time discussing with someone who has no right to be discussing [how human societies developed]. Because the fact is that geography has a strong influence on humans. It doesn’t determine everything, but it has a strong influence.’ Certain anthropologists – the kind he calls ‘not scientists’ – may insist that, say, Aboriginal Australians made a cultural choice not to develop agriculture, but the fact is they simply lacked the domesticable crops or animals to do so.” – Oliver Burkeman, “Interview: Jared Diamond: ‘Humans, 150,000 years ago, wouldn’t figure on a list of the five most interesting species on Earth’” *The Guardian*, October 24, 2014.¹³

These same sorts will likely refuse also to understand the ‘problem’ addressed by GGDM and instead choose to distort the discussion by careless accusation and name calling. It is so easy to call anyone a racists nowadays, closely followed by sexist, misogynous, and even use pejorative terms for liberals (e.g., ‘snowflakes’) and conservatives (e.g., ‘conspiritard’).

- ✓ What, if anything I have added to Jared Diamond’s work was to point out the funneling effect of Western Europe on the Great Migration and the circumambulation. I don’t think that is particularly genius on my part; I am sure it has been mentioned before (but I have not seen it anywhere before), but it is important to the population density issue, which also suggests that in addition to natural resources, Europe had social and mental resources as well. In the movie, *The Man from Earth* (2007), John said that in the early days, he just followed the sun...

The Diamond Problem is not Professor Diamond, but mass human willful ignorance, those who miss the point, jump the gun, refuse to understand and learn, whose thinking is limited to name calling and trolling, and “the level of thought that goes into 140 characters” (Sen. Jeff Flake). This is different from scholarly and academic criticisms of his work, his offered evidence. But that’s not what trolls are about. Even the academic kind.

- ✓ Jared Diamond’s theory seems to apply and adapt Edward Soja’s spatial injustice theory on a macro-historical scale to describe the reason for 500 years of European global colonialism and superiority (similar perhaps to the way absurdism has been generalized in GGDM into a macrosocial metaphysics of human civilizations). Edward Soja, who is barely known outside the elite circles of postmodern social theory (i.e. no Today Show or GMA appearances), has probably never been called a racist, and is of no interest to the internet chattering class or trolls.

“During the Nazi era, German authorities reintroduced the Jewish badge as a key element in their plan to persecute and eventually to destroy the Jewish population of Europe. They used the badge not only to stigmatize and humiliate Jews but also to segregate them and to watch and control their movements. The badge also facilitated deportation.

Nazi propaganda minister Josef Goebbels was the first to suggest a ‘general distinguishing mark’ for German Jews in a memorandum in May 1938. Security Police chief Reinhard Heydrich reiterated the idea at a November 12, 1938, meeting convened by Herman Göring following Kristallnacht. In both cases no immediate action was taken.”

– from “Jewish Badge: During the Nazi Era,” Holocaust Encyclopedia
(United States Holocaust Museum) ¹⁴

Toyland: The thinness of racist arguments continues to be exposed over and over. The 2009 Oscar-winning live short film “Toyland” (YouTube, 14 minutes) does this at two critical points in the story. A lady with a young boy is neighbors with a Jewish couple who has a young boy of the same age, in Nazi-controlled Germany. The boys are friends, called themselves “blood brothers” in the film. Aware that the Jewish neighbors might soon be taken away, the mother tells her son that the neighbors are going on a trip to ‘Toyland’; he wants to go with them, but she (obviously) says no because she knows she is lying. She struggles to keep up the fiction. The Nazis round up the Jewish family and ransack their apartment, the boy tries to run away, to get in the van with them to go to ‘Toyland.’ The Jewish boy yells to him that there is no ‘Toyland’ as the guards knock the runaway boy to the ground and close the prison van doors.

When the frantic mother arrives at the deportation train station, believing her runaway son (whom she has not yet found) is on the train with the Jewish family, she is called a “Jewish bitch” by the guards, who ask why she isn’t wearing the required Star of David, until she produces papers showing she is not ‘Jewish,’ then their demeanor instantly changes to gentlemanly.

When they open the train box car where the Jewish families are imprisoned, she sees the Jewish boy and pretends that it is her son so that he is removed from the train and given to her care. The Nazi officer comments on how he “looks just like his mother,” despite the fact that he is wearing a Jewish star on his jacket lapel. The Jewish parents keep quiet and the Jewish boy does not object, but goes home with his new ‘mother’ while his parents are sent to a camp.

She then raises two ‘sons.’

- ✓ So, yes, the film is a work of fiction. And some would say then that makes it a less powerful example for the argument. But the events in the film are plausible and based on well-documented historical precedent; one could easily say it could have happened that way once or a thousand times. And if the Jewish people were in any way distinguishable from the ‘German people’ there would have been no need for them to wear, by legal decree, the Star of David on their lapel (or one might ask, ‘why were they required to wear a Star of David?’). They did not do so before being required to and few seemed to notice their Jewish neighbors before the Nazis made it a top political issue. Without the star on their lapel, they were indistinguishable.
- ✓ “The persecution of the Jews began systematically almost as soon as Hitler came to power. The Nazis established many new anti-Jewish laws. These were introduced slowly at first, so that the civilian population would not realise the extent of the Nazi

party's anti-Semitism. ... It is uncertain whether Hitler planned to murder the Jews when he came to power. Originally it seems he intended to force them out of Germany but this eventually led to a plan to exterminate the Jews." – "Anti-Jewish Decrees," British Library (<https://www.bl.uk/learning/histcitizen/voices/info/decrees/decrees.html>).

"Humans did this. Hundreds of thousands of babies cradled by mothers grew up through millions of unique experiences only to find themselves all at Jerusalem, each of their stories worthy of its own novel unraveled one way or another over these three months, and have, through the great filter of history, been reduced to a reference in this very sentence. I don't think you or I or our species has the capacity to truly understand this. In the end, perhaps, all we can do is take the time to pause and reflect.

As we do this, we can in a way, commune with our ancestors who did the same; at Carthage, for instance, it is said that Scipio Aemilianus weepingly looked over the flames which engulfed the city, imagining that one day, such flames would be seen over Rome itself. At Jerusalem, we can imagine that Titus was also seized by similar thoughts. Today, I am sure, we can also bow our heads humbly and reflect up on the destruction we reap across the world which may one day, return to our own homes."

– closing narration from "The Siege of Jerusalem (70 AD) – The Great Jewish Revolt [FULL DOCUMENTARY]" by YouTube channel Invicta, August 11, 2019

The Inge Process: William Ralph Inge, born in 1860, was an Anglican priest and the Dean of St. Paul's Cathedral in London from 1911 to 1934. He was, as expected, a very educated man, a Fellow of the British Academy, a Knight of the Royal Victorian Order, Professor of Divinity at Cambridge, a church politician. He was a prolific author of books and articles, thoughtful and well-spoken, his lines are frequently eloquent in a way that we only look back upon with longing. He is quotable, Wikiquote has a page of fine quotes from his works, usually of one sentence, currently there are sixteen quotes there attributed to William Ralph Inge, with links for some to various works on Google Books and the Gutenberg Project (most of his writings are in the public domain).

However, an examination of the works linked to the Wikiquote page demonstrates that they were cherry picked, very carefully cherry picked. While he said some fine insightful things that are at once worthy, profound thoughts on various subjects, many of his works have racist undertones, he (like many of his time) conflated nationalism and race (*gee*, not much has changed there), and other comments in his works are distasteful because he was a late 19th and early 20th Century cleric (e.g., his comments on evolution and science), an English aristocrat (e.g., vaguely derogatory comments about the United States, or consumerism or unionization of labor), or because he was a politician playing to his base (a common charge even nowadays).

- ✓ I have understood from other readings that the 'special relationship' between the United States and England – sort of a GGDM Shared Meaning (see *The Commonality*, 3 Diplomacy, p. 1131, *supra*) – dates mainly from World War II and that prior to England being flooded with U.S. servicemen (and equipment) who then flooded across the Channel and through France and Germany, England aristocratically looked down upon the United States as a lesser cousin and had a slightly adversarial attitude toward the U.S., even after World War I. England thought the United States did little in WWI because the United States joined late.

Sometimes, his insightful, quotable lines seem to contradict other works that have distasteful comments or undertones, e.g., his 1948 (he was 88 years old) comment, “A nation is a society united by a delusion about its ancestry and by a common hatred of its neighbours”¹⁵ seems to contradict the very title (not to mention substance) of his 1919 Galton Lecture (he was 59 years old) called “The Future of the English Race”,¹⁶ this is probably a human process representing a difference in views after World War I and World War II and the beginning of the Cold War fear. He also was realistic in many senses, and sometimes his comments are near prescient, as for example, about South Africa or hinting at the future dissolution of the English colonial empire.

He was a man of his times. We expect outstanding intellects *to be humans beyond their times, to be heroic in an intellectual sense*, and we celebrate that, but often they are not, often they must play to the tune and politics of their time (e.g., Socrates and the Thirty Tyrants or Cicero’s joy at Caesar’s assassination in the Senate), or are trapped in their existential realities (which makes their works useful as historical record of the attitudes and thoughts of a time). The same argument is made of American writer Robert E. Howard, whose short life is encompassed by the period of time (approximately) that Robert Inge was Dean of St. Paul’s Cathedral and most prolific as a writer; Robert E. Howard has been called a racist, but arguably not especially racist by the standards of his time.¹⁷

So, we cherry-pick; Wikiquote cherry-picks, whether consciously or unconsciously. Aristotle made statements that seem to support Ionian slavery (e.g., “for he that can foresee with his mind is naturally ruler and naturally master, and he that can do these things with his body is subject and naturally a slave.” (Politics, 1:2, 2)) that were ignored perhaps until Carl Sagan pointed it out in Cosmos, Episode 7, in his discussion of the Ionian revolution and descent into mysticism. Aristotle’s statements in support of slavery are not commonly found on the internet quotes sites, rather, the Aristotle and Plato quotes found are the ones used in books and taught in colleges or repeated in business psychology seminars. They are the quotes we find palatable and insightful.

Wikiquote is part of a long-term *socio-intellectual Bowdlerization process*.¹⁸ The cherry-picked quotes on Wikiquote will be repeated in school papers and other works, the ones that are distasteful, dated, or in discord with our current worldview will be ignored and read only by those who read original works, do historical research, and understand the times (i.e. scholars, deep blue thinkers). Perhaps this is part of a topical truth function in our civilization; each generation cherry-picks quotes and ignores others, the sum result is that after many, many generations have cherry-picked thoughts and insights from authors and chewed over their works, what remains is the rough pit of thoughts that might be regarded as human truths.¹⁹

However, we do ourselves a disservice by politically correcting or ignoring quotes of famous people that don’t sit well now; we forget – and we probably want to forget except for moments of self-puffery, self-congratulation and romantic narcissism – that the world wasn’t always with the current sensibilities. Without that, we are small people, a tiny point in time, having lost the sense of all other times in our history, being deprived of their collective wisdom.

- ✓ This is an argument made from facts: 1) William Inge was... 2) William Inge is quoted favorably on the internet... 3) His writings are often in discord with or distasteful to moderns... 4) Therefore the internet quotes are cherry-picked. 5) Aristotle, Robert E. Howard, and many others were also racist by our standards, or endorsed slavery, or said disagreeable or outdated things and are also widely quoted on the internet and elsewhere... 6) therefore their quotes are cherry-picked like those of Wil-

- liam Inge. 7) cherry-picked quotes are repeated and disseminated in our society, carried from generation to generation... 8) the original texts and sources remain for those who want to read and understand... 9) this process serves as a truth function, extracting and emphasizing the insightful and thought-provoking prose of famous authors into universal human truths or observations, and suppressing the trivial, distasteful or dated, leaving those to the scholars and historians in the preserved original works.
- ✓ There is a similar intellectual process that runs in other parts of our civilization, certain books, short stories, and literary ideas are made into movies and TV shows, giving them an outsized influence, shows and movies are ‘reimagined’ or remade or rebooted several times, each interpretation learning from the previous mistakes and criticisms, giving them extended legacy. In 2020, we will see our third generation of Dune movies (1984, 2000, 2020). Like our history, our entertainment is pragmatic.
- Cherry-Picking Inge: “We may surmise that the European man, the fiercest of all beasts of prey, is not likely to abandon the weapons which have made him the lord and the bully of the planet. He has no other superiority to the races which he arrogantly despises. Under a régime of peace the Asiatic would probably be his master.” – Dean William Ralph Inge, Outspoken Essays, “The Future of the English Race” (The Galton Lecture, 1919), available for free on the Gutenberg Project.
- ✓ I wonder if the use of “bully” by Dean Inge above was a coy double entendre? A modern reader pictures immediately one with a big stick and that certainly is colorable following the use of the word “lord,” but bully also meant *excellent, wonderful* as an adjective: My mother used to say, “Well bully for you!” when she wasn’t buying my excuses for whatever careless, thoughtless thing I did in my youth that I was in trouble for just then. All of the dictionary meanings of ‘bully’ were in the language, according to Merriam-Webster online dictionary at the time Inge used the term.
 - ✓ It may be surmised from this quote above that Dean Inge was an anti-colonialist, pacifist in some sense, and possibly anti-racist (of some sort); the date is also interesting: 1919, the post-WWI milieu. I think Jared Diamond would agree with his quote. Unlike many of the late 19th and early 20th Century intellectuals cited, Dean Inge lived to see WWII and the Bomb. He was 85 years old in 1945, he lived to age 93.
 - ✓ However, later in the *same essay*, he supports “racial survival” by colonization, which the way the Europeans did it, required them to be the “bully of the planet”: “Emigration, as we have seen, does not diminish the home population by a single unit; and so, while there are empty lands available for colonisation, it is by far the best method of adding to the numbers of our race.” *Terra nullis*. After genocide.
 - In this, he echoes Thomas Malthus, see quote, 1 Taxation & Census, p. 297, *supra*. This point is also not dissimilar to the point made by Joseph Tainter in The Collapse of Complex Societies (1988), pp. 171-172.
 - ✓ But it is clear that in 1919 (based on the above quotes), Dean Inge *did not believe* in any *mystical, moral, or intellectual* superiority of Europeans over the rest of humanity; he was not guilty of Western sanctimony in that sense at least. He would not have said, based on the quoted public lecture above, that any European was smarter than a person from Africa, or morally superior to a person from China, for example. He recognized the European unwarranted sense of entitlement and lack of sense of obligation to the rest of the world (see Arrears in Aristos, 2 Entropy, p. 234, *supra*).

- In this, he says much the same as modern anthropology has said, see Oliver Burkeman quote, p. 1158, *ut supra*.
- ✓ Note also that this was apparently the discussion and language of the time, e.g., consider this following:
 - “When asked what was the greatest political fact of modern times, [Otto von] Bismarck is reported to have responded, that it was ‘the inherited and permanent fact that North America speaks English.’ Whether the saying be authentic or not, the remark is certainly worthy of its reputed author’s keen insight into political fundamentals.” – George Louis Beer, The English-Speaking Peoples, Their Future Relations and Joint International Obligations (1917), p. 186. Note the title, style of the work and the date.

➤ The Voltaire Case: Voltaire’s opinions offended nearly everyone, we tend to do that. The record is clear that in his early years, he was anti-Islam (e.g., his 1736 tragedy, “Fanaticism, or Mahomet the Prophet”), but that his opinions, like Dean Inge, evolved over time. The implications would be frightening if they didn’t; the 20th century has no shortage of examples, especially linked to dominance and power.

Voltaire’s opinion of Islam is still an issue of discussion on the internet, e.g., a thread on the Historium forums (<https://historium.com/threads/voltaire-on-islam.127989/>), started by JoanOfArc007 on June 12, 2017 titled, “Voltaire on Islam” discussing a Muslim World League site that (backhandedly) rationalized Voltaire’s early criticism of Islam and praised him as a later defender of The Prophet.

- ✓ “In his Essay on the Manners and Spirit of Nations (published 1756) ... Voltaire highlighted the Arabian, Turkish courts, and conducts. Here he called Mohammed a ‘poet’, and stated that he was not an illiterate. As a ‘legislator’, he ‘changed the face of part of Europe [and] one half of Asia.’ In chapter VI, Voltaire finds similarities between Arabs and ancient Hebrews, that they both kept running to battle in the name of God, and sharing a passion for the spoils of war. Voltaire continues that, ‘It is to be believed that Mohammed, like all enthusiasts, violently struck by his ideas, first presented them in good faith, strengthened them with fantasy, fooled himself in fooling others, and supported through necessary deceptions a doctrine which he considered good.’ He thus compares ‘the genius of the Arab people’ with ‘the genius of the ancient Romans’” – from Wikipedia article, “Voltaire,” captured February 17, 2019.
 - Note that Essay on the Manners and Spirit of Nations was written 20 years after the anti-Islam tragedy play that he recommended to the Pope in 1745.

Voltaire continues to be quoted today, like Dean Inge, because in between, there are some revealing insights. For example Voltaire wrote:

- ✓ “It is to be believed that Mohammed, like all enthusiasts, violently struck by his ideas, first presented them in good faith, strengthened them with fantasy, fooled himself in fooling others, and supported through necessary deceptions a doctrine which he considered good.” *Id.* citing to David Allen Harvey, The French Enlightenment and Its Others: The Mandarin, the Savage, and the Invention of the Human Sciences (2012).

This humanistic treatment of Muhammed implies that what was true of Muhammed, would also be true of others of the same kind, thus was applicable to both the Church Fathers and to radical reformist in pre-Revolutionary France (a point proven perhaps by later events, e.g., The Reign of Terror). It was a way of criticizing current institutions and movements indirectly which is also what the Muslim World League article by Dr. Khalid Shaya argues.

To wit: If you accept Voltaire’s criticisms of or comments about Mohammed as valid, worthy observations (if not arguments), then when the same is pointed out to exist in Christianity, you cannot deny the same is true of Christianity, which is exactly the point. Voltaire’s description of Mohammed (*ut supra*) must just as easily apply to the famously prone-to-hallucinogenic-fantasy and violently-struck-by-his-own-ideas St. Ignatius of Loyola, founder of the Jesuit Order (and many other ‘Saints’), which had a huge impact on both the Counter-Reformation and on European missions to China, Japan, India, etc. *Ripples*.

Interestingly, Voltaire referred to both Jesus Christ and Muhammed (and Zoroaster) as ‘legislators’ in his A Philosophical Dictionary, Vol. 1 (1764) (available in searchable format on Google books, there were five hits for the word “legislator” in the volume) 30 years before Kantian ethics’ Categorical Imperatives. If these people were Legislators of Mankind, *they were elected after the fact by the religions that were erected on their names* (unlike secular legislators) and Kant is simply asking people to put themselves in that place before acting.

However, it is noted that Voltaire commented inconsistently on the Jewish people, to wit:

- ✓ “According to Orthodox rabbi Joseph Telushkin, the most significant Enlightenment hostility against Judaism was found in Voltaire; thirty of the 118 articles in his *Dictionnaire philosophique* dealt with Jews and described them in consistently negative ways. For example, in Voltaire’s A Philosophical Dictionary, he wrote of Jews: ‘In short, we find in them only an ignorant and barbarous people, who have long united the most sordid avarice with the most detestable superstition and the most invincible hatred for every people by whom they are tolerated and enriched.’ On the other hand, Peter Gay, a contemporary authority on the Enlightenment, also points to Voltaire’s remarks (for instance, that the Jews were more tolerant than the Christians) in the *Traité sur la tolérance* and surmises that ‘Voltaire struck at the Jews to strike at Christianity’. Whatever anti-Semitism Voltaire may have felt, Gay suggests, derived from negative personal experience. Bertram Schwarzbach’s far more detailed studies of Voltaire’s dealings with Jewish people throughout his life concluded that he was anti-biblical, not anti-Semitic. *His remarks on the Jews and their ‘superstitions’ were essentially no different from his remarks on Christians.*” – from Wikipedia article, “Voltaire,” captured February 17, 2019 (emphasis added).

“Being friends with anyone for 30 years is no easy task – people change, they drift apart, they move on.” – Alana Stewart

“In my life, there have been people that I was convinced would be around forever, and yet, somehow they managed to drift away after a couple of years. Likewise there have been people who have begun as casual acquaintances but become more important with each passing year.” – Alana Stewart

Drifting Off the Table: “Advanced Stellar Conquest” drifted off the game table, but GGDM has not yet hit the floor. Like the old computer advertisement with the water glass falling off the table in slow motion while the big voice tells you that their computer can perform millions of calculations before the glass hits the floor – GGDM is still calculating millions of thoughts and mastering the knack, like Arthur Dent, of flying into cyberspace. It’s all a matter of time, input, processing power and SQ and we are just a slight bit slow.

- ✓ “There is an art to flying, or rather a knack. The knack lies in learning how to throw yourself at the ground and miss. ... Clearly, it is this second part, the missing, that presents the difficulties.” – Douglas Adams, Life, The Universe and Everything (1982).
 - “You have to have your attention suddenly distracted by something else then you’re halfway there, so that you are no longer thinking about falling, or about the ground, or about how much it’s going to hurt if you fail to miss it.” *Id.*
- **Continental Drift:** A position having a Shared Meaning with another may create and activate a one-time Special Writ based on that Shared Meaning. The Special Writ, when approved and activated by actualization of a Fuzzy Group, may operate to affect *either* 1) the Events in the Shared Meaning, *or* 2) the party position’s own civilization in reasonable relation to the Shared Meaning and the relationship overall of the two positions. Regular Meanings cannot be the basis of a Special Writ and cannot be affected by the Special Writ. The Writ must be based on the Diplomacy Power and follow a general form of the Writ (see Form of the Writ, 2 Writs, p. 438, *supra*), describing background and a reasonably-related effect.
 - ✓ The Concierge should give liberal interpretation (but not give into speciousness), bearing in mind the cost associated with forming the Fuzzy Group and activating the Special Writ. As discussed in The Commonality, 3 Diplomacy, p. 1131, *supra*, the Concierge will not provide pre-rulings or hypothetically discuss a Special Writ.
 - ✓ Each Special Writ must be unique, but there is no limit to the number of Special Writs that can be activated in relation to a Shared Meaning over the course of the game. The requirement of a Special Writ imposes a *cost* to modification.
 - “My husband recently made me try on a bikini. A bikini is not so much a garment as a cloth-based reminder that your parts have been migrating all these years. My waist, I realized that day in the dressing room, has completely disappeared beneath my rib cage, which now rests directly on my hips. I’m exhibiting continental drift in reverse.” – Mary Roach.
- **Earthquake Events:** A Special Writ that affects the Shared Meaning (#1 above) may *unilaterally* add, subtract or alter the wording of Events in the Shared Meaning. A Shared Meaning must always have at least one Event, there cannot be any empty Shared Meanings. Because the changes are unilateral, this can result in a bit of a tug-o-war back and forth – a bit of a *lover’s tussle* told in monologue narration like Katherine Ann Porter’s short story, “Rope” (1928) – but that would cost considerable Special Writ activations by the sides, distracting them from other priorities. Also because it is *unilateral*, there is no concurrent requirement to activate the Diplomacy Power by the other party, unlike forming the original Shared Meaning.
 - ✓ Without the use of Special Writs, Shared Meanings would be static, unchanging as they are formed, beneficial only in the formation, a burden afterward, and can only be destroyed by Event violations. This may not be a problem for some players. The use

of Special Writs however adds dynamics to the Shared Meanings and rewards positions with opportunities for keeping it.

- ✓ It is possible to form a Shared Meaning where one of the Events bars changes or any use of Special Writs, or even bars unilateral changes. It is up to the judgment of the Concierge whether or not to accept such a Shared Meaning – there may be some unimaginable situation where it is appropriate (just as one should be very careful about declaring anything absolutely impossible) – but generally, it probably should not be accepted by the Concierge.
- **Fault Lines:** The contents of the Special Writ are not shared with anyone when used to add, subtract, or change Events of a Shared Meaning; the other position should notice the changes without needing to read the Writ. *However*, when a Special Writ based on a Shared Meaning is used to alter a position’s civilization (i.e. #2 above), the partner to the Shared Meaning will – in the vein of the Expose’ News Event (see 4 Writs generally, *supra*) – receive a copy of the Special Writ. It will not be published as a News Event, but it’s not exactly secret either. The Special Writ is unilateral, so does not require the other’s approval, but the issuing position cannot control the information once it gets out. The effect of the Special Writ used in this way can be powerful, something just short of an actual Expose’ News Event, but must still be based on the Shared Meaning and the relationship between the two positions and must, of course, be in proper form and the reasoning and intent must be intelligible.
 - ✓ For example, one might use a Special Writ in relation to the Shared Meaning to either shield a Government Title for a Regular Turn from being Disrupted if the Conflict Checks would require a position to violate the Events of the Shared Meaning or in extreme cases, it might be used to rid a position of a Government Title whose Conflict Checks are in conflict with the Shared Meaning.
 - Publication of the Special Writ to the other position in the Shared Meaning may not seem very realistic in the game sense, but is a concession, like the Expose’ News Event, to storytelling in both exposure (learning about the other) and powerful game effects. It is perhaps a form of cohering between positions, even when their Shared Meanings are not ‘positive’ (like the cat and the bird). As discussed *ut supra*, Shared Meaning Events probably should not be allowed to bar sharing of the Special Writ when used in this way.
- **Subduction Zone:** Whenever a Special Writ is used in relation to the Shared Meaning for either purpose, one Monad is added to the Diplomatic Space between the two positions. It can be added randomly, or can be manually placed by the Concierge if the two positions can agree on placement; this is a good way to fill ‘holes’ in the Diplomatic Space. In either case, it is possible due to the wrap around nature of Diplomatic Spaces (like Public Spaces, see discussions *Over the Edge*, 1 *The Sidereal Stage*, p. 108, and *Shared Spaces*, 2 *Diplomacy*, p. 1118, *supra*, and *Built Spaces and Mental Spaces*, 3 *Reformation*, pp. 1401-1402, *infra*) for the insertion of a Monad to push adjacent things apart, or to push things from one edge to another. However, the First Spaces must be inviolate, they must remain on the original edges, directly opposite each other with space for at least one Monad between them, but otherwise can be moved farther and farther apart as Monads are inserted (see *First Space*, 2 *Diplomacy*, p. 1116, *supra*) or the Monads can be added around the sides to expand the space laterally.

- ✓ “My father was an entomologist who believed in continental drift. In the early ‘50s, that was regarded as nonsense. It was in the mid-’50s that it came back. Someone had thought of it 30 or 40 years earlier named Alfred Wegener, and he never got to see it come back.” – Geoffrey Hinton.

*“The Humans say, ‘The road to Hell is paved with good intentions.’ Why?
Do they think there is a shortage of bad ones?”*

– Opening quote from Andromeda, “Forced Perspective” (2001)

Endnotes.

¹ Citation: See Norman Spinrad ‘Emperor of Everything’ feature quote, 3 Constructural Elements, p. 205, *supra*.

² Citation & Commentary: This is by far the best statement of a sensitive issue – an apparent double standard – that has perplexed me and all reasonable adults in the United States for most of a century; I first noticed it when I was in about 2nd Grade in the early 1970s and I personally witnessed it daily when I began working in the early 1980s. I believe this is a language issue mainly in the U.S. as a result of the Civil War, Reconstruction, and the Civil Rights movement and not such a big deal elsewhere in the Anglosphere. The issue is usually raised when someone is defending themselves against a public outcry over racism; for example, I recall the loud offended howling when a famous New York City chef or restaurant owner, accused of racism, pointed out this nonsensical paradox. What would be said if Tim Anderson mentioned it to the press in argument against his suspension considering that other ‘non-black’ players may have been suspended for the same?

- ✓ This is not an argument in favor of anyone using the word: As President Obama said of the Confederate Battle Flag, the word in question here belongs in a museum and at this point, **no one** should be using it, both out of respect and self-respect. It is not a word that can be rehabilitated by neutral, non-pejorative use, nor does it have any meaning beyond the pejorative, no matter the speaker (it is considered non-subjective ‘hate speech’ not protected by the First Amendment). No one, I am certain (except perhaps the anti-PC camp), would argue that our language would be lessened by retiring that particular word (but you know it won’t happen), except where appropriate in accurate historical drama depiction.
- ✓ As to the anti-PC arguments I have heard over the years, I would suggest that a substance abuser might have the same reaction if told their life would be better without the substance abuse. The problem with anti-PC arguments generally is that it is hard to make such arguments without sounding like a closet racist, just as it is hard to make pro-Fundamentalist Christian arguments without sounding like a deluded fool.

³ Commentary: In fact, the irony is that if GGDM contained an outrageous, misogynistic, racist, homophobic, or atheist ranting screed or a detailed religious alien conspiracy theory or celebrity gossip or claimed extraterrestrial or extradimensional channeled wisdom, it would be more likely to be widely read (if only to laugh and troll me) than in its current state as a *levelheaded and profound philosophical and macrosocial simulation and argument*.

⁴ Citation & Commentary: “A deepity is a proposition that seems to be profound because it is actually logically ill-formed. It has (at least) two readings and balances precariously between them. On one reading it is true but trivial. And on another reading it is false, but would be earth-shattering if true.” – Daniel Dennett, “Evolution of Confusion” speech at the American Atheist International Conference, 2009; the video is available on YouTube via the Richard Dawkins Foundation for Reason & Science channel.

- ✓ *Cf.* Merriam-Webster online dictionary at *paradox*: **2:a** a statement that is seemingly contradictory or opposed to common sense and yet is perhaps true.
- ✓ “Deepity” is a Dennett neologism used primarily and sparingly in Philosophy of the Mind, intellectual fraud, and theological discussion.

⁵ Commentary: It may seem a minor point, but it is huge, that in order to have Jackie Robinson Day, Major League Baseball has to first admit that there was a “color barrier” and second, that it was wrong. The second part is the most important because, historically, there can be no question that there was a color barrier, but as long as it is not thought to be wrong, arguments can be offered to justify and support the exclusion of African-Americans. Once something becomes a social or personal wrong, no further arguments can be offered in support or justification.

⁶ **Commentary & Citation:** Aliens are not necessary, mutants will do, as in Norman Spinrad’s The Iron Dream (1972), written by an alternate history Adolph Hitler who became a 1950s science-fiction writer instead of the historical monstrosity that we know well. The Iron Dream was written to demonstrate that science-fiction and fantasy literature are often very close to Nazi ideology.

⁷ **Commentary:** Is it perhaps possible that Arthur C. Clarke’s ‘Overmind’ is the modern science-fiction expression of Ibn Rushd’s (Latinized as Averros in the West) 12th century post-Aristotelian “unity of the intellect” theory?

⁸ **Commentary:** With special thanks to Ms. Yoon for supplying the link to this article.

⁹ **Citation:** Available at https://archive.org/stream/galaxymagazine-1953-05/Galaxy_1953_05#page/n69/mode/2up.

- ✓ The ‘pusher’ idea echoes wishfully every few years, e.g., the 2014 mini-series *Ascension* ends thus, as does the 2019 Canadian very low-budget indie movie *Project Ithaca*, by mental trans-dimensional portals.

¹⁰ **Commentary & Citation:** Demise of the Daily Stormer:

- ✓ “Neo-Nazi Andrew Anglin had encouraged trolls to target [Taylor] Dumpson after her historic win in May 2017 as the first African-American female student body president at American University in Washington. She was black, she was a woman and she was excelling at university – all things that white supremacists hate. Anglin did not respond to the lawsuit against him and his highly trafficked neo-Nazi Daily Stormer website, even when a \$725,000 judgment was entered against him, the site and another troll – money that Dumpson may never see. And no one was ever identified as the hanger of the lynched bananas around the AU campus, a clear hark back to America’s murderous racist past and an intimidation tactic. ... She hopes her tormentor and others like him stop their harassment for good. ‘Even though you’re a white supremacist, even though you’re a neo-Nazi, even though you think like this, I don’t think you’re always going to think like that,’ she said. ‘I don’t think that it has to be that way.’” – Sara Sidner and Mallory Simon, “He tweeted hate at her. She sued. Then she met him,” CNN, September 21, 2019.
- ✓ “A federal judge ruled Thursday that Andrew Anglin must pay \$14 million in damages to a Jewish woman who was subjected to a troll storm he organized. Tanya Gersh sued Andrew Anglin in 2017 after she and her family experienced years of harassment and intimidation because Anglin published her name and contact information on his website, the Daily Stormer, and urged readers to contact her. Gersh was named in a post that criticized her for becoming involved in a dispute with the mother of Richard Spencer, a white nationalist, and condemned her for being Jewish. ... The judge also approved a permanent injunction ordering Anglin to ‘permanently remove from his website the blog posts encouraging his readers to contact Plaintiff Tanya Gersh and Gersh’s family, including all photographs and images of the family and comment boards associated therewith...’ The Southern Poverty Law Center brought the case to court on Gersh’s behalf.” – Sara Sidner and Mallory Simon, “Neo-Nazi website founder ordered to pay \$14M for troll storm,” CNN, August 8, 2019.

These cases show the limits of civil restitution. According to his attorney, Anglin has fled the country. In any event, no one will ever collect their judgments and he can only be ordered to cease & desist on an individual case basis, unless the attorneys can get a class action suit against him. But he will just go somewhere else and keep doing the same as before. Preventing that is the role of criminal law. I have been aware of the Daily Stormer site in years past, I recall that they have been booted off of many different servers, I think it happened after the Charlottesville, VA situation. What he does on his site and blog is a violation of most service provider TOS, but there are service providers out there who welcome sites like the Daily Stormer.

- ✓ “The website for the Daily Stormer, the white supremacist, neo-Nazi and antisemitic racist group, has lost access to a critical piece of web infrastructure that allows the general public to access its hate propaganda easily. This infrastructure ensures the Stormer, the most read hate site in the world, attracts and maintains website readers and protects it from malicious attacks. But in a hectic 24 hours, Andrew Anglin, the website’s founder, took to Gab.com on Tuesday and told his readers the Stormer was down, and then somehow found an alternate way to keep the site going on the dark web.

The Stormer has lost its main access because it hasn’t paid for the service that allows audiences to view the content, Rob Monster, founder and CEO of Epik.com, told Hatewatch in an email. Epik.com runs BitMiti-gate, a content delivery network, or CDN, that ensures a site’s content becomes visible online.

‘As for Stormer, they actually never paid us a penny,’ Monster wrote. ‘In August we discontinued the free plans. Stormer, like any other client, had the opportunity to secure a paid plan. They chose to overlook those opportunities which were proactively presented with ample opportunity.’

Anglin could not be reached for comment. But on Gab.com, he made a desperate plea for support and noted that the Stormer website might not survive. He wrote he’s seeking \$11,000 in donations to fund continued access to BitMitigate.

‘We’re searching for a new CDN – Bitmitigate is no longer willing to put up with the level of attacks we bring on a budget we can afford. Daily Stormer is now under an unprecedented level of pressure and we’ll have trouble staying online for the future.’

Anglin apparently was referring to web-based attacks that can make the site inaccessible. He noted that the Stormer is still accessible through the Tor browser, a free program that routes users’ internet traffic through a system of servers as a means of offering increased anonymity. Tor is one of the easiest ways to access the dark web, where many extremist sites have set up shop after they’ve found increasing difficulty in staying on the open web.” – “Daily Stormer Website Goes Dark Amid Chaos,” Southern Poverty Law Center.

¹¹ Commentary: In a previous age, Norman Spinrad would have written this as a Thesis and nailed his Thesis to the door of the Library of Congress.

¹² Commentary: See the macro-historical process identified as the Columbian Exchange.

¹³ Commentary: This is not a difficult concept: The end result of most card games played by reasonable, experienced, average-skill players can be divided simply into players who got the cards they needed when they needed them, and those who did not. Inherent in any card game (or any game for that matter) are scarcity and randomness. Human choices and mistakes only move the division bar up or down slightly.

¹⁴ Citation & Commentary: “The biggest change I have seen is in the racial problem, the blacks. And some of it I regret very much. Quite the opposite of the Jews in the case of the Holocaust, the blacks seem not to want to be re-minded of history, seemed not to want – in this Disney project that was announced, we will show you what it was like to be a slave – but a great outcry went up, ‘we don’t want to see that kind of thing.’ Almost the opposite of the Jews having holocaust museums and all kinds of things. I regret that; I think they ought to celebrate their past the same way the Jews did about bondage in Egypt; they are not ashamed of it, they say, we came out of it, we conquered it. I wish there were more of that.” – Shelby Foote interview, Book TV C-Span 2, July 26, 1994 (YouTube).

✓ This is a profoundly interesting thought; I can see both sides of it: The ‘blacks’ may feel that being re-minded of slavery is *holding them back*, enforcing the view of their ‘minority’ status and racism. This is particularly interesting *when contrasted with* reception of the 1970s mini-series *Roots*.

¹⁵ Citation: Dean William Ralph Inge, The End of an Age: and other essays (1948), p. 127.

¹⁶ Citation: Dean William Ralph Inge, Outspoken Essays, “The Future of the English Race” (The Galton Lecture, 1919), available for free on the Gutenberg Project.

¹⁷ Commentary: Robert E. Howard was also called a feminist, and apparently admired by later female fantasy writers, yet, while his works contain strong women, the majority of women are slaves, concubines, and sex objects. For example, see <https://skullsinthestars.com/2011/03/28/what-did-robert-e-howard-think-of-women/>.

¹⁸ Citation: “Other languages will occasionally borrow words from each other. English lures other languages into dark alleyways, mugs them for vocabulary, and goes through their pockets for loose grammar.” – James Nicoll (quote posted on YouTube).

✓ Cf. “The problem with defending the purity of the English language is that English is about as pure as a cribhouse whore. We don’t just borrow words; on occasion, English has pursued other languages down alleyways to beat them unconscious and rifle their pockets for new vocabulary.” – James Nicoll (usenet post, 1990, cited in Wikipedia article and on Wikiquotes).

¹⁹ Commentary: Mmmm... so how did I come to this ‘Inge problem’? I was searching on Google on January 30, 2019 for quotes to use in 3 Kairotic Moments, *infra*, which I was rewriting; the search lead me to read the Wikipedia page about William Ralph Inge and then to the Wikiquotes page. I liked the quotes on the page, but then started reading the original works on Google Books and Gutenberg Project and was struck by the discord between the fine-sounding words on Wikiquote and some of what I read from his works online. His works contained many thoughtful, insightful and well written ideas, but frequently, there were comments or asides, or undertones that wrinkled my mental nose. I started to think about the subject, it kind of bothered me a little, and I adopted caution in using his quotes. I must have thought about it while sleeping and I read more of his writings the next morning, found wonderful quotes that were not on Wikiquotes, but also found my appreciation of his works dimming. It had snowed about an inch overnight and just after lunch (February 1, 2019), I went out and shoveled my walk and several neighbors’ walks (I have some elderly, retired neighbors) as the snowfall was tapering off, and while shoveling, I began thinking of the problem in a larger context. Sometime during my shoveling, I began composing this section in my head, and typed it after I came in from shoveling snow.

5 Diplomacy – Elder Races

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“‘You know you never defeated us on the battlefield,’ said the American colonel. The North Vietnamese colonel pondered this remark for a moment. ‘That may be so,’ he replied, ‘but it is also irrelevant.’”

– Conversation between Col. Harry G. Summers, Jr., Chief, Negotiations Division, U.S. Delegation, and Col. Tu, Chief, North Vietnamese Delegation, on April 25, 1975, as reported by Col. Harry G. Summers, Jr. in [On Strategy: A Critical Analysis of the Vietnam War](#) (1982) ¹

Dirty Work: What we had to learn again is that a nation is not well served by treating badly those who do its dirty work – those who are sent to kick the enemy out of this place or that – upon their return should not be scoffed at, humiliated, or shunted aside and forgotten. Nor should a society or its leaders have any illusions about what war means to both sides, the costs both measurable and immeasurable, and to those who happen to be in the way, the generational consequences should not be the cost of political expedient or the need to be right.

Zero Sum Game: A zero-sum game is one in which the gains of one side are equaled exactly by the corresponding loss of the other side such that the two come to a sum of zero. Suppose two sides were playing a game where the total number of points in the game is ten and cannot ever be less or more. Both sides start with five points each. If either side gains a point in the game, the other must necessarily lose a point; that is, the point is ‘transferred’ from one side to another.

Zero-sum game theory or thinking is valid in certain contexts.² For example, in international affairs, if you started with the premise that there is a finite amount of land on Earth and that *almost* every parcel of land has been claimed by someone or some country (e.g., Rockall); if one gains land, another loses land in equal measure. Bir Tawil is a rare barely ‘habitable’ and uninhabited *terra nullis* between Egypt and Sudan from a political and administrative boundary difference.

- ✓ This is also how discovery of documents is treated in litigation; there is a finite ‘universe of documents’ applicable to any lawsuit and to the extent that one side can deny documents (or any evidence) to the other, that side gains in the struggle and the other side’s chances of prevailing are equally diminished for lack of document evidence. This is not the ideal of justice, but is instead, the practical side of legal practice.

Zero sum is valid in some other contexts, for example, retail sales are zero sum: The customer wants a certain item in a certain amount at a certain time and place, if the customer buys what they need from a competitor, they are not buying it from you.³ There is a finite demand for product and a finite pool of potential customers at any time; your competitor’s gain is your loss in equal measure. You lose sales if you do not have the right item, at the right price, in the right quantities, at the right time and/or if the potential customer never heard of you or doesn’t want to buy from you for whatever other reasons.

However, zero sum is not always as clear cut as presented here, for example:

- ✓ “Trump’s core supporters tend to regard economic policy as a zero-sum game. Many believe that others must lose for them to win. Most Americans, however, believe that it’s possible to have economic policies that benefit everyone in the country. Six in 10 Market Skeptic Republicans say that pretty much any economic policy will end up benefiting some at the expense of others, much higher than Core Conservatives.” –

James Hohmann, The Washington Post, October 25, 2017, referencing categories in the Pew Research Center report, “Political Typology Reveals Deep Fissures on the Right and Left,” October 24, 2017.

Zero sum thinking is not appropriate in other situations where sides can gain without taking from the other (e.g., information or interstellar colonization) or in situations such as nuclear war (see Michael T. Klare nuclear firebreak feature quote, 1 Combat, bottom p. 945, *supra*), where *both sides lose* equally due to contamination of the land (that is, a lose-lose, everyone loses).

- ✓ In fact, most of the things that civilization has considered important are not zero sum; ethics and social responsibility are never zero sum, nor is knowledge, information, or education in any direct sense, zero sum. These latter three can sometimes seem to be zero sum in the moment when they are filtered through business and power interests, criminal activities, and the interests of the privileged and elite (which tend to merge).

Conflict, and especially war or armed conflict, can be viewed as a seemingly zero-sum generative activity; both the Axis and the Allies could claim paradoxically that WWII was generative activity! Example, compare the real result of WWII to The Man in the High Castle alternate result. The paradox of war – *we are fighting for our children’s future* – collapses when everyone loses. Collapses in the face of war orphans whose parents’ death didn’t make their future better.

- ✓ See also Entropy & Evolution, 1 Order, p. 515, *supra*.

Conversely, after the invention of Stardrive, when the vastness of space is open to colonization, available land and resources are no longer limited to a single planet, everyone can gain by going out to the stars, colonizing, gathering resources in the universe at large without need to forcefully take from others.⁴ Unless they want to... (see Why Not Again, 4 Diplomacy, p. 1142, *supra*).

- ✓ **Lancelot to King Arthur:** Your rage has unbalanced you. You sir, would fight to the death against a knight who is not your enemy for a stretch of road you could easily ride around. – Excalibur (1981).

And once a place has been colonized and/or occupied, do not assume that the inhabitants will easily and voluntarily move on; as the colonization of a place represents a claim, an investment of resources, energy, risks taken, and solid ground to call home. Colonized places are therefore, zero sum to the sovereigns and inhabitants, even if they possess stardrive access to endless places and resources. See also discussion of fuel in Unobtainium, 3 Movement, p. 857, *supra*.

- **Interstellar Paleolithic Culture:** The arguments offered above mirror the situation believed to exist in the Paleolithic and Neolithic periods of human civilization, more specifically, arrangements for conflict resolution and resource competition. It’s amazing how the futures we imagine are always identifiable as parodies of past conditions of humanity, even when we don’t specifically discover or become cognizant of those past events or conditions until later.
 - ✓ “According to cultural anthropologist and ethnographer Raymond C. Kelly, the earliest hunter-gatherer societies of *Homo erectus* population density was probably low enough to avoid armed conflict. The development of the throwing-spear, together with ambush hunting techniques, made potential violence between hunting parties very costly, dictating cooperation and maintenance of low population densities to prevent competition for resources. This behavior may have accelerated the migration out of Africa of *H. erectus* some 1.8 million years ago as a natural consequence of conflict avoidance.

Some scholars believe that this period of ‘Paleolithic warlessness’ persisted until well after the appearance of *Homo sapiens* some 315,000 years ago, ending only at the occurrence of economic and social shifts associated with sedentism, when new conditions incentivized organized raiding of settlements.

Of the many cave paintings of the Upper Paleolithic, none depicts people attacking other people explicitly, but there are depictions of human beings pierced with arrows both of the Aurignacian-Périgordian (roughly 30,000 years old) and the early Magdalenian (c. 17,000 years old), possibly representing ‘spontaneous confrontations over game resources’ in which hostile trespassers were killed; however, other interpretations, including capital punishment, human sacrifice, assassination or systemic warfare cannot be ruled out.

Skeletal and artifactual evidence of intergroup violence between Paleolithic nomadic foragers is absent as well.” – from Wikipedia article, “Prehistoric Warfare.”

And there you have interstellar- and far-future post-apocalyptic fiction in a nutshell. Conditions of interstellar space (especially with so many exoplanets already known to exist) offer an infinite Paleolithic population density and social condition, while on the other hand, colonies are established by civilizations that of necessity, must have become settled – as a precondition of technology and cultural development – on their original homeworlds, with attendant expectations of complex organization and infrastructure.

- ✓ “At some point toward the end of the last Ice Age, it appears that human populations were increasing and the option to move around the landscape was being lost. In other words, the landscape was becoming populated with more and more people and so people shifted to reliance more and more on agriculture. And reliance on agriculture seems to be one of the triggers that generates further increase in complexity. Because to be agriculturists, people had to be sedentary. They had to live in more or less the same place every year, and year-round in order to tend their crops. And being sedentary means that they had to live in larger communities.

You know, when you live in large communities, you have disputes between individuals, you have to have rules, you have to have ways of solving disputes. You tend to get people who specialize in certain kinds of things, maybe people who specialize, say, in making pottery or making stone tools or making metal tools. Other people specialize in producing food as farmers. So you get markets emerging and complex economic exchange systems. And so once you have agriculture in sedentary communities that grow in size, then complexities in human societies seem to grow, and that’s been the story for much of – or about the last twelve thousand years.” – Joseph Tainter, podcast interview (transcript) on PeakProsperity.com, by Adam Taggart, June 25, 2017.⁵

Any condition that shifts far future interstellar civilizations from the neo-Paleolithic condition to a widespread settled condition is *purely local*; for example, the interstellar empire of 11,000 worlds is just a teardrop in the ocean of stars, but within its boundaries will exist zones of core worlds, industrialized worlds, farming worlds, and frontier worlds. Sort of like early hegemonic empires centered around a few cities and settled agricultural areas of a large river valley, beyond which lies partially known mountain, forest, Pontic, tribal ranges.

- ✓ Organized warfare, diplomacy and just about everything we know, is thus, an emergent from the triumph of sapience over the environment and the various elements of the Neolithic Revolution.

“The only original bit of color to the generic sci-fi setting is dividing species up into two philosophies: ‘little endian’ and ‘big endian.’ This programmer joke (each term refers to a data format) is a reminder that Starships Unlimited is the personal work of one man, Andrew Ewanchyna.... Ultimately, though, Starships Unlimited benefits from having one designer’s focused and uncompromised efforts.”

– Sam Parker, “Starships Unlimited: Divided Galaxies Review,” Gamespot, January 17, 2002

Big Endian, Little Endian: One possible model of GGDM diplomacy (and diplomacy in general) is based on the game theory of *Homo reciprocans* vs. *Homo economicus*, or cooperative man vs. economic man. Which wolf do you feed?⁶

- ✓ To wit: “The *homo reciprocans* concept states that human being players interact with a propensity to cooperate. They will compromise in order to achieve a balance between what is best for them and what is best for the environment they are a part of. *Homo reciprocans* players, however, also are motivated by justification. If a second player is perceived as having done something wrong or insulting, the first player is willing to ‘take a hit,’ even with no foreseeable benefits, in order for the second player to suffer. A common example of this interaction is the haggler and shopkeeper. If the haggler wants a deal and the shopkeeper wants a sale, the haggler must carefully choose a price for the shopkeeper to consider. The shopkeeper will consider a lower price (or a price in between) based on the benefit of selling a product. If the haggler’s offer is a low-ball, which may be offensive to the shopkeeper, the shopkeeper may refuse simply on the grounds that he is offended, and will knowingly and purposely lose the sale.” – Wikipedia article, “Homo reciprocans,” July 21, 2018.
 - Thus, *H. reciprocans* behavior seems to be related to the gene-culture propensity for fairness and altruistic behavior, see Eric Michael Johnson feature quote, 1 The Sidereal Stage, p. 111, *supra*; see also discussions of Metalaw, Mephisto’s Marriage Counseling, 3 Diplomacy, p. 1135, *infra*.⁷
- ✓ cf. “*Homo economicus* is a term used for an approximation or model of *Homo sapiens* that acts to obtain the highest possible wellbeing for him or herself given available information about opportunities and other constraints, both natural and institutional, on his ability to achieve his predetermined goals. ... *Homo economicus* is seen as ‘rational’ in the sense that wellbeing as defined by the utility function is optimized given perceived opportunities. That is, the individual seeks to attain very specific and predetermined goals to the greatest extent with the least possible cost. Note that this kind of ‘rationality’ does not say that the individual’s actual goals are ‘rational’ in some larger ethical, social, or human sense, only that he tries to attain them at minimal cost. Only naïve applications of the *homo economicus* model assume that this hypothetical individual knows what is best for his long-term physical and mental health and can be relied upon to always make the right decision for himself.” – Wikipedia article, “Homo economicus,” July 21, 2018.

- ✓ ‘Utility’ is satisfaction. For example, suppose you could make \$100 per hour mining ore. Your predetermined goal is to make as much money as possible in the shortest amount of time, and mining the ore is your best available option. According to *H. economicus*, in the most extreme interpretation, you will mine the ore even if doing so is dangerous or adversely affects your health in either the long-term or short-term.
 - This does not mean that *H. economicus* cannot be cooperative if doing so is the most cost effective or efficient means of reaching a predetermined goal (e.g. avoiding unnecessary wars), nor does it mean that *H. reciprocans* cannot be uncooperative, if cooperating is not the best course or is not justified (e.g., the other party is trying to leverage, exploit).
- Super-Rationality: Similarly, compare also game-theoretic rationality to *super-rationality*. In a symmetrical game, the super-rational player – without any knowledge of the other player or what they might do – must begin with the assumption that the other player is also super-rational. The super-rational player in such a game will make the choice that maximizes the reward for both players, believing that the other super-rational player will make the same choice (as there is only one logical choice). Thus, the super-rational players inadvertently cooperate. See also, “magical thinking.” Cf.: In normal game-theoretic rationality each player makes the best choice to maximize their own gain with no knowledge or expectation of what the other player might do, out of the available possibilities and with no assumption as to whether the other player is making a rational or irrational choice.
 - ✓ “[Ludwig von] Mises used the term praxeology to name the deductive science that begins with the premise *that human beings act intentionally*. This premise is often called the ‘axiom’ of praxeology. It is an axiom because, in order to disprove it, you have to engage in what the proposition affirms, i.e., you have to act intentionally to argue against the proposition. An intentional action identifies an *end*, or purpose, to the action, as well as certain means selected to achieve that end.” – Michael Accad, M.D., “An introduction to praxeology and Austrian school economics,” alertando-oriented.com (blog), April 13, 2016 (emphasis in original).
 - ✓ “Note that Austrian theory does not care and makes no claim about the psychological state of mind of the actor, and whether the action is rational or not. This is also in contrast to mainstream neoclassical economics which rely on a ‘rational agent under constraint’ assumption for the economic actor, an assumption which is increasingly being recognized as seriously flawed or limited.” *Id.*

“Politics in a constitutional republic is not supposed to be a zero-sum game...”

– James Hohmann, *Washington Post*, September 27, 2017

“E. Pluribus Unum. From many, one.... Humanity is not a zero-sum game.”

– Sen. Jeff Flake, “I Will Not Be Complicit” speech on the Senate Floor, October 25, 2017

Parliamentary Progression: For most of history, politics has frequently been zero sum, especially at the highest echelons of government; resulting in exile, show trials, purges, *coups de'etat*, estates seized and executions.

One possible argument for the rise of parliamentary government (and the associated judiciary development) is as a buffer or hedge against the excesses of zero-sum politics and factionalism. At first, it was the lower feudal orders trying to protect themselves from the excesses and demands of the crown (e.g., The First and Second Barons' Wars, 1215-1217 and 1264-1267).

The modern break occurred in England when Simon de Montfort (in 1265, the “uncrowned king of England,” see Second Barons' War) invited townspeople into parliament, a trend that was never reversed. The relatively modern idea of a written plan of government (i.e. the constitution and the constitutional republic) continues that development by pre-delineating the powers and limits of each part of the government and their relationships.

- ✓ There is a well-accepted argument that the American Revolution (1775-1781) was the continuation of and radicalization of the Glorious Revolution in England (1688-1689).⁸ The uneasy parliamentary seizure of power was completed in America.

The defeat of the Axis Powers in 1945 could be seen as the final triumph of a global parliamentary movement, with the defeated powers finally adopting (real) parliamentary forms of government. This macro-historical process culminated in the League of Nations and later, the United Nations, a non-sovereign, vaguely parliamentary body intended to curb the worst excesses of zero-sum international relations between sovereign states. Note the subsequent parallel development of controversial non-sovereign ‘international’ regulatory and judiciary entities, such as WIPO, W3C and the ICC (and the odd creature, ICANN, which is still controlled by the United States and was an election issue in 2016, see ICANN Understand, 3 Information, p. 1370, *infra*).

- ✓ From the previously identified East-West technological inversion, the Columbian Exchange, the transition of the Roman Republic to Roman Empire, the Great Migration, it seems that 500 years is the minimum natural macro-historical period. The Parliamentary Progression cycle seems to (generally) fit that period as well. But I have wondered, has this always been true? In the prehistoric past was the ‘macro-historical’ period longer, has it slowly accelerated? And if so, what were the ‘causes’ of the acceleration of later macro-historical periods? And yet that roundish 500-years seems to adequately fit so many of the great events or trends identified in our history such that it has become the staple of science-fiction and fantasy-fiction literature.
- **Judgment:** Has the United Nations been successful? Many times – and this is probably the general belief – the United Nations has seemed a useless, expensive waste of funds; the Soviets felt the United Nations was simply an extension of the United States. They weren't entirely wrong on that. Judgment of the United Nations might begin with the biggest items: There have not been any World Wars since the UN was founded and we avoided the global nuclear war that everyone feared (you and I are still here, having this conversation). There is a question of whether any of this can be attributed to the United Nations, or simply to a more responsible or changed idea of national leadership (and aren't the two related?) or to the inefficiency of the Soviet Union; or simply to the economic, military and diplomatic power of the United States in the latter half of the 20th Century (*Pax Americana*). And there are still lots of very bad things that go on inside states and between states; so that the United Nations – like any grandiose human instrument – has fallen far short of the ideal.

- **Jury:** One of the major issues that remain unsettled in the world is whether international law applies only to the relationships between nation-states or whether it also applies to the relationship of nation-states to humanity (some hold that there is no international law, only a set of treaties and agreements). For example, whether the leader of a nation can be held accountable for genocide against the inhabitants, citizens or indigenous populations of his or her own nation? While the latter interpretation can be established by treaties, it can also just as easily be cast aside when inconvenient, for example, the nations that drop from the International Criminal Court (ICC) when the Court issues charges against their leaders. See also Jenny S. Martinez quote, *Interstellar Law*, 3 Order, p. 553, *supra*.

“At this point it will suffice to say that conflict between empires more often leads to expansion of the victor than to the collapse of both.”

– Joseph Tainter, *The Collapse of Complex Societies* (1988), p. 61

Alice in One Plane, the Mad Hatter in Another: Mr. Tainter is correct, except when thermonuclear weapons are involved.

For the first time in history, the combined nuclear weapons arsenals of the powers present a situation where everyone loses and the damage would last for a very long time. The end of WWII, especially the last act, and the Cold War, made it imperative that we figure out how this thing got started, where it began. This consequence of the Cold War cannot be overstated in the development of Western civilization and nascent global civilization. Significant advances were made from 1960 onward in anthropology, conflict theory, understanding technology, and historical re-assessment of civilizations.

Like civil wars and explosions of human fanaticism, nuclear weapons discard conventional rules and are in a category of their own (see Michael T. Klare feature quote, 1 Combat, p. 945, *supra*).

- ✓ “Mohammed had touched off one of those explosions of human energy which transcend ordinary considerations of arms and tactics. Outbursts of this sort, mysterious and dreadful in the new forces they are capable of generating, have never failed to shatter existing military values. Their true origins, like those of electricity or atomic energy, must remain largely in the nature of a cosmic enigma. Their causes and effects are more open to analysis, and it is noteworthy that such explosions have inevitably led to aggression. Defenders, however brave and patriotic they may be, are never charged with quite the same mystical fury. Man, it has been said, is the only animal on earth willing to fight and die for an idea. The distinction offers a further clue to those hurricanes of conquest which have occasionally swept through history, leaving the wreckage of empires behind them. For the most potent weapon of a Mohammed, a Jenghiz Khan or a Hitler is an idea generated into human energy.... Conquerors of this type, it seems, are not restricted at first by the usual laws of tactics and strategy.” – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), p. 121.⁹

The error of the Secretary of the Interior turned President of the United States in *By Dawn’s Early Light* (1990) is the idea that one can win a global thermonuclear war or achieve an acceptable outcome; when confronted with the unfolding horror, he fell back upon historical and conventional ideas – the wrong framework – to make the most momentous decision in history.

The largest flaw in the movie is that the hawkish Col. Fargo, the expert on Soviet military capabilities and weapons, does not seem to grasp or understand that thermonuclear weapons are not like conventional weapons, they are in a class of their own as a potential existential threat (i.e. the nuclear firebreak)¹⁰ nor does he understand what Capt. Moreau understood, when he advised the President to “Cut off the head of the Soviet chicken.” It is difficult to imagine that he obtained the rank and the position next to the President lacking such understanding. If this were a standard horror movie, Col. Fargo would be the evil supernatural whisperer, like the ghost of Grady in *The Shining* (1980); there is something almost (or perhaps) unintentionally supernatural about Fargo’s character and influence, sort of an echo of the whisperer in *A Canticle for Leibowitz* (1959),¹¹ and Alice in the other plane is his ‘saintly’ opposite:

- ✓ **President:** We got Alice in one plane and the mad hatter in another. – By Dawn’s *Early Light* (1990).

“When I came back to the United States [from the Paris Peace Conference of 1919], I decided that if you could use propaganda for war, you could certainly use it for peace. And ‘propaganda’ got to be a bad word because of the Germans using it, so what I did was to try and find some other words so we found the words ‘public relations.’”

– Edward Bernays as quoted by Adam Curtis, *The Century of the Self* (2002)

Propaganda by Another Name: The feature quotes above and below, taken together, expose an unexpected naivety in such an insightful intellect; first that renaming “propaganda” as “public relations” while retaining the same methods and functions, somehow makes it no longer propaganda, and second, that any tool he might invent, for however good a purpose envisioned, could not be and would not be opportunistically appropriated for the detriment of the people, or for no good purpose. We are all susceptible, however, to this fallacy, it is probably the same horror felt by the innovators and practitioners of modern psychiatry when they found out it would be used for suppression of political dissent (e.g., *Aktion T-4* in Nazi Germany) or to advance agendas.

- ✓ “Sound bytes. Catch phrases. Sales pitches. Words. All lexical legitimizing. ‘A rose by any other name...’ he said. In the end it’s all propaganda.” – J.A. Willoughby, “Promised Land” (2014).

*“Goebbels [...] was using my book *Crystallizing Public Opinion* as a basis for his destructive campaign against the Jews of Germany. This shocked me.”*

– Edward Bernays, *Biography of an Idea: Memoirs of Public Relations Counsel* (1965)^{12, 13}

Endnotes.

¹ **Commentary:** Col. Summers book was my first introduction to Clausewitz’ Ten Principles of War when I was in high school. It is worth reading just for that, and *a lot easier than reading Clausewitz!*

- ✓ In the summer of 2019, I discovered that a full pdf version of Col. Summer’s *On Strategy* is available and free to download from Ike Skelton Combined Arms Research Library, Digital Library.
- ✓ Col. Summer’s comment is sort of like Angmar saying, “No man can kill me.” True, but also irrelevant.

² **Commentary:** Ultimately, with a great Freudian reach, one might conclude that zero sum thinking is a natural result of human reproductive psychology and an infantile need to possess mother for safety and survival. If that conclusion is accepted, then what could be said of a technologically advanced, civilized species where the young are

not cared for by the parents (such as sea turtles) and reproductive instinct does not involve transference of infantile possession to the sex partner? Would they develop a zero-sum view?

³ **Commentary:** Which is something that always puzzles me about Amazon. I go to Amazon and I buy a new pillow. Thereafter, for the next six months, I get spam from Amazon that begins by showing me pillows, has pillow in the subject line. I only needed one pillow. I got what I wanted. I likely will not buy another for ten years, and certainly will not buy another immediately. But Amazon's spam bots simply go off of what you most recently bought, sending spam emails for more of the same.

⁴ **Citation:** "Emigration, as we have seen, does not diminish the home population by a single unit; and so, while there are empty lands available for colonisation, it is by far the best method of adding to the numbers of our race." – Dean William Ralph Inge, *Outspoken Essays*, "The Future of the English Race" (The Galton Lecture, 1919), available for free on the Gutenberg Project.

- ✓ Dean Inge is eloquent, intellectual and quotable, but a creature of his time who, between clear, quotable lines, often makes statements – possibly for political purposes – that reflect the beliefs of his time and are offensive to the current worldview (he was a church politician). As the title of the essay suggests, the entire discussion (if historically prescient in some respects, e.g., South Africa, and very realistic, practical) has heavy racial undertones which GGDM does not support, but the general idea of this quote is appropriate to GGDM's Galactic Space. See discussion of the Inge Process, 5 Diplomacy, p. 1161, *supra*.

⁵ **Commentary:** The course of a game of GGDM may be considered akin to the evolution of agriculture described by Dr. Tainter. The initial Galactic Space playing area will fill quickly, First Contacts will happen, disputes must be resolved, complexities will arise from the fact that the population in the center is both sedentary and increasing, though some population will move outward as the Galactic Space expands, most of the population will remain in the center and grow into interstellar states. Successive waves of population will settle in bands outward.

⁶ **Commentary:** I spent way too much time back then playing Starships Unlimited (commercial release) against the AI on my PC. The three main features that stuck in my mind from the game, over 15 years ago, was 1) the Little Endian/Big Endian diplomacy (I didn't get the in-joke though), 2) reaching the Age of Singularity (which I thought at the time was black-hole powered technology, but now I am not sure if it referred instead to the Technological Singularity), and 3) being annoyed by the ambient background noise that I either turned down or off.

- ✓ I hope that GGDM has benefitted "from having one designer's focused and uncompromised efforts." *Id*. But I cannot really tell... I have no objective view of this issue.

⁷ **Commentary:** I was selling games at a convention and a customer asked me the price of a Star Wars X-Wing unit that I had forgotten to tag. Offhandedly, I said, "Probably the same as the others, but let me check." I probably shouldn't have said it that way. I checked the distributor's invoice and saw that the cost of the unit was more than the others, so I calculated the retail markup and applied a price sticker to the unit. The customer came back around and was miffed because it was more than the other X-Wing minis it had been with and because I said it was probably the same price as the others. The guy acted like a real jerk, trying to browbeat me into selling the mini at the same price as the others, and I wouldn't budge because he was being a total jerk. I was selling plenty and since he was being an ass, I didn't care if he bought it or not. I would rather lose the sale, and ultimately, he didn't buy it.

⁸ **Citation:** "As far as the government is concerned, we're seeing something pretty interesting. Parliamentary democracy has been around for 350 years, starting in England in 1689 with the so-called Glorious Revolution, when sovereignty was transferred from the royalty to the parliament. The beginnings of parliamentary democracy in the United States [came] about a century later. Parliamentary democracy is not just based on laws and constitutions. In fact, the British constitution is maybe a dozen words. It's based on trust and good faith, the assumption that people will act like human beings." – Noam Chomsky interview by Michael Brooks, "Noam Chomsky: Trump's Inaction on Climate Change Makes Him 'the Worst Criminal in History, Undeniably,'" *Jacobian Magazine*, June 23, 2020.

⁹ **Commentary:** This description of the phenomenon by Lynn Montross, which has captivated me since I was in high school, may describe both emergence and a punctuated equilibrium (the two are not inconsistent) in human history and civilizations. See continued discussion, 2 Kairotic Moments, EN 3, p. 1437, *infra*.

- ✓ *Dune* was published about five years after Montross published this work. This is not to suggest that Herbert was aware of Montross or would have even looked at his book, but rather that both are expressing an idea that was circulating in the early 1960s. I read *Dune* at the same time I read Montross, in high school.

¹⁰ **Citation:** "Nuclear weapons made annihilation vastly more efficient. A single bomb could now destroy a target whose elimination had once required thousands of bombs. During an aerial attack, you could shoot down ninety-nine per cent of the enemy's bombers – and the plane that you missed could obliterate an entire city." – Eric Schlosser, "World War Three, by Mistake," *The New Yorker*, December 23, 2016 (free online).

- ✓ Oddly, the Kamikaze attacks in the late war months might be considered a prelude: You could shoot down 99% of them, but the one that gets through could disable or destroy a ship and inflict massive casualties.

¹¹ **Citation & Commentary:** “‘And so it was in those days,’ said Brother Reader: ‘that the princes of Earth had hardened their hearts against the Law of the Lord, and of their pride there was no end.

And each of them thought within himself that it was better for all to be destroyed than for the will of other princes to prevail over his. For the mighty of the Earth did contend among themselves for supreme power over all; by stealth, treachery, and deceit they did seek to rule, and of war they feared greatly and did tremble; for the Lord God had suffered the wise men of those times to learn the means by which the world itself might be destroyed, and into their hands was given the sword of the Archangel wherewith Lucifer had been cast down, that men and princes might fear God and humble themselves before the Most High. But they were not humbled.

And Satan spoke unto a certain prince, saying: ‘Fear not to use the sword, for the wise men have deceived you in saying that the world would be destroyed thereby. Listen not to the counsel of weaklings, for they fear you exceedingly, and they serve your enemies by staying your hand against them. Strike, and know that you shall be king over all.’

And the prince did heed the word of Satan, and he summoned all of the wise men of that realm and called upon them to give him counsel as to the ways in which the enemy might be destroyed without bringing down the wrath upon his own kingdom. But most of the wise men said, ‘Lord, it is not possible, for your enemies also have the sword which we have given you, and the fieriness of it is as the flame of Hell and as the fury of the sun-star from whence it was kindled.’

‘Then thou shalt make me yet another which is yet seven times hotter than Hell itself,’ commanded the prince, whose arrogance had come to surpass that of Pharaoh.

And many of them said: ‘Nay, Lord, ask not this thing of us; for even the smoke of such a fire, if we were to kindle it for thee, would cause many to perish.’

Now the prince was angry because of their answer, and he suspected them of betraying him, and he sent his spies among them to tempt them and to challenge them; whereupon the wise men became afraid. Some among them changed their answers, that his wrath be not invoked against them. Three times he asked them, and three times they answered: ‘Nay, Lord, even your own people will perish if you do this thing.’ But one of the magi was like unto Judas Iscariot, and his testimony was crafty, and having betrayed his brothers, he lied to all the people, advising them not to fear the demon Fallout. The prince heeded this false wise man, whose name was Backeneth, and he caused spies to accuse many of the magi before the people. Being afraid, the less wise among the magi counseled the prince according to his pleasure, saying: ‘The weapons may be used, only do not exceed such-and-such a limit, or all will surely perish.’” – Walter M. Miller, Jr., *A Canticle for Leibowitz* (1959).

- ✓ This is a fantastic potential movie waiting to be made, but it requires the right hand. There are a pair of trailers on YouTube, one was someone’s school project, both of them somewhat missed the point.

¹² **Citation:** “No one really believed the charge, including the people making it, as archives have subsequently shown. But that didn’t matter. The point of the posters was not to convince people of a falsehood. The point was to demonstrate the party’s power to proclaim and promulgate a falsehood. Sometimes the point isn’t to make people believe a lie – it’s to make people fear the liar.” – Anne Applebaum, “History will Judge the Complicit,” *The Atlantic*, published on the internet as a free article about June 5, 2020, appears in July/August 2020 Issue.

¹³ **Citation:** “‘Why, of course, the people don’t want war,’ [Hermann] Goering shrugged. ‘Why would some poor slob on a farm want to risk his life in a war when the best that he can get out of it is to come back to his farm in one piece? Naturally, the common people don’t want war; neither in Russia nor in England nor in America, nor for that matter in Germany. That is understood. But, after all, it is the leaders of the country who determine the policy and it is always a simple matter to drag the people along, whether it is a democracy or a fascist dictatorship or a Parliament or a Communist dictatorship.’

‘There is one difference,’ I pointed out. ‘In a democracy the people have some say in the matter through their elected representatives, and in the United States only Congress can declare wars.’

‘Oh, that is all well and good, but, voice or no voice, the people can always be brought to the bidding of the leaders. That is easy. All you have to do is tell them they are being attacked and denounce the pacifists for lack of patriotism and exposing the country to danger. It works the same way in any country.’” – Hermann Goering, Luftwaffe Commander at the Nuremburg Trials, as reported by psychologist and U.S. Intelligence Officer, Gustave Gilbert from a private conversation in his cell on April 18, 1946.

- ✓ Information from Snopes.com, January 3, 2020. According to Snopes, a similar quote attributed to Julius Caesar is “a latter day fabrication” but the Goering quote is authentic.

*Hostis humani generis***Text from Wikipedia Article, captured August 19, 2017**

International waters (also called “the high seas”) have their own customs and usage, rules and articles, and laws. Unlike the case with land, above the high-tide mark, where title, ownership, and sovereignty are created by law based around use and possession, no nation may claim as its territory the high seas, for continuous use and possession of them is impossible; as such, no nation may thus forbid trespass through the high seas. The high seas, since they cannot be owned by anyone, are held to belong to all humanity, and every nation is held to have a separate and equal right to have its ships navigate over them; this is the concept of *mare liberum*, or the freedom of the seas. As the sea is the common property of all, the perils of the sea and of navigation are shared by all mariners, and all nations. A law of amity and reciprocity holds among the seafaring powers, especially in regard to matters related to the protection of life and to a lesser extent, property; for instance, the law stipulates the obligation of every mariner to assist those who are shipwrecked, and the obligation of every harbormaster to provide safe harbor to any vessel in need during a storm, regardless of the flag it flies.

Perhaps the oldest of the laws of the sea is the prohibition of piracy, as the peril of being set upon by pirates, who are not motivated by national allegiance, is shared by the vessels and mariners of all nations, and thus represents a crime upon all nations. Since the time of the Ancient Romans, pirates have been held to be individuals waging private warfare, a private campaign of sack and pillage, against not only their victims, but against all nations, and thus, pirates hold the peculiar status of being regarded as “hostis humani generis,” the enemies of humanity. Since piracy anywhere is a peril to every mariner and ship everywhere, it is held to be the universal right and the universal duty of all nations, regardless of whether their ships have been beset by the particular band of pirates in question, to capture, try by a regularly constituted court-martial or admiralty court (in extreme circumstances, by means of a drumhead court-martial convened by the officers of the capturing ship), and, if found guilty, to execute the pirate via means of hanging from the yard-arm of the capturing ship, an authoritative Custom of the Sea.

Although summary battlefield punishment was conducted by certain nations at certain times with regard to pirates, it was regarded as irregular (but lawful if the attenuation of due process was dictated by urgent military necessity), as individuals captured with pirates could potentially have a defense to charges of piracy, such as coercion. For instance, in early 1831, the 250-strong crew captured off Ascension was brought to Ascension and summarily hanged, as they were acting in a rebellious manner and threatening to overthrow the 30-man crew of HMS *Falcon*, a British sloop-of-war, which took them captive. As the summary punishment in this case was due to military necessity, there was clear evidence of the offense, and it was done proximate in time and location to the battlefield, it can be classified as merely irregular, and not a violation of the custom of the sea.

In more recent times, much of the customary law of the sea has been codified. Piracy is the broadest exception to the principle that a ship on the high seas is subject to the protection of, and jurisdiction of, its flag state. Piracy is considered an offense of universal jurisdiction, such that any state may board and seize a ship engaged in piracy, and any state may try a pirate and impose punitive sanctions in accordance with that state’s own laws. Piracy is defined in Article 101 of the 1982 Convention on the Law of the Sea, and the 1958 Convention on the High Seas also regulates this exercise of jurisdiction.

The tradition of classing the pirate as “hostis humani generis” has been expanded to one other particular class of seafaring criminal, that of the slaver, who, by trafficking in human flesh upon the high seas, is similarly held to be in a state of war against all humanity. These treaties, as well as the customary international law, allow states to act similarly against slavers.

Although the tradition of privateering has been in decline over the past several centuries and international treaties are held to have abolished it, privateering, or the use of private ships as raiders of commerce of the enemies of the sovereign whose flag the privateer flies, is not considered piracy but warfare against a particular national enemy, and thus does not represent a crime against the customary international law, provided those involved adhere to the law of naval warfare.

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See Appendix COM – Trading with Scene-snitching Aliens Example

See Appendix CST – Combat Shift & Situation Tables

See Appendix EPAT1 – The Existential Patents

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See Appendix IMT – Interstellar Movement Table

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“The history of sea power is largely, though by no means solely, a narrative of contests between nations, of mutual rivalries, of violence frequently culminating in war. The profound influence of sea commerce upon the wealth and strength of countries was clearly seen long before the true principles which governed its growth and prosperity were detected. To secure to one’s own people a disproportionate share of such benefits, every effort was made to exclude others, either by the peaceful legislative methods of monopoly or prohibitory regulations, or, when these failed, by direct violence.

The clash of interests, the angry feelings roused by conflicting attempts thus to appropriate the larger share, if not the whole, of the advantages of commerce, and of distant unsettled commercial regions, led to wars. On the other hand, wars arising from other causes have been greatly modified in their conduct and issue by the control of the sea. Therefore the history of sea power, while embracing in its broad sweep all that tends to make a people great upon the sea or by the sea, is largely a military history...”

– Alfred Thayer Mahan, The Influence Of Sea Power Upon History, 1660 – 1783 (1890) ¹

Port of Origin: Mahan used the word “influence” in the title of his work, it is clear that Mahan did not believe that sea power *was* world history. Rather, humans live on the land, the population base, cities and nations are on the land, and that is where history is made, where culture, industrial, and political power exists. Sea power is but a foray. This point is epitomized by the decline of the Byzantine fleets after the *land defeat* at Manzikert that deprived them of resources and recruits, see discussion, 2 Construction, p. 671.

In terms of science-fiction, space-opera settings, the truth remains the same, the base of interstellar civilizations are still the population base of the colonies, the difference from Mahan’s time is that starships can destroy entire colony worlds (the ships of Mahan’s time obviously could not decisively and directly affect the population of a continental nation, only interfere with commerce and colonization), which is analogous to the later development of nuclear armed ships that *can* destroy a nation from the sea, both in population, urban centers, and infrastructure.

✓ See also *Nobless Oblige* discussion in 4 Movement, starting on p. 869, *supra*.

It is worth noting, historically, that the Chinese Treasure Fleet and Vasco de Gama’s Portuguese fleet missed each other by about 60 years (i.e. *only* three generations). The vast Ming Treasure Fleet had visited ports all the way to the east coast of Africa from 1405-1433. They were not there for exploration, as the Chinese already knew the coasts and ports; they were not there for trade, as the Chinese were self-sufficient, wealthy, and had plenty of trade. The Chinese fleet was there to show the flag, overawe; which is vastly different than the intent of the Portuguese and later Europeans. The Mings did not found colonies or conquer distant lands, abandoned oceangoing junks, tower or castle ships, and future world history was changed.

Naval Power: Military power for the sake of military power is never a sufficient reason. Military power must be integrally related on all levels with national survival, national prestige, and the national will. Naval units, which represent the most advanced and concentrated units of fire-power in the history of the world, are the least exempt from this principle. Naval power must have three reasons for its existence:

1. To protect the homelands from invasion,
2. To protect **Commerce** and the prestige of the nation in the world, and

3. To project forces onto our enemies' shores and areas to enforce our will.

Additionally, as noted in the Manzikert discussion in 2 Construction, p. 671, *supra*, naval power and sea trade is a layer of complexity developed by usually urbanized civilizations to solve a problem. When humans go out into space in a large way, it will be a layer of complexity added to solve a problem – probably we want resources. GGDM participants must assume that the advent of stardrive and interstellar colonization at the beginning of the game is in response to a pregame problem as perceived by their civilization (probably overcrowding, lack of resources, migration urges, and to a lesser extent, actual science and exploration).

- Naval Superiority: In all of their centuries of conflict, the French never sustained naval superiority over England; after 1066 A.D., the French were never able to cross the channel and invade England (but the Stadholder of Holland, William, Prince of Orange did in 1688 what Napoleon never did). During the various conflicts of the 16th through 18th Centuries, the English were able to harass and raid the French towns along the Channel coasts at will, tying up significant French troops and resources. This situation culminated in the inability of Napoleon to invade England in the summer of 1805 from his massive army camp at Boulogne sur mer and the crushing naval defeat at Trafalgar in October 1805. The historical proximity of Napoleon's greatest land triumph at the Battle of Austerlitz against the combined Austro-Russian armies in December 1805 epitomizes the strategic problem of the First Empire. Napoleon could have had long-term, if uneasy, peace in 1801, but not after 1805.
 - ✓ Organized national navies extend the sovereign boundary control out to sea. In most science-fiction stories, the sea is replaced by space, armed sailing ships replaced by armed spaceships or starships, most space-opera fiction is a parody of Earth history.
- First War: In a general or total war situation between sovereign entities, each side will try to deprive the other of resources, which means attacks on resource production and transportation of resources, e.g., Cargo Ships and Log Ships in GGDM, and population. This may mean attacks on targets of opportunity while they are at **alien colonies**, or even, to be brash and reckless, on **alien colonies** supplying or trading resources to the enemy. This path is well known, famously, it was one cause of the U.S. entry into WWI (i.e. 'unrestricted submarine warfare', 'tonnage war'). Thus, commerce is the propagation agent that can cause the war to spread, drawing in positions and causing or reinforcing alliances across Galactic Space.
 - ✓ You think there will be no war for the heavens? As soon as one or more nations of the Earth (or the entire Earth) begins to import, profit from and depend on imports of anything from space, from other places in our solar system, there will be a need to protect the shipping from whomever disagrees currently and has the power to attack it, whether that is another nation on Earth or extraterrestrial settlements. And the need to regulate and police follows the inevitable corruption, exploitation, inflation from imports. The first defense and attack will likely be space-capable fighters; the side that wins that battle will build armed system boats. The arms race begins.

Remember, everyone says they want peace. Peace is good for business, war is good for business. It might be wise to study the Ferengi Rules of Acquisition (ST:DS9) before playing GGDM.☺

“The centrality of cities to an understanding of historic societies is an assumption shared by most urbanists but it is scarcely evident in the work of other social analysts. It is still possible to write or compile contemporary histories that allot, at best, a chapter to urban phenomena. This may not be because the other social analysts are being obtuse but rather because urbanists have, in the main, not made an adequate case for that centrality.”

– Edward Soja, Abstract from “Writing the City Spatially,” *City: analysis of urban trends, culture, theory, policy, action*, Volume 7, Number 3, November 2003, pp. 269-281

Commerce Power: All of interstellar civilization hangs on tiny *island motes of dust floating in the endless empty space*. Ninety-nine percent of what we know about anything has to do with these *motes*, and Stardrives only give us the ability to make the leap from one *mote* to the next through unimaginable distances. What kind of interstellar civilization would we have if the only contact between colonies was by the captains and crews of military starships? It is generally assumed that each colony is self-sufficient, they must be or else they will not survive the long periods of isolation. But, even though each colony is self-sufficient, each will eventually produce more of something or find some things easier to have than others, and those excesses have value elsewhere on colonies that cannot produce them as easily as they can buy them or wherever a taste for that product can be cultivated. That is the scene where Cargo Ships and the Commerce Power enter the sidereal stage.

- ✓ “Poor country people often try their luck in town, whether or not the town can absorb them.” – Raymond Birn, *Crisis, Absolutism, Revolution: Europe 1648 to 1789* (2nd Ed., 1992), p. 205.
- **Stellar Synekism:** It has generally been accepted that, in the broadest historical sense, food, raw resources and population tend to flow from the countryside to the cities,² and that manufactured goods and ‘culture’ flow outward from the cities due to “the stimulus of urban agglomeration” (*ut infra*).³ This would remain true even with in-system and interstellar colonization; much of science-fiction and space-opera trope is a naturally-occurring argument from synekism that was understood generally before Edward Soja put a name and definition on it.
 - ✓ “Synekism is a concept in urban studies coined by Edward Soja. It refers to the dynamic formation of the polis state – the union of several small urban settlements under the rule of a ‘capital’ city (or so-called city-state or urban system). Soja’s definition of synekism, mentioned in *Writing the City Spatially*, is ‘the stimulus of urban agglomeration.’ ... In densely settled urban places, a critical-mass provides potential for innovation that is not typically available in rural environments, therefore synekism can be thought of as the geographical relationships that create and give importance to cities.” – from Wikipedia article, “Synekism,” January 15, 2019.

Some form of the idea is still present in current historical observation, to wit:

- ✓ “In a cosmopolitan Roman empire, where cities sucked in expendable labour from the countryside, and where artisans and craftsmen had to travel a very long way from home, that kind of community could not be taken for granted or created casually.” – Prof. Michael Kulikowski (Pennsylvania State University), “Christians were

Strangers: How an obscure oriental cult in a corner of Roman Palestine grew to become the dominant religion of the Western world,” Aeon, January 30, 2017 (emphasis added).

The immigration to urban centers and industrialized nations, from agrarian cultures, was the driving force behind the standardization of English through the 18th and 19th Centuries; grammar, punctuation and spelling were standardized and sentence structure and composition replaced the teaching of rhetoric and classics to schoolchildren, to homogenize the culture and assist in mainstreaming immigrants.

- ✓ “This city desert makes you feel so cold, It’s got so many people, but it’s got no soul.” – Gary Rafferty, “Baker Street” (1978).

Many science fiction stories take the polis state to extremes, either as a merger of cities into mega-cities, or in post-apocalyptic or post-fall settings where the rural areas are barren, contaminated and uncontrolled, and the population takes refuge in the remainder of cities.

There are few things or perhaps nothing more synonymous with commerce in humanity than cities, urbanization. Thus, the Urbanization Cultural Proficiency is very much related to the Commerce Power, see 3 Culture, p. 400, *supra*. Not surprisingly, Edward Soja appears there as well, his argument is consistent.

- ✓ “When are you gonna come down?, When are you going to land?, I should have stayed on the farm, I should have listened to my old man.” – Elton John, “Goodbye Yellow Brick Road” (1973).

“There are some oddities in the perspective with which we see the world. The fact that we live at the bottom of a deep gravity well, on the surface of a gas covered planet going around a nuclear fireball 90 million miles away and think this to be normal is obviously some indication of how skewed our perspective tends to be, but we have done various things over intellectual history to slowly correct some of our misapprehensions.”

– Douglas Adams, “Is there an Artificial God?” speech at Digital Biota 2, Cambridge U.K., September 1998 (transcript and audio recording of the more than one hour speech are available free at <http://www.biota.org/people/douglasadams/>)

Completely Absurd: I was struck by the way that Douglas Adams died: He died of a heart attack after his regular workout at a private gym at age 49. Seems completely absurd, and I suspect that if he thought about it beforehand (and he probably did), that would have been how he expected to die: absurdly, ironically.

It is like dying while having great sex – an idea not alien to existentialist fiction – I watched a French police detective movie (with English subtitles) long ago in the late 1990s where an old man died in a brothel while having sex on a fancy moving bed with a young prostitute (and that’s mostly what I remember about the entire movie, the idea that stuck in my mind).

- ✓ Private gyms, funerals, movies, prostitution are all commerce, are they not, eh?

The Power of Commerce: The Commerce Power may be activated for any of the following six purposes:

1. Trade Mission (interstellar movement of Cargo Ships to known **alien colony**),
2. Load resources to a Cargo Ship,
3. Unload resources from a Cargo Ship,
4. Marketing,
5. Issue Articles of Incorporation (Corporations only, see 1 Corporations, *infra*),
6. Trucking Transactions (local in-system or Balkanized planet trade with aliens),
7. Carting (local RP transfer between sovereign colonies).

Commerce Power activations in GGDM, with the exception of Marketing, are always location-specific activities – thus subject to Power Activation failures – with the eventual goal of inflating a target colony’s GDP for a turn (see Gross Domestic Product, 1 Construction, p. 662). A colony which does not need to build does not need to Unload RPs or receive RPs by Trucking or Carting, a position may eventually become insular.

- ✓ Commerce never *directly adds* to the Treasury, only taxation can do that.
 - ✓ Loading RPs on a Cargo Ship immediately reduces their broader utility but does prevent ‘aging-out,’ see Aging Resources, 2 Taxation & Census, p. 304, *supra*.
- Load & Unload Activations: Activations of the Commerce Power for the purpose of Loading or Unloading resources (hereafter, “Load” and “Unload”) require one Act and one Scene. If the Commerce Power is activated at a colony for the purposes of both Loading and Unloading in the same Regular Turn, *only one Scene is required*.
- ✓ Load and Unload of Cargo Ships should not be confused with Loading and Unloading Population to Colony Ships (see 3 Expansion, generally, *supra*).

Regardless of the ownership of the colony, one Scene must be placed on the colony’s planet, not star, prior to the activation and are removed with the Commerce Power activation. Since the owner of the Cargo Ships cannot place a Scene on an alien colonized planet, unless the colony planet is Balkanized with a loyal sovereign colony, see Lebensraum, 3 Taxation and Census, p. 321, *supra*, the alien trading partner will have to supply the Scene to have other position’s Cargo Ships Load or Unload at their colony.

Thus, there is potential for Balkanized planets as trading posts between regular trading partners. If a Scene is on the planet at the time the Commerce Power is activated for this purpose, it will be taken for the Power Activation. The Concierge will not stop Regular Turn processing to inquire of the Balkanized colony owner whether permission has been granted. This could create issues on the colony owner’s next Regular Turn if they expect the Scene to be there (courtesy between trading partners goes a long way). See Scene Snitching, 3 The Sidereal Stage, p. 124, *supra*.

- Change for a Trillion: Direct transfer of cargo between Cargo Ships of *two different positions*, when located at the same planet, is done by activations of the Commerce Power appropriately by each position on their Regular Turns for the purpose of Load and Unload; Unload has to go first, of course. If either activation fails, the process is aborted, must start over.

Probably one Scene should be able to be used for both, as if they were occurring in the same turn, as long as the Load occurs on the recipient **alien colony** owner’s next Regular Turn, within one Turn Cycle. However, this is a matter of judgment for the Concierge.

- ✓ The cargo transfer may transfer more than RPs ... there is a chance of *apostasy* in the ships engaged in the Loading and/or Unloading depending on whose colony(s) are on the planet, see Alieneys Apostasy, 3 Disruption, p. 283, *supra*.
 - ✓ It is deemed game-mechanically unnecessary to transfer RPs directly between two Cargo Ships *owned by a position*, even if at an *alien colony*, and no rules are provided. If such a rare situation arises, the Concierge will need to handle it.
- **The Store of Worlds:** Activation costs for the Trade Mission and Marketing purposes of the Commerce Power are discussed below (Trade Mission, p. 1189) and in 2 Commerce, p. 1193, *infra* (Marketing). Trucking Transaction, 4 Commerce, p. 1225, *infra*, activations cost one Act, additionally, the first position in the transaction must also supply one Scene on their colony. Carting, *Id.* p. 1229, requires only one Scene on the star *or* on one of the participating sovereign colony planets.
- ✓ “The Store of Worlds” is a 1959 post-apocalyptic psychological healing short story by Robert Sheckley originally appearing in the September 1959 issue of Playboy magazine and later in the January 1963 Italian language issue of Galaxy.
- **Corporate Sponsors:** Activations of the Commerce Power for the purposes of participating in Corporations will be explained fully in 1 Corporations generally, *infra*.

“My grandfather looked at me, and after a bit of silence, he gently and calmly said, ‘Jeff, one day you’ll understand that it’s harder to be kind than clever.’

What I want to talk to you about today is the difference between gifts and choices. Cleverness is a gift, kindness is a choice. Gifts are easy – they’re given after all. Choices can be hard. You can seduce yourself with your gifts if you’re not careful, and if you do, it’ll probably be to the detriment of your choices.”

– Jeff Bezos, Princeton Commencement Speech, 2010

Cargo Ships: Cargo Ships are starships designed specifically for transporting resources, in any form (except populations), between interstellar colonies. This means they are a little short on life support and are generally not suitable for moving populations.

- ✓ One of the most enduring lessons of being in Marine Corps artillery in the 1980s is that the M923 and M925 are five ton *cargo trucks* and if you happen to be riding in the back of one, as Marines do regularly, *you are cargo* and you feel like cargo. The fold-down side seats don’t do much to help the ride, especially if you are not feeling well – remember that the next time you see a war movie or documentary where the wounded and sick are being evacuated in cargo wagons and trucks!

Rather, Cargo Ships tend to be mostly large empty spaces with only stardrives and a small module to control the ship and house a small crew. Prior to building Cargo Ships, a position must hold the Cargo Ship Existential Patent which is available during the setup process. Cargo Ships are built like other ships, at Friendly, Naturalized, or Converted Colonies that have an Orbital Shipyard, by activations of the Construction Power at a cost of 8 RPs each. Cargo Ships may not carry anything but RPs, they may not carry anything that is to be specifically transported by Log Ships or Colony Ships. Cargo ships are the *only ships that can carry RPs*, though others have capacity expressed in RPs; Cargo Ships can carry 15 RPs of cargo.

Cargo Ships have been pictured in many ways in video sci-fi. Some have been pictured as small ships attached to large fabric and lattice work ‘balloon’ structures providing enormous interior storage spaces. Some have been envisioned as long spine ships, with the bridge at one end, propulsion at the other, and cargo pods attached externally along the spine. Some have been envisioned to operate more like river tugboats pushing barges (a common sight in Pittsburgh). The opening of *Battlestar Galactica* 1978 famously showed a regular ship with Conex Boxes (aka ISO-standard shipping containers) externally attached, humorously labeled ‘Colonial Movers.’

- ✓ I recommend the 2009 Swiss-made, German-language film (with English subtitles) *Cargo: Space is Cold*, which I watched in spring 2019. This highly-intelligent, low-budget, non-Hollywood sci-fi movie touches all elements of Cargo Ships discussed in GGDM. The movie is derivative, especially of the *Matrix* (1999), but also *Alien* (1979), *Solaris* (1971, 2002), and *2001: A Space Odyssey* (1968), but was sparingly praised for being well done (I liked it);⁴ there is criticism of the spaceship drives in the movie, but most sci-fi space drives are scientifically implausible (James Blish).
- Cargo Ships in Combat: Not a profitable activity (e.g., *Ferengi Rules of Acquisition*). Cargo Ships are completely unsuited for combat, and have no combat capabilities; they may not initiate combat or attack enemy units, but do have Close-in Defense Weaponry against Fighters (see *Close-in Defense Weaponry, 2 Carriers & Fighters*, p. 1058, *supra*). They are easy targets for even the most primitive warships, being non-warship targets.⁵
 - ✓ [Interview] “Travelling in wartime is something you don’t attempt unless you are strong, and I wasn’t strong but I was ignorant...” – Marge Schreiber (wife of Raemer Schreiber), 1993 interview by the Los Alamos Historical Society.

Any RPs or ‘cargo’ on a Cargo Ship when it is destroyed are lost. Additionally, as Cargo Ships may only travel to destinations *where there are known colonies*, Cargo Ships may not be used for exploration. ‘Known’ is defined as your position has seen it, physically.

- ✓ Civilian ships frequently find themselves in situations where they are flashpoints for international and interstellar incidents.⁶ For example, it was a ship called *Arrow* that was the spark leading to the Second Opium War. *Arrow* was originally a pirate ship; was captured by the Chinese government, then resold to a new owner, who registered it under the British flag in Hong Kong. *Arrow* was seized a second time by the Chinese authorities, while flying British colors with an expired registration, who thought (possibly incorrectly) that it was engaged in piracy. The controversies surrounding the seizure of a British-flagged ship with a mostly Chinese crew roused resentments and issues between the sides who were both unhappy with the results of the first war.
- ✓ Oil tankers in the Persian Gulf and transiting the Strait of Hormuz are modern flashpoints of piracy, asymmetric conflict and international protection enforcement.
- Space Bridge: All of the rules that apply to Cargo Ships for Unloading, Loading, Marketing, also apply equally to Cargo System Boats whether with a Tender Starship or operating in a system between colony planets. Since Cargo System Boats cannot travel outside their system without assistance, only Unloading, Loading, and possibly Marketing purposes would apply to them, and since in-system travel is instantaneous, they can Load or Unload from any colony in their system (as appropriate) on any Regular Turn, with proper Commerce Power activations on both colonies. Where Cargo System Boats are on a Tender Starship, the Tender

Starship should be able to act as a Cargo Ship for movement purposes (i.e. Trade Mission Commerce Activation, next page, *ut infra*).

- ✓ The practical limit on capacity of 2nd and 3rd Era Cargo Ships is 1) the GDP limit of colonies, 2) the amount of RPs in the Treasury, 3) how many Regular Turns are needed to Load (expenditure of Acts, Scenes and Power Activations) and 4) actual need for RPs at target colonies. A similar set of criteria limits 2nd and 3rd Era Log Ship and Carrier capacity.
- **Move Without Moving:** A Cargo Ship or Cargo System Boat can both Load from and Unload to different colonies in the same system in the same Regular Turn with appropriate Power Activations, without moving (effectively, a ‘space bridge’ between colonies). A loaded Cargo Ship is not required to move to another starsystem to Unload, a loaded Cargo Ship could simultaneously Unload to two eligible colonies in the same system on the same Regular Turn with two activations of the Commerce Power for the purpose of Unloading.

“He thought, only a madman would give a loaded revolver to an idiot.”

– Frederic Brown, “The Weapon” (1951) ⁷

Green Goods: Activation of the Commerce Power for the purposes of Trade Mission requires one Act and one Scene placed on the *star* where the Cargo Ships are currently located. One Activation of the Commerce Power for the purpose of Trade Mission:

- 1) Allows any number of Cargo Ships (whether loaded or empty),
- 2) To depart one starsystem for any number of other starsystems where there is a known colony owned by another position (Native Population Type is irrelevant) or a planet known to be occupied by a free Minor Race.

In other words, a Cargo Ship may move from one **alien colony** system to another, as long as it can remain supplied (e.g., ‘tramp freighter’).⁸ Cargo Ships may never depart for any destination starsystem where there is not currently a *known colony* (not the same as a Supporting Colony), or that is beyond their Operational Flight Limitation (see 3 Movement, 855, *supra*). *Only Cargo Ships* may use the Commerce Power activation to initiate interstellar movement.

If Cargo Ships are departing for the purpose of Loading or Unloading RPs at their own colony in the destination system, they should use the Movement Power instead to initiate interstellar movement. However, activation of the Commerce Power for the purpose of Trade Mission costs the same as activation of the Movement Power to initiate interstellar movement and, thus, if there are both friendly and **alien colonies** in the destination system the conditions precedent of either activation is satisfied (i.e. Movement Power activation does not require there be no **alien colonies** in the destination system), and so either could be used. This might be important for some reason, such as Conflict Checks for Government Titles requiring regular Commerce Power Activations.

- ✓ Because of the *normal* processing sequence of Power Activations, it is not possible to Load RPs and have the same Cargo Ship move via Trade Mission in the same Regular Turn.
- ✓ Activation of the Commerce Power for the purpose of Trade Mission does not allow the Cargo Ships to automatically Unload or Load at the destination system. That is, it

is not like Combat Movement or Scouting (see Move Out!, 1 Combat, p. 942 and Then Never Comes, 3 Expansion, p. 907, *supra*), they are separate activations.⁹

- ✓ Activation of the Commerce Power for the purpose of Trade Mission is not required to be able to Load or Unload Cargo Ships at **alien colonies** at the destination (*ut supra*). It is irrelevant how the Cargo Ships arrived before Loading or Unloading – they might even be fleeing a combat in their origin system.
 - How about some alternate history? Vasco de Gama’s Portuguese fleet encounters the Chinese Treasure fleet as it rounds the Cape...
- Before You Go: Like other activations initiating interstellar movement, each ship designated to leave on the Trade Mission must check to see if it obeys the Power Activation. If the ship fails to obey the Power Activation due to inactive Constructural Elements (see Power Off, 2 Constructural Elements, p. 193, *supra*), a second check is made if there are Supporting Colonies in the system, as described previously in Engines Offline, 1 Movement, p. 839, *supra*.
Ships that fail both checks ignore the Commerce Power activation for the purpose of Trade Mission and remain in-system. If the ship or colony’s Epistemological Constructural Element is active, Enlightenment may be applied to Trade Mission activations.
 - ✓ “The lake, it is said, never gives up her dead, When the skies of November turn gloomy, With a load of iron ore twenty-six thousand tons more, Than the Edmund Fitzgerald weighed empty, That good ship and crew was a bone to be chewed, When the gales of November came early ... Coming back from some mill in Wisconsin ... Concluding some terms with a couple of steel firms, When they left fully loaded for Cleveland, And later that night when the ship’s bell rang, Could it be the north wind they’d been feel’n?” – Gordon Lightfoot, “Wreck of the Edmund Fitzgerald” (1976).
- Icebergs in Space: When moving to a destination system containing only an **alien colony**, the owner of the Cargo Ships must have successfully explored the system previously prior to moving Cargo Ships to the system. Trade Missions to systems containing **alien colonies** do not require the pre-approval of the **alien colony’s** owner prior to starting movement – if the aliens do not approve of the arrival of Cargo Ships in their system, there will probably be some warships present to let their displeasure be known!
- Return from the Abyss: Upon arrival of the Cargo Ships in the alien starsystem, a star and planets must necessarily be placed on the Cargo Ship owner’s Public Space. If there is no room, some pieces will need to be moved by the Concierge to make room. Upon departure of the Cargo Ships from the alien starsystem, the Scene required for the necessary Commerce Power activation must be on the *star* prior to the Commerce Power activation for the purpose of Trade Mission. This may result in Scene Snitching, 3 The Sidereal Stage, p. 124, *supra*.
- Cold Lunch: Cargo Ships arriving at an **alien colony** system where the owner of the Cargo Ships does not have a colony, are not automatically resupplied as they would be if they arrived at any friendly colony. *If* the alien (i.e. non-sovereign) colony either Loads resources to the Cargo Ships or allows resources to be Unloaded from the Cargo Ships, *then* the Cargo Ships are considered to be *automatically resupplied*, and their Operational Flight Limitations (OFL) and Operational Supply Limitations (OSL) are reset.

Absent loading or unloading at the **alien colony**, the **alien colony’s** owner may also simply grant permission to resupply the Cargo Ships (reset OFL/OSL), which costs nothing to the

alien colony's owner (and generates goodwill). Without permission or Loading and Unloading, the Cargo Ships have a 50% chance of obtaining resupply elsewhere in the system each Regular Turn that they remain *before* Supply Rolls.

- ✓ It is *optional* whether the Concierge allows application of Enlightenment to these rolls, representing Robinson Crusoe-like survival ingenuity. Duct tape please?

As long as Cargo Ships can remain supplied, they can move from one **alien colony** to another; if they cannot be resupplied, they need to return home quickly before their Operational Supply Limitation (OSL) expires or they must make Supply Rolls.

- ✓ Resupply in this case is not that which is mentioned in Alieney Apostasy, 3 Disruption, p. 283, *supra*. But it is a bit of a grey area, noting that the Cargo Ships *will be* exposed to possible **apostasy** each time they Load or Unload at the **alien colony**.
- ✓ While there are legitimate questions about whether an **alien colony** would have the proper foodstuffs (e.g., ‘tastes like chicken’),¹⁰ parts, and fuel to resupply Cargo Ships, the game assumes that suitable supplies may be found/manufactured with help.
- ✓ A Cargo Ship that moves from **alien colony** to **alien colony** may eventually develop a bad case of **apostasy**, see Alieney Apostasy, 3 Disruption, p. 283, *supra*.

“It is not the struggle of opinions that has made history so violent, but rather the struggle of belief in opinions, that is, the struggle of convictions.”

– Friedrich Nietzsche

Endnotes.

¹ Citation: “The stakes were high, the pressure on Jellicoe immense, and his caution certainly understandable. His judgment might have been that even 90% odds in favour were not good enough to bet the British Empire. The former First Lord of the Admiralty Winston Churchill said of the battle [of Jutland] that Jellicoe ‘was the only man on either side who could have lost the war in an afternoon.’” – from Wikipedia article, “Battle of Jutland” (1916), citing to Massie, Robert K., Castles of Steel: Britain, Germany, and the Winning of the Great War at Sea (2003).

- ✓ “Well might Winston Churchill remark that the commander of the Grand Fleet was the only man ‘who could lose the war in an afternoon.’ In view of this appalling responsibility, the post was given to an admiral of cautious doctrines, Sir John Jellicoe. Under him, as commander of the battle cruisers, Sir David Beatty displayed a lust for combat which carried on the Nelsonian tradition. ... During the next few minutes the German capital ships suffered heavy damage without one of them sinking, but Jellicoe allowed 11 destroyers to cheat his 27 battleships of their prey as he made a 45-degree turn. ... But while the battle of Jutland might be called a German victory in tactical respects, the strategic situation was not changed. Britannia continued to rule every sea except the Baltic, and Scheer himself reported to the kaiser that the enemy could never be brought to terms by means of naval battles. He urged a resumption of the undersea raids on commerce, promising ‘a victorious end to the war at not too distant a date.’ ... The most far-reaching strategic result of Jutland, therefore, was a renewal of German faith in unrestricted submarine warfare. For if the campaign of 1915 had failed, only 19 U-boats had been lost while 54 new ones were being built. At this rate of increase, tremendous results might be expected from a resumption.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), pp. 713-715.
- ✓ See discussion of ship building rates, Shipbuilding and Strategic Shipyarding, 3 Construction, pp. 675-676, *supra*.

² Citation: “The initial reaction to the depopulation of the plague was for people to flee locations with high mortality rates like London. But an interesting study published last year looking at data from medieval cities found a surprising result. Despite the devastation of the plague and periodic return of the illness, urban populations recovered

to pre-plague populations by the 16th century. Further research on abandoned rural villages and deforestation suggest that rural populations decreased over the same period and took more than a century more to return to the pre-plague population. This result is counterintuitive; the general thought would be that places harder hit by the pandemic would recover more slowly, both because their population was harder hit and because people would be reticent to return to high mortality areas. Instead, the data suggests the people moved from low mortality areas in the country to high mortality areas in the city. The conclusion is that factors such as quality of land and human infrastructures ... affected migration more than mortality rates. ... The findings support the idea ... that London saw a significant increase in immigration from the Northern England following the pandemic. This conclusion is supported by records that have been accumulated by the Universities of York and Sheffield in England’s immigrants database ... In the period following the plague, the resulting labor shortage meant a demand for labor, thus conditions and wages were relatively good compared to many places in Europe....” – The History Guy, “The Great Vowel Shift,” YouTube, January 27, 2020.

³ Commentary & Citation: I believe that I obtained the idea stated in this sentence from an old sociology book that predates Soja by decades. I believe it might have been an essay in Clarence Marsh Case’s Outlines of Introductory Sociology (1924), though the printed index was not helpful in finding it.

⁴ Citation: e.g., Cheryl Eddy, “The 10 Best Foreign-Language Sci-Fi Movies Of The Last 10 Years,” Gizmodo, December 11, 2016, where it is listed at Number 4.

⁵ Commentary & Citation: However, the overloaded cargo ship *Margaret and John* carrying colonist to Jamestown in 1621, defeated *two* Spanish men-o-war in a boarding action. See “Lawrence Bohun (d. 1621),” Encyclopedia Virginia, and “Jamestown Settlers versus Spanish Pirates,” The History Guy YouTube Channel, January 21, 2019.

⁶ Citation: “The Trump administration has used diplomatic pressure, legal action, economic sanctions – and even cold, hard cash – to try to get its hands on a hulking Iranian oil tanker that has been spinning its way around Africa and the Middle East for months.

The extraordinary effort to seize the vessel has come to naught – so far. Even a curious State Department offer to make the ship’s captain a multi-millionaire fell flat. But the cat-and-mouse game between Iran and the Trump administration over the vessel – called the *Adrian Darya 1* and laden with 2.1 million barrels of oil – is emblematic of an increasingly confrontational relationship. And like the fate of the supertanker and its crew, the outcome of the U.S.-Iran tensions remains unclear.

The Trump administration’s efforts to capture the *Adrian Darya* is a small part of its ‘maximum pressure’ campaign – aimed at reducing Iran’s oil exports to zero, strangling its economy, and forcing its leaders into negotiations with President Donald Trump. Trump withdrew the U.S. from the 2015 nuclear deal between Iran and other world powers, saying it did not do enough to curb the Islamic Republic’s ballistic missile program and support for terrorism.

Experts say Iran’s ability to keep the *Darya* out of the U.S. government’s long reach illustrates the shortfalls of the U.S. strategy.” – Deirdre Shesgreen and Kim Hjelmgaard, “Trump official offered millions of dollars to captain of Iranian ship,” USA Today, September 8, 2019.

⁷ Commentary: Though often noted as not being a science-fiction short story, this lovely piece of anti-nuclear weapons protest prose is frequently found in anthologies of best science-fiction short stories from the Golden Era.

⁸ Citation: “... You see, gentlemen, behind every great man there is a woman urging him on. And so it was with my Stella. She urged me on into outer space. Not that she meant to, but with her continual, eternal, confounded nagging. Well, I think of her constantly, and every time I do, I go further out into space. ... I had the androids construct a perfect replica of Stella so that I could gaze upon her and rejoice in her absence.” – Harry Mudd, “I, Mudd” (ST:OS) (1967).

⁹ Commentary: In many games, the Cargo Ship would automatically unload at the destination. This was a design choice I made long ago, the probable reason is that there is an operational difference between Scouting exploration, Combat Movement and Commerce. In the case of Scouting, arriving in an unexplored system triggers the automatic exploration; there is nothing else for the Scout to do, by virtue of being there, they are ‘looking.’ In Combat Movement, within 24 hours of arrival, the ship owner has to send Combat Orders to initiate the combat, so there is a decision point right after the turn results are received. In the case of Cargo Ships arriving, there was the possibility of multiple colonies in a system, both friendly and alien, and thus, Unloading or Loading RPs could not be automatic. The same is true for Colony Ships: Loading, Unloading or Landing after arrival cannot be automatic.

¹⁰ Commentary: e.g., even dog and cat food are not recommended for human consumption, not only because of the inferior products and processing, but because the food is tailored to their nutritional needs – cat food has higher magnesium and ash content than human food because they need it.

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See Appendix COM – Trading with Scene-snitching Aliens Example
See Appendix ENVAL – Enhanced Value & Looting Summary

“The captain might navigate a starship and the explorer might detect useful civilizations by the most tenuous of signs, but in the final clutch it was the trader ... who faced the aliens and who plucked out of their minds and culture that which was useful and give in return something they found useful.”

– Isaac Asimov, “Nothing for Nothing” (1979)

Interstellar Barter: As discussed previously in What You Got, When You Get, 2 Taxation & Census, p. 302, *supra*, the basic economic unit of this game is the Resource Point (RP); the game addresses only resources. There is no ‘monetary system’ or ‘money’ in the game.

Given the awesome complexities of the money markets and values on our one little planet, there is some doubt as to whether such a system could be made to work in interstellar civilization between widely-separated worlds, with minimal interaction, where each world is a civilization onto itself. Imagine, for example, a ‘water planet’ with only a few scattered inhabited islands,¹ and vast distances of ocean in between; among the premodern Polynesian island cultures of the south Pacific, the most commonly traded items, beads and sea shells – easy to transport on small boats – were the only items that approached any kind of ‘currency’ as they circulated through the islands. In short, the basic interstellar commerce system depicted in this game is at best crude.

➤ **Intrinsic Value:** The “intrinsic value” of a resource or thing is the inherent value of the object in a particular economic location. In our own world, the most common example used for ‘intrinsic value’ is sports memorabilia, for example, a famous player’s autograph on a baseball vastly inflates the value of the baseball which, by itself, has low intrinsic value.

✓ Babe Ruth signed far more baseballs after he died than he did in his lifetime.

A baseball in an industrialized Western nation has low ‘intrinsic value’ because they are mass-produced at low cost from readily available materials, they are commonly available items, and they are not necessary for everyday survival; a baseball is a luxury. The MLB uses over 160,000 baseballs in a season, about 90-120 baseballs per game. If the baseballs were transported to another country, where the people are poor, the value of the baseball might increase because they are imported (arbitrage), and are a rarer and highly desired commodity in that country, or they might be worthless in the sense of unsellable because poor people don’t have spare money (or desire) to buy them. Consumerism requires both.

In interstellar economics, it can be assumed that every colony planet will eventually have or develop an excess of a resource, or have or develop a resource that is of little or no value to that colony planet except that it has value for trade elsewhere. Cargo Ships pick up resources from places where there is an excess, and where the resource has a relatively low ‘intrinsic value’ and by virtue of transporting them to places where they are needed and in demand, increase the value of those resources upon safe arrival at the destination.

✓ Resource has been used very broadly in this game system, to mean anything that is useful and necessary to the functioning of civilization and/or everything, whether tangible or intangible, that is available for a civilization to draw upon in carrying out its basic functions or to perform a necessary task. In this game, resource and Resource Points (RPs) have been used for raw materials, manpower, intellect, trained special-

ists, food and basic living items, as well as high-end manufactured items, such as machinery, metals and alloys, and even stardrives. One can have all the resources imaginable – for example, being the sole occupant of a treasure-filled pile of rocks on the Giza Plateau – and not have a RP in Varanasi. Hint: You need Cargo Ships!

- **Enhanced Value:** Enhanced value – a key concept in GGDM commerce – is obtained by comparing the ownership of the Cargo Ship and the colony where it is being Loaded or Unloaded, *if they are different*, the cargo has *enhanced* RP value to the recipient. Enhanced value simply represents *boundary control function* and boundary crossing, even if the origin of the RPs Unloaded is the same population type as the colony receiving them.
 - ✓ Enhanced Value accrues only to the **alien** recipient of the RPs at the time of receipt in any qualifying situation. ‘Double enhancement’ is possible if RPs Loaded from an **alien colony** are subsequently received by (Unloaded to) another **alien colony**.
 - ✓ The true value of receiving alien RPs is not having to subtract RPs from the Treasury, plus inflated local GDP when downloaded, and building diplomatic contacts.

This system is deliberately vague and simplistic; the game does not track origin of RPs or the origin, movement and activity history of ships, and players should resist the urge to exploit ‘loopholes’ in the system.² It is up to the participants to look or not look, to use in the game if necessary and suitable to the story, and to be honest and play the game rules in good faith.³

“[Trader] ‘I pointed out that a smaller stone-tipped stick could be hurled forward with greater force and effect and with longer range if a cord under tension were used as the mechanism of propulsion.’

The explorer said, ‘Such devices have been encountered among primitive intelligences which were, however, far advanced beyond these. Paleontologists call it a bow and arrow.’

The captain said, ‘How could the knowledge be absorbed? It couldn’t be, at this level of development.’

[Trader] ‘But it was. Unmistakably. ... Surely you do not think I would have taken these art objects were they twenty times as valuable, if I had not been convinced that I had made a return? Nothing for nothing, Captain.’”

– Isaac Asimov, “Nothing for Nothing” (1979)

Marketing: Prior to departing for a distant colony with a load of RPs, or to pick up a load of RPs, it is helpful to know where the cargo might be in demand.

Activation of the Commerce Power for the purposes of Marketing requires one Act, and allows a position to obtain *with certainty* advance knowledge of the *enhanced value* by percentage in the value of the cargo if Loaded from or Unloaded at non-sovereign colonies within the Operational Flight Limitation (i.e. ‘the range’) of the Cargo Ship (excluding those located in the same system as the Cargo Ship is currently). Thus, the activation must specify a target Cargo Ship or ships that are currently located at a colony (ownership is irrelevant). There is no Power Activation check for Marketing, this is the only purpose of Commerce Power that is not possible to fail.

- ✓ Activation of the Commerce Power for the purpose of Marketing is a commitment to activation of the Commerce Power on the following Regular Turn for purpose of Trade Mission (*ut infra*).

- ✓ In the Actions submitted to the Concierge by the position, the position may list one known non-sovereign colony within range of the Cargo Ship(s) for each currently undisrupted Government Title held by the position.
- ✓ In return, the Concierge will provide the *enhanced value* expressed in a percentage both if cargo is loaded from or delivered to any of those locations (i.e. one activation).
- ✓ The values provided by the Concierge are only valid *if* the target Cargo Ship departs for any of those locations in the next Regular Turn. If not, the Marketing is wasted.

Marketing is never required, Cargo Ships may always depart for any legal destination within their range, with or without cargo, and may travel blindly to whatever market is at the destination. Note that, in some instances, the Concierge may manually adjust the market values (by Intervention) if a location has received too many unloads or loaded too many ships recently, or for other circumstances; but in most cases, market value will be determined by a die roll.

- ✓ Marketing cannot be used or applied to Trucking Transactions as they are of a different structure than standard interstellar trade. See Flea Market 4 Commerce, p. 1225, *infra*.
 - ✓ Marketing cannot be used or applied to Looting, see Black Market, 3 Commerce, p. 1211, *infra*, but they do still receive enhanced value when Unloaded.
- Price-Lock Ness: The Marketing Activation must function as a ‘price lock’ (even if not realistic) otherwise, it is pointless in the game. As with some other GGDM rules, this is a concession to game necessity. The economic fallacy of the Marketing Activation in GGDM is that it implies perfect knowledge and perfect competition – the very same features alleged as advantages to centralized managed economies, like the Soviet Union which failed miserably.
- ✓ “Since human beings are finite and temporal, praxeology pays attention to the time dimension of human action. From that attention to time, praxeology quickly hones in on the idea of *future uncertainty*. Uncertainty means that the future is ‘somewhat predictable,’ i.e., it is neither completely determined nor completely random. Future uncertainty is conclusively deduced from the axiom of intentional human action. If future outcomes were completely known with certainty, *no ends would be chosen*, as we would simply wait for those outcomes to occur. Conversely, if we thought the future were completely random, *no means would be selected*, since we would not think that means could help achieve ends. The emphasis on time considerations and on future uncertainty is one of the main reasons Austrian economists typically reject basic neoclassical economic market models that invoke idealizations like ‘perfect knowledge’ or ‘perfect competition.’ Such models imply instantaneous adjustments to prices, which cannot conceivably occur in real human action. Austrian economists believe these models are flawed and must be rejected.” – Michael Accad, M.D., “An introduction to praxeology and Austrian school economics,” alertandoriented.com (blog), April 13, 2016 (emphasis in original).

Participants are invited to give the GGDM Marketing Activation some thought. One might try to imagine how it would actually work with Cargo Ships (‘tramp freighters’) going wherever they think there is a market for their cargo or to find a cheap load, or it might be that in future interstellar civilizations, through means unknown to us currently, the neoclassical models of perfect knowledge and perfect competition might be realized? GGDM inherently assumes much of what is not now thought possible.

- ✓ Marketing is simply a ‘marketing’ tool – obtaining advanced knowledge of the enhanced value of the RPs if loaded or unloaded at target non-sovereign colony(s) – whereby a position can use Marketing to negotiate trade at an **alien colony** for enhanced value. Marketing takes no account of the origin of the RPs (which could theoretically be the same as the colony to which they were unloaded); the game information does not track the origin of RPs or the activities of ships.
- ✓ Loading RPs at an **alien colony** then Unloading them to the same colony for enhanced value both ways is called ‘**porting**’ in GGDM and *violates the spirit of the system*. The cost of this, constant use of Scenes and Power Activations, and **apostasy** risk, might be deemed by some to be worth the *double enhanced value* at the colony, but the RPs can only be used at that colony limiting their ‘unjust’ enrichment potential slightly. The Concierge may also notice and probably should forbid it unless some convincing rational and extra-rational reason (as in very imaginative) can be supplied.

“Mercantilist theory and practice should be placed within the context of the age – a time of excessive international warfare, internal political strife, crop failures, severe climactic variations, defective consumption, insufficient distribution, and depressed prices alternating with scarcity-provoked inflation. Governments felt obliged to intervene in the economic life of states in order to find ways of combating the gloomy prospects.

Jean-Baptiste Colbert, Louis XIV’s controller-general of finance, was the most energetic of the experimenters. He persuaded his king to raise tariffs, regulate manufacturers, establish and underwrite commercial companies, and encourage the immigration of foreign craftsmen. He also convinced his king to go to war in order to crush commercial rivals and take over their markets. Louis needed little encouragement to merge his dream of dynastic glory with Colbert’s mercantilist vision. ... War was the crudest weapon of the mercantilists. It promised the quickest solution but entailed the gravest of risks. Tariff barriers against manufactured goods offered a more subtle approach. ... Indiscriminately applied tariffs have a boomerang effect though.”

– Raymond Birn, [Crisis, Absolutism, Revolution: Europe 1648-1789](#) (2nd Ed., 1992), p. 53

Tariff Walls: Any of the preceding sound familiar? The ghost of Colbertine mercantilism remains. There is caterwauling about tariffs and import trade imbalances around every national election. The entire current economic system was created in large part by the obligatory government intervention to fight the Great Depression and subsequent recessions. The difference is that actual war, with bullets, in the current world order, is too risky; e.g., the 1990 Iraqi invasion of Kuwait, whatever the reasons offered, was widely seen as an attempt to crush and annex a commercial rival and gain a greater share of the oil market. The war is now in cyberspace.

Before the Big Bopper (“Chantilly Lace”): Mercantilism vs. Consumerism formed one of the great, intricate, protracted socioeconomic struggles of Europe during the 16th to 18th Centuries. Mercantilism, practiced famously by France, emphasized the production of goods for export and on the accumulation of cash reserves through positive trade balance.

The underlying assumption of the time was that the only people who had money to spend were the wealthy and thus, industries that produced exports that appealed to the wealthy, and the greatest cash surplus, were encouraged and supported by the state. France became famous for wines, Chantilly lace (before the Big Bopper), clothing fashions, perfumes, cosmetics, hats, shoes, pastries and confections, art which they exported for high profits around the world.

- ✓ “The glass of Saint Gobain, silks of Lyon, tapestries of Beauvais, Chaillot, and the Gobelins factory of Paris, the embroidered cloths of Arras and Carcassonne – all became by-words for quality and beauty among leisured customers. France became the workshop of Europe’s aristocracy. Colbert could conceive of no other kind of market. He set the tone of *luxe* for French products that haunts its industry to this day.” – Raymond Birn, Crisis, Absolutism, Revolution: Europe 1648-1789 (2nd Ed.), p. 55.

Consumerism, conversely, encourages the accumulation and consumption of goods and services. Mercantilism plays into consumerism, however, consumerism makes the assumption that most people have some spare change, and that if they have spare change and see something they desire, they will buy it if they can afford it. Consumerism is instantly familiar to the reader because, when combined with the industrial revolution of the 17th to 20th Centuries, it was wildly successful. Manufacturers can make a huge profit selling cheaply mass-produced goods to common people in their own country and in other countries in exchange for their spare change; especially if the goods are consumable and the sale is repeatable. Simply put, consumerism has a larger market base at a smaller *per-unit* profit than mercantilism, and also works domestically in a political and social view by meeting the needs of the population and driving new products.

Both have always existed and still exist as local and national business or market strategies. What made the rivalry so prominent was the opposing models of France (agrarian, religious) and Britain (urban, middle class) and their conflicts for colonial, naval and world market hegemony (see 2 Disruption, EN 9, p. 280, *supra*). France, resisting technological and socioeconomic change and industrialization, lost to the Anglosphere for that and other geopolitical reasons.

- ✓ “In the almost complete absence of other sustained macro-political and social narratives – concern about global climate change notwithstanding – the pursuit of the ‘good life’ through practices of what is known as ‘consumerism’ has become one of the dominant global social forces, cutting across differences of religion, class, gender, ethnicity and nationality. It is the other side of the dominant ideology of market globalism and is central to what Manfred Steger calls the ‘global imaginary.’” – Paul James and Imre Szeman, Globalization and Culture, Vol. 3: Global-Local Consumption (Introduction) (2010) [Introduction section is available on academia.edu for free].

The base assumption of the discussion of domestic subsistence ‘comfort level’ in GGDM (see Resources, 2 Taxation & Census, p. 301, *supra*) is probably shaded toward consumerism because it was written by a late 20th Century person of Western culture, for readers of the same milieu, though the core arguments of domestic subsistence are independent of consumerism. Positions in GGDM however, might develop forms of mercantilism or enhanced export values to certain well-known markets by use of Writs, Specialized Colonies, Commerce or Marketing Colleges.

- ✓ “Some contemporary theorist already saw the shortcomings of Colbertine mercantilism. The great French marshal Sébastien Le Prestre de Vauban (1633-1707) pleaded for a system of priorities that would place the welfare of laboring poor ahead of a favorable balance of trade ... Vauban advocated state responsibility for full employment even if it meant giving away exports, and called for a graduated tax based on income, not rank. ...the legal officer Pierre le Pesant de Boisguilbert (1646-1714) pointed out mercantilism’s failure to grapple with maldistribution of wealth. *Money, he believed, had become the master, of commerce not its servant.* ... As might be im-

agined, Colbert’s theories found severe critics across the English Channel.” – Raymond Birn, Crisis, Absolutism, Revolution: Europe 1648-1789 (2nd Ed., 1992), pp. 55-56 (emphasis added, this is still more true today, e.g., Wall Street, FINRA).

- In the remainder of the quoted paragraph, Mr. Birn goes on to discuss the Fable of the Bees (1714), as one of the main severe criticisms of Cobertine mercantilism which is also one of the original arguments for consumerism.

Consumerism has also not solved maldistribution of wealth and thus is not better in that sense (as Oxfam’s annual global wealth reports show), in fact, many feel that it has made it worse or is the culprit (noting however, that maldistribution of wealth has always existed *as long as there is force of law*, e.g., “An imbalance between rich and poor is the oldest and most fatal ailment of all republics.” – Plutarch). See Economic Inequalities, p. 246, and EN 8, p. 251, 3 Entropy, *supra*.

➤ The Paradox of Thrift: Consumerism is paradoxical to savings as a concept of wealth accumulation and moral good. It is called the Paradox of Thrift; generally that more saving and less spending as a widespread sociocultural, socioeconomic value is actually bad for the economy leading to decreased output, decreased demand, and unemployment in spiraling effect. Yet in the centuries before consumerism took hold, frugality and savings were seen as both morally virtuous, and the means to wealth accumulation (excepting the aristocracy and nobility *who were expected to be extravagant* to benefit others by employment and trade). The advent of consumerism thus tracks with general secularization in the West.

- ✓ “The paradox of thrift ... is a paradox of economics. The paradox states that an increase in autonomous saving leads to a decrease in aggregate demand and thus a decrease in gross output which will in turn lower total saving. The paradox is, narrowly speaking, that total saving may fall because of individuals’ attempts to increase their saving, and ... that increase in saving may be harmful to an economy. Both the narrow and broad claims are paradoxical within the assumption underlying the fallacy of composition, namely that what is true of the parts must be true of the whole. The narrow claim transparently contradicts this assumption, and the broad one does so by implication, because while individual thrift is generally averred to be good for the economy, the paradox of thrift holds that collective thrift may be bad for the economy. It had been stated as early as 1714 in The Fable of the Bees, and similar sentiments date to antiquity. It was popularized by John Maynard Keynes and is a central component of Keynesian economics. It has formed part of mainstream economics since the late 1940s.” – from Wikipedia article, “Paradox of Thrift,” January 17, 2019.

Expression of such sentiments in late antiquity would have been clearly anti-Christian (in the sense of virtues and vices), as Christianity then inveighed mightily against Roman vice and excess, as leading to the martyrdom of Jesus Christ and many of the Apostles.

- ✓ See also the Parable of the Broken Window introduced by Frédéric Bastiat in 1850 which makes a somewhat similar economic argument for consumerism.
- Consumerism Modernity: Consumerism became historically intertwined with, or perhaps caused in large part, industrialization of manufacturing and unionization of labor. Though probably not supporting mercantilism, Dean Inge in the early 20th Century still expresses the English aristocracy’s skepticism of consumerism that relates to unionized labor:

- ✓ “The manufacture of goods to be exchanged for food may fall off owing to foreign competition, a result which is likely to follow from a rise in the standard of living, for the labourer then demands higher wages, and consumes more food per head, which of itself must check fertility, since the same amount of food will now support a smaller number. The delusion shared by the whole working class that they can make work for each other, at wages fixed by themselves, is ludicrous; a community cannot subsist ‘by taking in each other’s washing.’ Or the supply of importable food may fail by the peopling up of the countries which grow it.” – Dean William Ralph Inge, Outspoken Essays, “The Future of the English Race” (The Galton Lecture, 1919), available for free on the Gutenberg Project [notice the awful ‘X-up’ form existed in 1919?].

Dean Inge is referring to the Malthus concepts, which have so far, been checked by expanding technology which has exploded crop yields per acre and created stored surpluses that required government market controls and subsidies to maintain prices.

- ✓ “The second problem ... is that technological optimists argue that we don’t really [need] to worry about resources, that all we need are free markets and the price mechanism. That as long as there are free markets that whenever resources start to become scarce, the market signals that it’s time to innovate, that there will be rewards to innovation. And so the assumption is that as a resource becomes scarce, people develop – put effort into developing a new resource or finding more efficient ways of using the existing resource or developing new technologies and so forth. This is a hard argument to counter because up until this point, the technological – excuse me – the technological optimists have been correct. We have maintained the most complex society humanity has ever known, and we have maintained it up to this point...” – Joseph Tainter, podcast interview on PeakProsperity.com, by Adam Taggart, June 25, 2017.

Inge’s and Tainter’s commentaries also relate back to the domestic subsistence discussion, see 2 Resources and Red Planet, 2 Taxation & Census, pp. 301, 307 respectively, and Natural Assumptions, 4 Taxation & Census, p. 327, *supra*.

- ✓ See also discussion of the Inge Process, 5 Diplomacy, p. 1161, *supra*.

“Germany had been forced to depend largely on synthetics after conquering the productive capacity of a highly industrialized continent. Japan’s problem was exactly the reverse. After conquering endless supplies of raw materials, Japan could depend only on the limited manufacturing potential of the home islands. If the two Axis Powers had managed to pool such resources – if they had been true political and geographical instead of unilateral partners – the difficulties of their enemies might have been multiplied. But in the strategic sphere, the Allies were able to wage a war on interior lines, with the bombing plane serving as the most effective weapon against Germany, and the submarine as well as the bombing plane against Japan.”

– Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 957 ⁴

Use Two Hands Please: Commerce Power Activations for Loading or Unloading Cargo Ships require that both the colony and the ship(s) that are the target of the activation check to see if they obey the Power Activation.

The colony should be checked first because if the workers are on strike (i.e. fail to obey the Power Activation) then there is no need to check the target ships and the activation will fail. If

the colony obeys the Power Activation, then each ship involved must also check to see if it obeys the Power Activation, and if so, Unloading or Loading will proceed. If a ship fails to obey, it will not perform as ordered, but other ships might if multiple ships were targeted. An active Epistemological Constructural Element at the colony or on a ship, allows Enlightenment to be applied to their rolls if it was designated for that Power Activation.

- ✓ If the Loading or Unloading is occurring at a non-sovereign colony, the colony is *first* checked to see if it ‘obeys’ the Power Activation (i.e. accepts alien goods) as if the colony owner had activated the Load or Unload Resources at that colony. If the colony fails, the alien goods are not Loaded from or Unloaded to the Colony, regardless of the willingness of the Cargo Ships involved. Enlightenment can be used to reroll failed die rolls if the ships have active Epistemological Constructural Elements (see Skool Tyme, 2 Constructural Elements, p. 190, *supra*), *but cannot be applied to the alien colony’s roll* because there is no Power Activation. If the **alien colony** fails first, rolls for the ships are not necessary and Enlightenment will not be used.

Uploading: Cargo Ships *that begin the turn* in a system with an eligible colony may Load RPs from that colony by activating the Commerce Power for the purposes of Loading.

- ✓ Eligible colony is defined as either a sovereign colony or a non-sovereign colony where permission has been given by the owning position to Load RPs from the colony. Colony political status is irrelevant to eligibility to Load RPs.

A colony may not load more RPs to the Cargo Ship in a turn than the colony would have produced if it had been taxed at the beginning of the turn (i.e. the GDP limit, see Gross Domestic Product, 1 Construction, p. 662, *supra*), with the exception of Looting (see 3 Commerce, p. 1210, *infra*). As discussed in 1 Construction, *supra*, a colony may not spend more in a turn on activities at that colony than the colony would have produced if taxed at the beginning of that turn (see Gross Domestic Product), and this applies to Loading RPs to Cargo Ships as well as Construction Activities. The RPs loaded to Cargo Ships (similar to RPs spent on Construction activities) are subtracted from the position’s Treasury. RPs loaded to alien Cargo Ships between Regular Turns, count toward the colony’s GDP on its owning position’s next Regular Turn.

- ✓ Ships which execute a short movement arrive at the end of the same Regular Turn thus, a Cargo Ship that completed a short movement would be at the colony at the beginning of the next Regular Turn for the purposes of Loading RPs. See Space Hop, 2 Movement, p. 850, *supra*.
 - ✓ Loading is also used by the receiving Cargo Ship to transfer RPs between Cargo Ships owned by different positions if they both begin the Regular Turn in the same colony system (permission is obtained by the previous Unload action issued by the owning position to the alien Cargo Ships involved), see Change for a Trillion, 1 Commerce, p. 1185, *supra*.
- **Front End Loading:** Cargo Ships each have a limit on RPs that can be Loaded onto the ship, which is governed by the Cargo Ship’s Patent and any improvements or enhancements that may have been made to the Cargo Ship Patent; a Cargo Ship may never Load more RPs than its capacity. Upon activation of the Commerce Power for the purpose of Loading, the position must include in the Actions the exact number of RPs to be Loaded to each Cargo Ship at that location.

- ✓ If information is missing from the Actions, the Concierge will not hold up the game or inquire, rather, the Actions are executed as received.
 - ✓ If a position fails to inform the Concierge of what is to be Loaded, it is a wasted Power activation.
 - ✓ If there are not sufficient RPs in the Treasury to pay for the Loading, the Cargo Ship will Load what is available.
 - ✓ If the activities at the colony on that turn exceed the local GDP, Construction activations will take precedence over all others.
 - ✓ Note that Loading from a *Conquered Colony* is automatically Looting (see 3 Commerce, p. 1210, *infra*) and will trigger the mechanics related to Looting.
- **Back End Loading:** Cargo Ships may Load RPs from eligible **alien colonies** (i.e. colonies owned by any other position, regardless of Native Population Type) at *enhanced value* (*ut supra*, p. 1193). If the **alien colony** is on a Balkanized planet with a friendly colony, the owner of the Cargo Ships may provide the required Scene. Otherwise, the Scene may be ‘snitched’ from the **alien colony** if one is available (see Scene Snitching, 3 The Sidereal Stage, p. 124, *supra*). If there is no Scene on the **alien colony** to be used for the Commerce Power activation, the Load actions will fail, and the Power activation will be wasted.
- ✓ The owner of the **alien colony** is never required to activate the Commerce Power to Load RPs to another position’s Cargo Ships, only the owner of the Cargo Ships needs to activate the Commerce Power. But the sovereign must still grant permission.
- Actual RPs* (not enhanced RPs) loaded from the **alien colony** will be immediately subtracted from the alien position’s Treasury *and count against the alien colony’s GDP limit on its owner’s next Regular Turn*. The Load RPs will fail either partially or completely, if there are not sufficient RPs in the aliens’ Treasury at the time of the loading to support the loading.
- ✓ Yes, this is kind of weird. The Treasury is always simultaneously local and non-local throughout the position. It is a quantum smear.
- **Packing It In:** RPs from non-sovereign colonies are Loaded at the *enhanced value* to the Cargo Ship. The amount subtracted from the owner’s Treasury and that counts against the colony’s GDP for the next turn is the unenhanced value of the RPs loaded.
- ✓ For example, if 15 RPs of *enhanced value* were Loaded to another position’s Cargo Ship by a colony, the actual (unenhanced) value at the colony might be 10 RPs (with 50% enhancement) which is the amount subtracted from the Treasury and that counts against the colony’s next Regular Turn GDP.

Except for Looting, a colony cannot upload more in actual value than would be its GDP if taxed at that moment, see Gross Domestic Product, 1 Construction, p. 662. A Load RPs can fail partially or fully if the colony doesn’t have sufficient GDP at the moment of Loading (or RPs in the Treasury).

If the Commerce Power was activated for the purpose of Marketing for Load RPs at the location of the Cargo Ship prior to movement to the non-sovereign colony, that value will be used. If not, then the parties will need to take their chances on randomly determined enhanced value while Loading RPs from one position’s colony to another’s Cargo Ship. This

may result in partially complete Loading and uncertainty as to the amount in the Treasury and the amount of GDP available at the colony on the next Regular Turn.

- ✓ It may be profitable for a position to set up ‘trading post colonies’ on frontiers, through which alien trade passes, but should consider the Power Activations costs of hauling away RPs via Cargo Ships if not immediately used at the colony.
- ✓ Remember while slurping *alien fungi smoothies* and watching a female cat dancer on Nimbus III that Loading, Unloading or transferring anything at an **alien colony** can lead to *apostasy* (see *Alieny Apostasy*, 3 Disruption, p. 283, *supra*).

“Never sell weapons to people who don’t have a sense of humor.”

– Col. Jack O’Neill, *Stargate SG-1* television series

Humor: In current human theory, humor is regarded as a safety valve, an outlet for angst, a condition of *ekstasis* that keeps us sane. Angst, not wonder, is human literature. To wit:

- ✓ “During his 2009 interview for Australian Skeptics’ podcast The Skeptic Zone, Minchin addressed his performance style as one that allows bringing up issues that can be upsetting or judgmental to others, such as the ‘moral hypocrisy about the idea that the Bible is perfect, the only place that you need to go to for your moral guidance...and about, obviously, prejudice in the church, its role in ostracising homosexuals...your defences are down when you’re laughing as well and it’s couched in music. All I’m doing is making things consumable that are otherwise difficult to consume.” – from Wikipedia article, “Tim Minchin” citing to April 2009 interview (http://skeptizone.libsyn.com/the_skeptic_zone_26_17_april_2009).
- ✓ “Everyone experiences pain, of course. But a comedian has the ability to use their anger and intelligence to refocus and reconstruct their pain into entertainment. It’s so obvious that it almost goes without saying, but comedians are generally more intelligent and sensitive than the average person. It’s our undeniably superior (almost god-like) intelligence that made life difficult for us when we were children. We could see through the hypocrisy and illogic of our parents and teachers, but because of our age and size we couldn’t do anything about it. The more we pointed out the foolishness of our ‘superiors,’ the more they kept us down. But just as pressure and heat transform coal into diamonds, it’s that frustration, social pressure and the heat of anger that transforms us into comedians.” – from iComedy TV.⁵
- ✓ Merriam Webster online dictionary at *ecstasy*: *ékstasis* ‘displacement, mental distraction, astonishment, trance.’

Displacement and mental distraction means to stand outside ourselves in this context, humor lets us stand outside ourselves, be distracted from reality.

- ✓ “I fear the comic novel is in retreat. A joke is by definition politically incorrect – it assumes a butt, and a certain superiority in the teller. The culture won’t put up with that for much longer.” – Martin Amis, interview with Carol Burns, Washington Post, November 7, 2003.

Humor is, of course, one of those services *we spend money for...* handing over paper notes with no intrinsic value at the door.⁶

“Music files and downloading have indeed changed the currency of music to a great degree.” – Henry Rollins

“Downloading is definitely on the rise, but not because it’s free – that’s probably third on the list – but because it’s immediate and the selection is virtually unlimited.” – Don Rose (aka Dr. Don)

“Illegal downloading, digital cheating, and cutting and pasting other people’s stuff may be easy, but that doesn’t make those activities right.” – G. Hannelius

Downloading: RPs may be transferred from a Cargo Ship to any colony by activation of the Commerce Power for the purpose of Unload RPs targeting the colony and Cargo Ship. The ship is not required to *begin* the turn in the system, it may arrive at the beginning of the Regular Turn. Both the Cargo Ship and colony will be checked, as previously explained, to see if they obey the Power Activation to Unload RPs; Enlightenment (a club) might be applied (*ut supra*, p. 1202).

- ✓ Thus, a Cargo Ship can ‘drop and dump and run’; the Unload RPs activation will be processed with any Construction Power activation at the colony (see Material Handling, 1 Construction, p. 664, *supra*) and Movement Power activations process after Construction Power activations in the normal order of processing Power Activations. This may be extremely useful in Blockade Running, see 4 Commerce, p. 1233, *infra*.

RPs will only be Unloaded from *friendly* (i.e. sovereign) Cargo Ship(s) at a sovereign colony in a Regular Turn that would be sufficient to satisfy the colony’s needs for that turn, up to the limit specified in the Unload action. This may mean that some, all, or few of the RPs onboard a Cargo Ship will be Unloaded as a result of the Commerce Power activation for the purpose of Unloading RPs at that colony. RPs received from Unloading Cargo Ships will be spent first for the colony’s Regular Turn activities and any remainder will be subtracted from the position’s Treasury.

- ✓ These rules prevent wastage of RPs *within* the position’s system, because unused RPs at a colony are lost at the end of the Regular Turn. Thus, friendly Cargo Ships at a sovereign colony will only download what is necessary, up to the limit set in the action; the remaining RPs will remain onboard the Cargo Ship and are not lost.
 - ✓ Unloading RPs is also used by the sending Cargo Ship to transfer RPs between alien Cargo Ships if they both begin the Regular Turn in the same colony system, see Change for a Trillion, 1 Commerce, p. 1185, *supra*. As this is not an Unload RPs action to a colony, no *enhanced value* is received regardless of the ownership of the respective Cargo Ships involved. But you can give someone RPs by meeting them halfway.
 - ✓ Unloading RPs at a Conquered Colony does not trigger a Disruption Event and in fact, is useful in bribing ... uh, attempting to convert (uh, subvert) the Conquered Colony, see Conversion, 3 Order, pp. 554-555, *supra*.
- **Intrinsically Profitable:** The RPs received by a colony from Unloading RPs by an alien (i.e. non-sovereign) Cargo Ship will be based on the *enhanced value* of the cargo at that colony,

not the intrinsic value of the cargo as it was Loaded from the source colony. Generally, the value of cargo (‘resources’) will substantially increase merely by the act of transporting the resources to where they are needed.

- ✓ This would normally be considered ‘price arbitrage’ except that the game is based on resources and not money, selling is not part of this concept. Rather, this would more properly be termed “resource arbitrage.”

The RPs available to the target colony on its owner’s next Regular Turn is the *enhanced value* of whatever was Unloaded by the Cargo Ship owner on their previous Regular Turn. Unlike Unloading RPs from a friendly Cargo Ship at the colony, all RPs ordered to be Unloaded by the Cargo Ship owner will be ‘dumped’ onto the target colony and it is the responsibility of the colony owner to use them or lose them on their next Regular Turn.

- ✓ This is necessary because two positions are each taking their respective Regular Turns separately, as opposed to one position taking a Regular Turn and being able to coordinate the amount of RPs Unloaded to their colony to prevent wastage.
 - ✓ Notably absent from this process is the permission requirement; the Concierge does not require the colony owner’s permission to receive Unloaded RPs from an alien Cargo Ship. In the rare instance that this is an issue, it can be dealt with through other means in the game. If the colony owner really does not want the RPs from aliens, combat is an option (like preventing Colony Ships from Landing).
 - ✓ Communication between the positions involved – grey diplomacy (see 1 Diplomacy, p. 1097, *supra*) – is extremely important, with minimum Concierge involvement.
- Arbitrage: Resource Arbitrage does not apply to RPs Unloaded from friendly Cargo Ships to sovereign colonies for use at that colony. This is a ***boundary control function*** in the GGDM rules; RPs Loaded, transported, and Unloaded between colonies owned by a position *occur within the system* and theoretically pass through the imaginary pool called the Treasury. The cost of building anything in the system is the entire assumption of cost by the system.
- ✓ One way to think of this is as a living body. The oxygen breathed into the lungs and transported to the rest of the body in your blood is all just part of the system, the muscles and brain don’t receive any enhanced value in oxygen delivered by the blood by virtue of being transported through the body. They simply receive the oxygen you breathed in... all of the parts need each other and need to work together, each doing their own special job.

Conversely, the activation of the Commerce Power for Trade Missions and Marketing address specifically exporting of resources *out of the system* formed by the sovereign position, while accepting RPs downloaded to a sovereign colony by alien Cargo Ships constitutes opening the gate for non-sovereign RPs to enter the system.⁷

- Cha-Ching!: The *enhanced value* received from cargo unloaded to the colony by non-sovereign Cargo Ships is the number of RPs unloaded plus the percentage increase in value determined for that colony. For example, 10 RPs unloaded for a 50% increase in value, would equal 15 RPs value to the colony that would go toward the colony’s activities for the next Regular Turn.⁸
 - ✓ If *enhanced value* was established through Marketing prior to the departure of the Cargo Ships that value will be used when Unloading RPs to the **alien colony**. This is

important information both to the owner of the **alien colony** (so as to be able to plan their next Regular Turn activities) and to the owner of the Cargo Ship so as to negotiate with the owner of the **alien colony**.

- ✓ If no value was established prior to the departure of the Cargo Ships from their last location, the Concierge will have to determine the value at the time of the Unloading. The Concierge will not inform the **alien colony** or the Cargo Ship owner in advance (no pre-rulings) of the *enhanced value* of the Unloaded RPs at the **alien colony** and this may cause shortfalls and planning difficulties on the next Regular Turn activities.
- ✓ If the amount was established in advance by Marketing, and the Cargo Ship owner certified that the Unload RPs occurred (i.e. no Power Activation failure by the colony or ship), then the colony owner will know how many RPs are waiting to be used; however, if the RPs were Unloaded without previously established *enhanced value*, then the colony owner will have to guess and take chances on how much *enhanced value* is actually available which may lead to wastage.

It is therefore, much better operationally, if the value of the cargo is established through Marketing prior to departure (i.e. information), because Actions will fail if there is not enough RPs in the Treasury to cover the cost of the activities at the colony *or* if the amount taken from the Treasury to cover the colony's activities would exceed the Gross Domestic Product limitations of the colony (see 1 Construction, p. 662, *supra*).

- ✓ Because the game does not look to or specify what exactly is represented by the RPs on a Cargo Ship, the value must be random each time. Participants may find ways to be more specific about cargo if there is a long-established interstellar trade.
- No Tribble at All: Resources downloaded to an **alien colony** are more likely to be raw resources (or 'Shrooms from Proxima Centauri'⁹), or data, with perhaps some low-end manufactured items, with a few art or curiosity objects. Though not a hard universal truth, it is unlikely that stardrive parts, food, ammunition, or weapons repair kits will be delivered to an **alien colony** (especially if they have no sense of humor!).
 - ✓ There is, of course, great potential for Special Operations in Unloading RPs to non-sovereign (alien) colonies; not just in terms of Lodging Missions (see Shipping & Freight, 2 Special Operations, p. 1295, *infra*) but also in the introduction of contraband or even innocent-seeming products and alien lifeforms (e.g., Earth ants in Babylon 5 and Tribbles in Star Trek OS) to wreak havoc on the colony.
 - ✓ There is no direct mechanic in GGDM for transferring anything to or from colonies to Log Ships owned by a different position; only that Cargo Ships can resupply from **alien colonies** (see Cold Lunch, 1 Commerce, p. 1189, *supra*). There are always questions of technological and ergonomic compatibility for starters; any such cases will need to be handled manually through the Concierge.

"We have created in the world in which we live all kinds of things; we have changed our world in all kinds of ways. That's very very clear. We have built the room we're in and we've built all sorts of complex stuff, like computers and so on, but we've also constructed all kinds of fictitious entities that are enormously powerful. So do we say, 'That's a bad idea; it's stupid – we should simply get rid of it?' Well, here's another fictitious entity – money."

Money is a completely fictitious entity, but it's very powerful in our world; we each have wallets, which have got notes in them, but what can those notes do? You can't breed them, you can't stir fry them, you can't live in them, there's absolutely nothing you can do with them that's any use, other than exchange them with each other – and as soon as we exchange them with each other all sorts of powerful things happen, because it's a fiction that we've all subscribed to. We don't think this is wrong or right, good or bad; but the thing is that if money vanished the entire cooperative structure that we have would implode, but if we were all to vanish, money would simply vanish too. Money has no meaning outside ourselves, it is something that we have created that has a powerful shaping effect on the world, because it's something we all subscribe to.”

– Douglas Adams, “Is there an Artificial God?” speech at Digital Biota 2, Cambridge U.K., September 1998 (transcript and audio recording of the more than one hour speech are available free at <http://www.biota.org/people/douglasadams/>)

Exchange: I agree with Mr. Adams that generally, exchanging notes for notes, has little value (except in currency futures contracts). Money must be exchangeable for goods and services that are needed, when, and where they are needed. This is exactly what I thought as an initial objection to BitCoin when I first understood it; any form of money is useless unless it can be exchanged. Still, the image of money as a hollow or hallowed fiction, or artificial god, is prevalent in our literature and songs. Ironically, Pink Floyd’s “Money” (1973) was their best-selling song.

- ✓ Mr. Adams succinctly describes the *power of an interpretation on a civilization level*, money is an interpretation. Cf. Dream Police, 1 Dreamtime, p. 132, *supra*. Conversely, without the concept of legitimized money, believing paper notes have exchange value might seem insane, like offering Monopoly money, landing you in a special institution.

Monopoly Money: Any form of ‘money’ or ‘currency,’ whether slips of government-printed paper or cryptocurrencies, needs to be reducible/tradable into goods and services. Money has little or no intrinsic value, nor can it command resources that don’t exist. See Hrimata Eleison!, 2 Taxation & Census, p. 305, *supra*.

The basic question of interstellar currency (or currency in any setting, but especially interstellar) is if I trade goods that have value for money that has little intrinsic value, what guarantee do I have that I will be able to trade the money elsewhere, at the next planet, to receive goods and services, that the next person will accept money in exchange for their valuable goods and services? Yet, we all know that this problem has been solved because every nation on Earth prints money, which is readily accepted in 99.999% of transactions and allows the government to monitor and manipulate the economy. What makes money work?¹⁰ Civilization-level interpretation.

Most games include monetary systems in any setting from fantasy to interstellar without explanation or justification, e.g.:

- ✓ Traveller RPG uses ‘credits’ (up to megacredits) to make adventuring from planet to planet within the Imperium easy, but is intentionally vague as to the actual mechanisms, for example, I don’t think it was ever explicitly stated whether credits were paper money or simply electronic, though I think the assumption leaned toward the latter. There was no practical explanation of portability, though vaguely, it may have been envisioned as some sort of government issued cryptocurrency.

- One likely reason that the form of the Traveller RPG credit was vague was the wide range of planetary technology levels that made up the Third Imperium; some would not support crypto-currency technology.

It is simply a massive convenience for the designer and the players who are familiar with currency and no one thinks about it, it provokes no thought (i.e. civilization-level interpretation). For all purposes, GGDM does just as well with RPs while also being thought provoking.

- Printing More Money: The question is often asked innocently by children why the government can't just print more money and use it to pay their debts? The answer is illustrative – printing money does nothing but produce more money; nothing of value is added to the economy (because currency notes have very low intrinsic value). Rather, the currency is devalued, e.g.:
 - ✓ “To get richer, a country has to make and sell more things – whether goods or services. This makes it safe to print more money, so that people can buy those extra things. If a country prints more money without making more things, then prices just go up.” – The Conversation, “Curious Kids: why don't poorer countries just print more money?” December 17, 2018.

Thus, the government has taken value from the economy by barrowing and using the money to obtain goods and services, and if it prints money to repay its debts (not unheard of...) it is repaying or returning nothing of value to the economy. That difference is the extent to which the currency used to repay debts is devalued.

- ✓ “A rise in the money stock must, for logical reasons, reduce the exchange value of a money unit. This is because the additional money unit can be used to satisfy an additional end that is necessarily less urgent than the satisfaction of the preceding end. A rise in the money stock will thus necessarily lead to a decrease in the marginal utility of the money unit (compared to the situation in which the money stock had remained unchanged). As a result, a rise in the money stock can never be ‘neutral’ in economic terms. It necessarily leads to a decline in its exchange value – when compared with a situation in which the money stock had remained unchanged; and it should also be noted here that a rise in the money stock affects different market agents differently (the ‘Cantillon Effect’). A monetary policy of increasing the money supply is therefore never ‘neutral’: It necessarily lowers the exchange value of the money unit, and it necessarily benefits some people (namely the first receivers of the new money) at the expense of others (namely the late receivers of the new money).” – Thorsten Polleit, “What Can the Law of Diminishing Marginal Utility Teach Us?” Mises Institute, February 11, 2011.
- ✓ “Example: Almost 2-3 years back 3 eggs could have cost you 100 billion dollar ‘Zimbabwe’ bank note. So basically we are talking about total devaluation of currency. Off course [sic] this is extreme but it shows the capability of [the] inflation beast.” – Anand Bhushan, “Printing Money – Can a Country print Money and get Rich?” Wisdom Times, undated article, but probably from 2012 based on comments.

While most discussions of money are premised on the assumption of paper money, the same effect, in a slightly different way was felt in the Roman Empire whose coinage was based on precious metals, see Praetorian Guard discussion in Household Troops, *et seq.*, 6 Government Titles, pp. 653-654, *supra*.

- ✓ Very few current board games use paper money unless they are required by the theme of the game. Many games use plastic or metal coins (e.g., koku, ducats), others use resource cubes of different colors to represent money, metals, wood, etc. Thus, modern board game economies have become more resource-oriented for the same reasons as GGDM was constructed on RPs, e.g., paper money would be silly in the board game Stone Age (2008) and GGDM is the ‘stone age’ of interstellar culture!

“As the mantra of the 2008 financial crisis goes: The risks on Wall Street have been socialized while the profits have been privatized.”

– William D. Cohan, “How To Fix Wall Street’s Flawed System of Compensation,” New York Times, July 1, 2016

Endnotes.

¹ Commentary: Such a place might be an Optimal Habitability Class planet with a large Maximum Habitability for water-based Major Races in GGDM, while for humans it might be a Hospitable Class planet with a very low Maximum Habitability. It all depends on how you like your fish: live and fresh, or dead and cooked. *gollum!*

² Commentary: Roughly, overall it probably works out even or productively in the end without introducing tracking game mechanics for ship movement and RPs or even supplies and enhancements, because likely one does not unload RPs at an **alien colony** without other compensation.

³ Commentary: There is an ancient, but in modern times, very subdued debate about intellect and charitable service vs. commercialism in terms of generativity. In fact, I could not even find relevant results on Google on January 24, 2020. There were results for ‘philanthropy vs. charity,’ and ‘charity as generativity,’ unfortunately, the latter results related mostly to senior longevity rather than actual generativity, which is typical of the current age. The results of ‘commercialism as generativity’ search mostly decried commercialism as degenerative to personal generativity (i.e. the attitude that we should be remunerated for whatever we do that we do not have to do), rather than talking about commercialism’s effect on future generations, i.e. all of the things that make up our world as a result of commercial enterprise. In terms of GGDM, the root question is what is the difference – in terms of generativity – between designing it to fit into a shrink-wrapped game box with pretty artwork or a set of RPG-like hardcover books (in an overloaded tabletop gaming market) or doing it the way I have chosen – to release my lifework as free PDF downloads from my own web domain? The junk-filled, commercialized internet has created a slowly-realized promising opportunity for charitable intellectual service to reemerge as generativity in the form of continued exposure of older works in the public domain, free articles and thoughtful blogs, and free educational information and materials.

⁴ Citation: “Despite all of the above, Japanese industry was not productive enough to keep up with either the United States or the Soviet Union, and [Gen. Tomoyuki] Yamashita warned against going to war with them for this reason. His recommendations were not taken to heart, and Japanese militarists eventually successfully pushed for war with the United States. In spite of their recent experience and military improvements, the Japanese would generally continue to underestimate their adversaries, emphasizing the courage and determination of the individual soldier as a way to make up for their lack of numbers and smaller industrial base. To varying degrees, the basic problems that faced them at Khalkhin Gol would haunt them again when the Americans and British recovered from their defeats of late 1941 and early 1942 and turned to the conquest of the Japanese Empire.” – from Wikipedia article, “Battle of Khalkhin Gol,” captured May 18, 2020.

⁵ Commentary: I recall part of an old movie which I watched long ago (but do not know the title) where a stand-up comedian was being questioned by an IRS agent about his claimed work-expense deduction for cases of beer. The comedian replied (and this was not a comedy movie, but more a drama or biopic) that he drinks many beers every night before he goes on stage, because he is funny when he is drunk, and thus the beer is a work expense!

⁶ Commentary & Citation: There is a nature video on YouTube, “How not to wake up a lioness,” (Kruger Sightings, January 29, 2019), where a large male lion nips a sleeping female in the butt and jumps back as she comes up roaring and swinging, like a boyish prank. There is no way it was staged; he seems to be laughing about it afterward.

⁷ **Commentary:** In the original Stellar Conquest board game, the 43-year old granddaddy of GGDM, there was a rule called the Emigration Bonus (or *population bonus*, pp. 5-6 of the original rules) in which an extra population would be received for every three loaded to Colony Transports up to the limit of the colony’s normal population growth on Production Turns plus three. At some point, I realized this was simply a mechanic to speed the game along without any realistic justification, and thus, it was omitted from the earlier versions of GGDM and was eventually replaced by the Census Power Activation, which replaced population growth in Stellar Conquest on the “Production Turn” bookkeeping interruption following every fourth turn. The reasons the Emigration Bonus was eliminated are apparent in my commentary on Colony Transports.

- ✓ That being said, some argument could be made against enhanced destination value of RPs loaded at one sovereign colony, transported, and then unloaded at another sovereign colony. I feel it would be similar to the Emigration Bonus in the original Stellar Conquest, which I have rejected as a corny mechanic (though I wonder if Howard Thomas had read Dean Inge...), and have instead taken the holistic view from a height looking at the position’s sovereign interstellar civilization as an entire system (which is consistent with the game) and thus, the cost of, say, building a ship includes the cost of loading, transporting, and unloading resources at sovereign colonies all within the same ‘system,’ excepting the Acts, Scenes and Power Activations required to bring the resources together.
- ✓ Enhanced value for unloading resources onto an **alien colony** does serve to encourage commerce between positions, and in that sense it is a game convenience mechanic consistent with the pan-galactic theme of the game. But the receiving **alien colony** is the gateway allowing input of goods, resources, information, which are outside the reach of the alien interstellar system, did not cost them anything in production, transportation, etc., did not cost them any of their own resources, Acts or Power Activations, into the alien system. There might be justification for the enhanced value in downloading RPs to **alien colonies**.
- ✓ This thinking is consistent with previous statements throughout GGDM, for example, the introduction Hegemony, 4 Order, p. 570, *supra*, or the boundary control function of the Integrity Proficiency and Security Proficiency, 3 Culture, pp. 390, 399 respectively, *supra*.

⁸ **Commentary:** Suppose Position A needs emergency RPs at one of its colonies and arranges delivery from Position B of 8 RPs (base, unadjusted) in exchange for a return delivery later at Position B’s colony of 11 RPs. Is this a ‘loan’ or a “futures contract”? It doesn’t matter, because isn’t a futures contract the same as a short term loan? That’s how it started when the samurai would sell the next rice harvest at discounted prices to get early cash; commodities futures were loans of typically less than one year on future expected resource production. And those futures could be sold, assigned or traded before the harvest. It seems only a difference of semantics: A loan must be repaid plus interest later, whereas with futures you are selling ownership rights at a discount for something that doesn’t yet exist. Either way it’s money now for the loss of rights to something in the future.

⁹ **Citation:** See Mushrooms from Alpha Centauri, 2 Movement, p. 851, *supra*.

¹⁰ **Commentary:** I am not clueless. The discussion here is rhetorical, to induce participants to think through the nuts and bolts of an interstellar monetary system. Asking questions should never be confused either with ignorance (i.e., you may already know the answer) or *with knowing the answers* already (i.e. you may be ignorant):

- ✓ “People thought because we were asking the questions, we had the answers. We were just as clueless as everyone else.” – interview of The Moody Blues band member from Legend of a Band video (1989).

Though I have thought about money in the past, before even the internet, the advent of Bitcoin (I knew people who mined Bitcoin) and blockchains (I also know a ‘blockchain guy’) made many people begin to think again about what is money and storage of economic value systems. I have heard about all that I ever want to hear in a lifetime about Satoshi Nakamoto theories, Mt. Gox, ‘wallets,’ ‘bubbles,’ ‘splits,’ and Ethereum, drug money laundering through cryptocurrencies, ransomware scams demanding payments in Bitcoin, Chinese market oppression and software espionage, the CIA, blockchains, etc.

- ✓ For the record, I do not believe that GGDM would benefit from any virtual in-game currency (e.g., like Lindens in Second Life or Interstellar Credits in EVE Online) or any sort of block-chains. It follows also that GGDM is not suitable for and should not be converted to a MMOG.

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See Appendix ENVAL – Enhanced Value & Looting Summary

“Their home world is a place called Earth, located in a fairly uninteresting part of the galaxy. We have never bothered much of that area before. Had little military or strategic value. But as a culture grew decadent, it becomes intrigued by art, by trinkets like eccentricity. And the humans had art and trinkets and eccentricity to spare.”

– Londo Mollari, *Babylon 5*, “In the Beginning” (1998) ¹

Centauries Past: The Centauri in *Babylon 5* are not from Alpha Centauri, our closest neighbor (their name arose from a misunderstanding during First Contact). There are in fact dozens of stars that bear the name “Centauri” in some part. *Babylon 5*, like *Star Trek*, has been pointed out to be inconsistent as to distances and locations, and the actual homeworld of the Centauri was never specified, but it is clear they are not from Alpha Centauri. However, despite the seemingly vast distances in the series and oversized claims of the Centauri Republic, they are hardly a ‘galactic empire’ of any scale, see previously opening discussion, *Stage Illusions*, 1 *The Sidereal Stage*, p. 107, *supra*. Even *Babylon 5* was staged on a small soapbox in the local stellar park.

“It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest.” – Adam Smith

Getting Along: And if you kill the butcher,² the brewer and the baker because they don’t agree with you and/or won’t obey laws and pay taxes, who will provide your dinner? If you kill the blacksmith, who will provide your weapons and armor? If you kill them all, who will people your military and government, what will your sons and daughters rule over? Thus, sovereignty is more than just force, or appeal to force, it is a cooperative arrangement and the best cement for that arrangement is economic benefits and security from invasion (in their radical Maoist reform, divorced from reality, the Khmer Rouge never understood this).

✓ Thus, citizens and subjects are not slaves to the ruling elite.

The early Roman Republic experienced the Conflict of the Orders and the *Secessio Plebis* (about 500 B.C. to 287 B.C.) in which the Plebeians struggled to wrest rights and self-governance from the Patricians (before they gave into bread & circuses). In our time, labor unrest (coal miners, dock workers) has brought down the communist governments of Poland, the Soviet Union and Apartheid South Africa, and caused difficulties in mainland China and South Africa in the last decades. And there are thousands of other historical examples, such as the Edict of Fontainbleau or the Alhambra Decree where religious intolerance cost great nations flights of skilled labor, children and wealth.

- ✓ From this perspective then, slavery and other forms of forced labor (and tributes), are an attempt to end-run this sovereignty relationship, to have absolute power, by co-opting the population with the apparent material benefits of slavery.
- ✓ See previous discussions of Conversion, Pacification and Slavery, 2 and 3 Order and 6 Combat and Sovereignty and Legitimacy, 2 and 3 Government Titles, *supra*.
- ✓ This is the *natural limit* to the military and police forces who apply the legitimized physical violence:

- “In 494 BC Rome was at war with three Italic tribes (the Aequi, Sabines and Volsci), but the Plebeian soldiers advised by Lucius Sicinius Vellutus refused to march against the enemy, and instead seceded to the Sacred Mount outside Rome. A settlement was negotiated and the patricians agreed that the plebs be given the right to elect their own officials. The Plebeians named these new officials Plebeian Tribunes (*tribuni plebis*).” – from Wikipedia, “Conflict of the Orders,” captured February 12, 2019.

The instant downfall of a government is when the military and police actively side with the protestors, this is what happened in Romania in 1989 when Minister of Defense Vasile Milea died, the Ceaușescu government claimed it was suicide, but the army believed he had been murdered or executed, and went over to the revolution, marching on the government buildings.

“Kant argued that any action taken against another person to which he or she could not possibly consent is a violation of perfect duty interpreted through the second formulation. If a thief were to steal a book from an unknowing victim, it may have been that the victim would have agreed, had the thief simply asked. However, no person can consent to theft, because the presence of consent would mean that the transfer was not a theft. Because the victim could not have consented to the action, it could not be instituted as a universal law of nature, and theft contradicts perfect duty.”

– Wikipedia article, “Categorical imperative,” captured July 21, 2018

Looting: Looting is triggered by activation of the Commerce Power for the purpose of Load RPs (not Unload RPs) or allowing alien Cargo Ships to Load RPs at a Conquered Colony. This is a special exception of sorts, in this case, the Conquered Colony is not considered a sovereign colony for the purpose of RPs Loaded to Cargo Ships. It is thus that some positions may make a business of Looting colonies to obtain the ‘*enhanced value*’ when the ‘alien’ RPs are Loaded.

- ✓ Looting is a Disruption Event at a Conquered Colony, regardless of the amount taken. The Disruption Check (see Hagar’s *Faucet*, 2 Disruption, p. 278, *supra*) is triggered by a Commerce Power Load RPs activation at the Conquered Colony. This can occur multiple times if the Conquered Colony is Looted on more than one Regular Turn.

RPs loaded from a Conquered Colony to *any* Cargo Ship (regardless of owner) are not subtracted from the Treasury, instead, they are subtracted from the colony. When resources are Loaded to any Cargo Ship from a Conquered Colony, Industry and other installations on the Conquered Colony are destroyed equal to the *unenanced value* of the RPs loaded to Cargo Ships.

- ✓ Looting is therefore *not* limited to the GDP of the Conquered Colony (see *Uploading*, 2 Commerce, p. 1199, *supra*). Whether or not RPs can be Loaded by Looting a Conquered Colony beyond the value of Industry, installations and enhancements on the target colony is a judgment on the part of the Concierge.
- ✓ It is normally assumed that there is a 1:1 correlation between RPs loaded from Looting and destruction of the colony being Looted, however, the Concierge could use an Intervention to change the correlation *for story purposes*.

- ✓ Looting is antithetical to Reverse Engineering *alien technology* (see 3 Technology, p. 712, *supra*) at that colony or planet. This can be distinguished from a colony which has simply been abandoned (e.g., see Resources from Special Planets, 2 Taxation & Census, p. 307, *supra*). Looting or warfare destruction can be measured in the Quality of Contact assigned by the Concierge for later Reverse Engineering attempts.

Some or all of the population of the colony that are not Loaded onto Colony Ships in the same Regular Turn, will perish as the infrastructures of their civilization are destroyed by Looting (this does imply or require loss of Maximum Habitability or Habitability Class of the colony planet). The Concierge will make a determination as to the fate and loss of populations, taking into consideration the Habitability Class of the planet. Loss of populations can trigger multiple Disruption Checks on the Conquered Colony, see Peaches for Mad Molly and Mars Bombing Run, 2 Disruption, pp. 273-274, *supra*.

- ✓ Looting on this scale will cause the collapse of a complex society (*à la* Joseph Tainter, this was discussed in various places previously). Loss of population is also an issue that bumps up against the previous discussion of slavery (see The Chain About Your Neck, 3 Order, p. 546, *supra*); are populations being lost on the colony because they are loaded as slaves or harvested for food for the conquerors? Or just mindless apocalypse? There is game-story potential here.

The loss of population from looting will likely be announced via Special Bulletin. The Conquered Colony is not checked to see if obeys the Power Activation! As noted in Alieneity Apostasy, 3 Disruption, p. 283, *supra*, ships engaged in Looting may also contract *apostasy*, e.g.:

- ✓ “It had taken Rome centuries to sink into sloth and apathy – the Goths and Vandals became decadent within a few generations. Like so many rude conquerors before and since, the barbarians paid the historic penalty of acquiring the vices as well as the loot of a fallen empire. Only a hundred years after Châlons the last great Ostrogothic king, Baduila, found it necessary to remind his people of the sturdy and warlike virtues of their ancestors. His efforts were in vain and the Ostrogoths perished by the thousand before the invading horse-archers from Constantinople. The northern Italian plain became so depopulated as a result that the Lombards moved in without a struggle.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 93.³
- Black Market: Loading RPs from a Conquered Colony is always considered the same as Loading RPs from an *alien colony* (see Back End Loading and Packing It In, 2 Commerce, both p. 1200, *supra*). Marketing cannot be used for Loading Looted RPs; Loading RPs from Looting must have the *enhanced value* established by die roll at the time of the Loading. The Concierge will not prejudge.
 - ✓ There is some grey area here for judgment. Humans are humans everywhere on Earth, but the cultural and resource differences between East and West made the Silk Road and oceangoing trade valuable business, such that the Europeans forcefully overran Africa, India, and the coast of China causing much bad history that echoes today. The rule above also does not strictly account for Naturalized colonies that are Conquered or Lost Colonist Primal States. The Concierge must exercise judgment.

The *enhanced value* range of the Black Market may be much wider than the *enhanced value* of normal *alien* RPs when Unloaded to a sovereign colony; the value may be wildly inflated

or next to worthless, boom or bust, but more likely the former. This represents, in some sense, the value of things Looted that would not have normally been available for Loading in normal Commerce, it may also represent the vastly superior amount of ‘stuff’ represented by Looted RPs as opposed to normally-Loaded RPs. Or maybe the new alien subjects are a delicacy on your planets?

Looted RPs (Loaded at *enhanced value* by the recipient Cargo Ship) may be subsequently Unloaded at *enhanced value* at another **alien colony** per the normal rules (see Cha Ching!, 2 Commerce, p. 1203, *supra*). This is another case of possible *double enhanced value*.

- ✓ There are some potentially tricky issues that will require judgment of the Concierge. For example, if Looted RPs were attempted to be later Unloaded at an **alien colony** owned by the previous owner of the Conquered Colony or had the same Native Population Type as the Looted colony? Like for example, pirates loot New York City then their ships arrive in Charleston, North Carolina trying to trade or sell the loot? Has something like that happened in history? Count on it.
- ✓ Imagine a sci-fi story where First Contact begins with an alien merchant ship coming to Earth looking to sell? Cargo Ships could Unload RPs to a planet occupied by a Minor Race if they can legally move to the system and if the Concierge agrees (on behalf of the Minor Race). There have been movies of alien slave starship revolts (*à la* the Amistad case) that came to Earth creating a First Contact situation (e.g., Alien Nation (1988) and District 9 (2009)). Anyway, how would we know that the cargo they are trying to sell isn’t looted or stolen? You can bet that would be in the story.
- Boudicca’s Revolt: According to the account of Cassius Dio, written generations after the events, the uprising of the Celtic Iceni and Trinovantes tribes led by Queen Boudicca were caused by Roman predatory lending practices that were leveraged into confiscation of property and daughters.
 - ✓ Tactius, who was 5 or 6 years old at the time of the uprising, wrote a starkly different version of the historical events, blaming the events on annexation of the Iceni Kingdom by the Roman Emperor, rape of Boudicca’s daughters, flogging of Boudicca, and abuse and displacement of the Trinovantes Celts by Roman colonizers.
 - ✓ The two versions are not entirely incompatible or mutually exclusive – both could be more or less true, but the major details of each version are notably absent in the other. They emphasize different causes. It is unlikely however, that Cassius Dio attempted to justify or whitewash the history of the uprising in favor of the Romans; his causes don’t place the Romans on any better moral or legal ground than the different reasons given by Tactius.

The competing histories of the Celt uprising of 60 A.D. provide historical examples. What is more interesting is the Celts rampage suggests that theirs was a cultural war against the Romans with the intent of destroying all Roman people, places and artifacts; it was total existential war by the Celts. Boudicca’s Revolt (60 A.D.) then is very much like the diaspora Jewish revolts on Cyprus and Cyrenaica (Libya) 55 years later (Kitos War, 115 A.D.).

- ✓ The problem with Boudicca’s (or Boadicea’s) Revolt is that it was easy while she had a rampaging mob of warriors and their families moving across south England. They simply overwhelmed lightly-defended Roman towns and burned them after looting.

They even ambushed a relieving Roman Legion (as the Jews did during the Bar Kokhba Revolt 72 years later, 132-136 A.D.). But she failed when confronted with a test of generalship. There is nothing in the legend of her as a heroine that suggests that she possessed the slightest sense of generalship, she was not, for example, Queen Zenoba (whom even Emperor Aurelian complemented). She made no preparations, and did not think critically about the terrain⁴ or the enemy's or her own army's abilities and limitations. She may have even bought into the mystic reputation that was growing around her. The Celts she led were not substantially different than those led by Vercingetorix over a century earlier and the results were the same. Had the Romans not defeated them in battle, Boudicca's force might have melted away shortly afterward due to logistical difficulties (based on the size reported), tribal rivalries, and the character of Celtic warriors. But the Romans' pride was hurt by the burning of three colonies and the loss of a Legion, and they wanted to make an example.

- On the other side of this disaster was probably a famine and economic hardship for the rebels: While the armies with women and children were rampaging through Roman colonies, who was tending the farms? And in addition to enormous numbers killed (particularly men), they also lost wagons and everything they brought with them. Unlike the Roman legionnaires, the rebels were not soldiers, they were farmers.
- The Sack of Rome (454 A.D.): Pope Leo I, alone, met the Vandal King Genseric (who was an Arian Christian) on the road to Rome in 454 A.D. with a message. He convinced the Vandal King to not harm any Roman citizens or destroy the city in exchange for being allowed to sack Rome. Did Rome, through its citizens and government, agree to be looted? Or was it that the Vandal King was going to loot Rome anyway – as they had so many other places – and the Pope using his authority, through a poor bargaining position, obtained a most Christian concession from the Arian Christian Vandals?

There is a grey area here where it is possible for participants in GGDM to agree to or acquiesce to conquest and Looting of colonies. As discussed in Greys Diplomacy, 1 Diplomacy, p. 1097, *supra*, the Concierge neither sees nor controls the 'informal diplomacy' of the game which is expressed by in-game Power Activations of the positions. There are many such things that happened throughout history – the ceding or exchange of peasant villages, castles, marrying off daughters for political or diplomatic gain, dynastic considerations – that offend modern sensibilities for which the participants of the game will need to decide whether *they* will engage in similar behaviors behind the scenes through informal diplomacy.

- ✓ This reinforces the point – the necessity – of the Concierge not being involved in position diplomacy when it does not require an activation in the game – participants should not be concerned that the Concierge does not approve of their game actions or agreements (and the Concierge should avoid being in that position anyway).
- The Sack of Magdeburg (1631 A.D.): After the Sack of Magdeburg (1631), which the Pope commended as a victory over 'a nest of heretics,' Count Pappenheim wrote, "All of our soldiers became rich," and compared the desecration of Magdeburg to the Destruction of Jerusalem. The Imperial Commander Pappenheim was probably quite relieved that it was over; rich soldiers are happier and easier to control than frustrated, bored, starving soldiers.

- ✓ On the other side, Otto von Gericke, Burgomeister, reported, “In addition to all this, quantities of sumptuous and irreplaceable house furnishings and movable property of all kinds, such as books, manuscripts, painting, memorials of all sorts ... which money could not buy, were either burned or carried away by the soldiers as booty. The most magnificent garments, hangings, silk stuffs, gold and silver lace, linen of all sorts, and other household goods were bought by the army sutlers for a mere song and peddled about by the cart load all through the archbishopric of Magdeburg and in Anhalt and Brunswick. Gold chains and rings, jewels and every kind of gold and silver utensils were to be bought from the common soldiers for a tenth of their real value...” Doubtless, most of this sudden ill-got wealth was shortly squandered away.

It is surprising that this is not treated more realistically in fantasy-war and adventure-fiction stories where epic destruction, sacks and looting occur so often; the best example of mercenaries and looting in fantasy I recall is Elizabeth Moon’s (a former Marine Corps officer) saga The Deed of Paksenarrion, which is a gritty, detailed, low-magic fantasy story about a mercenary company in a fantasy medieval setting. I was in the Marines stationed in Okinawa, Japan when I read this book in 1988 (got it at the PX bookstore) and I was impressed with her description of, for example, drill formations using twelve-foot long pikes; being in the Marines, I was very attuned to marching and drill formations at that time, but we, of course, had 7 lb. rifles, just over 3 feet long (compare to an American Revolution musket, which was about 5.5 ft. long and weighed 20 lbs.).

- ✓ Looting is not the same as genocide, though the two can overlap and merge – looting all of the atmospheric equipment from a domed city on a Hostile Class planet is the same as genocide. See discussion of the Sack of Brandenburg Tor (Andromeda TV series), Brandenburg Tor, 6 Combat, p. 1025, *supra*. Mongol sacks were usually massacres intended to inspire terror and implement slavery of the survivors, see the story of the Republic of Novgorod and of Kiev in *Surviving the Horde*, 5 Combat, p. 1016, *supra*. Practically, there is no difference between the Sack of Magdeburg by a Catholic army in 1631 (“A census conducted in 1632 listed only 449 inhabitants. Much of the city remained rubble until at least 1720.” – Wikipedia, “Sack of Magdeburg”) and the Sack of Kiev by the Mongol army in 1241.
- The Sack of Baghdad (1258 A.D.): The Mongol sack of Baghdad in 1258 bears similarity to what happened in Kiev (see *Surviving the Horde*, 5 Combat, p. 1016, *supra*) but possibly with much greater cultural consequences – the loss of irreplaceable books, inventions, and art equals the loss of the Library of Alexandria, and far exceeds the cultural damage to Kiev, or the damage the Habsburgs did to Rome in 1527 (see *Unintended Consequences*, 2 Entropy, p. 236, *supra*) or to Magdeburg (*ut supra*), the loss is probably comparable only to the Fourth Crusade’s Sack of Constantinople in 1204 (see *Manzikert*, 2 Construction, pp. 671-672 and *Bulwark of the Past*, 2 Eras, p. 773, *supra*). Such events can and frequently do cause complex societal and civilization collapse within Joseph Tainter’s definition, in Islamic histories, it is the end of the Golden Age.
 - ✓ “Hulagu began his campaign in Persia with several offensives against Nizari groups, including the Assassins, who lost their stronghold of Alamut. He then marched on Baghdad, demanding that Al-Musta’sim accede to the terms imposed by Möngke on the Abbasids. Although the Abbasids had failed to prepare for the invasion, the Caliph believed that Baghdad could not fall to invading forces and refused to surrender.

Hulagu subsequently besieged the city, which surrendered after 12 days. During the next week, the Mongols sacked Baghdad, committing numerous atrocities and destroying the Abbasids' vast libraries, including the House of Wisdom. The Mongols executed Al-Musta'sim and massacred many residents of the city, which was left greatly depopulated. The siege is considered to mark the end of the Islamic Golden Age, during which the caliphs had extended their rule from the Iberian Peninsula to Sindh, and which was also marked by many cultural achievements." – from Wikipedia article, "Siege of Baghdad (1258)," captured October 25, 2019.

- ✓ "The Mongols looted and then destroyed mosques, palaces, libraries, and hospitals. Priceless books from Baghdad's thirty-six public libraries were torn apart, the looters using their leather covers as sandals. Grand buildings that had been the work of generations were burned to the ground. The House of Wisdom (the Grand Library of Baghdad), containing countless precious historical documents and books on subjects ranging from medicine to astronomy, was destroyed. Survivors said that the waters of the Tigris ran black with ink from the enormous quantities of books flung into the river and red from the blood of the scientists and philosophers killed." *Id.*
- ✓ "Some historians believe that the Mongol invasion destroyed much of the irrigation infrastructure that had sustained Mesopotamia for many millennia. Canals were cut as a military tactic and never repaired. So many people died or fled that neither the labour nor the organization were sufficient to maintain the canal system. It broke down or silted up. This theory was advanced by historian Svatopluk Souček in his 2000 book, *A History of Inner Asia.*" *Id.*
- Duality of Understanding: From the lamented discussion of the losses of material cultural inheritance, one might conclude that I (and others of my ilk, like historians) care more about the loss of books, art, buildings, and inventions than the murder of thousands of people or of individual atrocities. This is the duality of understanding. Throughout GGDM, I have emphasized that population is the foundation of civilization; GGDM is about the population, it was built from deduction of structures not found in any other source for the purpose of simulating population as more than just numbers and income generation (see *The Problem of Immersion*, 1 Culture, p. 352, *supra*). For this purpose, GGDM has Aspects, Proficiencies, Faculties, Colleges, Institutes, Government Titles, Public Space, Reformatations, Kairotic Moments, Writs, Fuzzy Groups, Constructural Elements *und so weiter*.

But we are mortal. Culture is that which is passed from generation to generation and that includes intellectual works of all types and traditions. Their loss is like Sisyphus who was at the top of the mountain, finding himself back at the bottom of the mountain so he pushes the boulder back up the steep mountainside again and again. On the one hand, you have the living population of *now*, which *is* civilization, but equally on the other, is the material (and non-material) cultural heritage which is what sets humanity apart from the billions of generations of other species on Earth.

- ✓ This has, of course, happened thousands of times on equal or lesser scale across the globe and across *all of history*. The historical examples given in GGDM are mainly from Western civilization, because that is naturally (and unapologetically) what I know best; it is the same issue that attaches to 'world' military histories in the West, which are mostly Western military histories (e.g., Lynn Montross, Dupuy & Dupuy)

with some mention of events in other parts of the world. There is really a language-cultural barrier to learning pre-Columbian history of the ‘non-Western’ parts of the world, one stumbles over names in non-Romantic languages and over cultural beliefs and traditions that are unfamiliar and actions that are sometimes hard to understand.

“Though the Dutch had been transporting porcelain, lacquer ware, silks and plants to Europe for several generations, a seemingly insurmountable problem inhibited the establishment of genuinely great commercial ventures with China. Except for gold and silver, the Manchus wanted few things that Europe could offer. Until the English East India Company was able to dump Indian cottons and opium into China, the great tea trade remained in its infancy, emerging only at the end of the eighteenth century.”

– Raymond Birn, Crisis, Absolutism, Revolution: Europe 1648 to 1789 (2nd Ed., 1992), p. 163

The Opium Wars: There are some nuances beyond the basic assumptions of the Loading and Unloading rules that economics will introduce to the game. An example is the British 19th Century opium trade in China. Originally, the European traders were bringing boatloads of silver to China, first from Europe, then from colonies in Africa and India, to trade for China’s excess production of silk, lacquer wares, art porcelain, spices, rice and anything else of value, to be transported back to Europe and sold for silver. This caused a silver drain in Europe for a time, and China became wealthier still from the accumulation of the world’s silver; consequently, much of the stolen gold and silver from the New World flowed through Europe and southeast through Asia along the sea and land trade routes.

Then the British – the world’s first drug cartel – began transporting opium and cotton from India to China, selling opium there for silver and then using the silver to buy the items valued in the West. This changed the equation, China went from trading its excess production for silver, to trading silver and valuable products for *addictive and consumable* opium.⁵ The silver was flowing out of China and China was getting, in exchange for its tradable goods, something that it did not really want or understand: a massive opium problem.⁶ Sound familiar? The Chinese diaspora of the 19th and 20th Centuries brought opium use to the West Coast of the United States.⁷ Thus, Loading and Unloading cargo and populations are areas ripe for Concierge Interventions.

- ✓ The Christian heterodox theocracy The Heavenly Kingdom of Nanjing officially banned opium, controlled Shanghai and other southern ports, and was not cooperative in trade discussions with Westerners. Thus it is likely that the growing opium problem in China was not an insignificant factor in the causes of the Taiping Rebellion (the cynical might note that fanatical heterodox Christianity simply replaced opium...) who called the Qing “demons” and sought to rid China of its “demons,” (and not just the Qing, who let in the foreigners, but also Buddhism and Confucianism) and their ban on opium trade may have led to eventual European intervention on behalf of the Qing Dynasty. Despite the Heavenly Kingdom’s attempt to ban opium, *generally, opium was associated with Christianity throughout China*, and both with foreign traders and missions; the general view being that the West had bullied and disrespected Chinese culture and sovereignty, forcing opium and Christianity on China.

➤ Dirty Business: While the British may have been the world’s first global drug cartel, there is one important difference – it was a drug cartel backed by a sovereign navy and expeditionary forces with global hegemony. China realized it had a drug problem, combined with many other factors – including rejection of Christian missionaries – became increasingly hostile toward Westerners and trade. The Opium Wars were caused by Britain’s increasing demand to freely trade opium in China (e.g., William Jardine), various incidents of cultural xenophobia by Chinese and attempts to reassert Chinese sovereignty.

- ✓ “Starting in the mid-1700s, the British began trading opium grown in India in exchange for silver from Chinese merchants. Opium – an addictive drug that today is refined into heroin – was illegal in England, but was used in Chinese traditional medicine. However, recreational use was illegal and not widespread. That changed as the British began shipping in tons of the drug using a combination of commercial loopholes and outright smuggling to get around the ban. Chinese officials taking their own cut abetted the practice. American ships carrying Turkish-grown opium joined in the narcotics bonanza in the early 1800s. Consumption of opium in China skyrocketed, as did profits.

The Daoguang Emperor became alarmed by the millions of drug addicts – and the flow of silver leaving China. As is often the case, the actions of a stubborn idealist brought the conflict to a head. In 1839 the newly appointed Imperial Commissioner Lin Zexu instituted laws banning opium throughout China. He arrested 1,700 dealers, and seized the crates of the drug already in Chinese harbors and even on ships at sea. He then had them all destroyed. That amounted to 2.6 million pounds of opium thrown into the ocean.... Angry British traders got the British government to promise compensation for the lost drugs, but the treasury couldn’t afford it. War would resolve the debt. But the first shots were fired when the Chinese objected to the British attacking one of their own merchant ships. Chinese authorities had indicated they would allow trade to resume in non-opium goods. Lin Zexu even sent a letter to Queen Victoria pointing out that as England had a ban on the opium trade, they were justified in instituting one too.” – Sebastien Roblin, “The War That Made Asia: How the Opium War Crushed China,” *The National Interest*, February 17, 2017.

England was also starting to see the effects of opium addiction and there were many who were opposed – led by future Prime Minister Gladstone who had seen the effect of opium on his sister – to using Britain’s military force to enforce opium trade upon China and felt that it was a dirty business. Ultimately, the Opium Wars culminated in the capture of Beijing in 1860 by a combined French-British expeditionary force of 18,000 men (half a world away from Europe) and burning of the Summer Palaces of the Chinese Emperor who fled.

- ✓ So, if you are following this, the Western powers (the Ever Victorious Army, 1860-1864 was led and trained by American and European officers) helped the Qing defeat the Taiping rebellion in large part because the Heavenly Kingdom banned opium trade – and while this was still going on (Nanjing was not captured until 1864) – the Western powers went to war with the Qing who were also trying to ban the opium trade and stop the spread, eventually capturing Beijing in 1860 and burning the Summer Palaces. Hegemony of opium. Don’t trust Westerners, they are twofaced.

Chinese historians call this the “Century of Shame.”⁸ This is an example for GGDM in how trade can become war and ripple into vast, unfathomable cultural and political effects.

- ✓ “It’s hard to over-emphasize the impact of the Opium Wars on modern China. Domestically, it’s led to the ultimate collapse of the centuries-old Qing Dynasty, and with it more than two millennia of dynastic rule. It convinced China that it had to modernize and industrialize. Today, the First Opium War is taught in Chinese schools as being the beginning of the ‘Century of Humiliation’ – the end of that ‘century’ coming in 1949 with the reunification of China under Mao. While Americans are routinely assured they are exceptional and the greatest country on Earth by their politicians, Chinese schools teach students that their country was humiliated by greedy and technologically superior Western imperialists. The Opium Wars made it clear China had fallen gravely behind the West – not just militarily, but economically and politically. Every Chinese government since – even the ill-fated Qing Dynasty, which began the ‘Self-Strengthening Movement’ after the Second Opium War – has made modernization an explicit goal, citing the need to catch up with the West.” – Sebastien Roblin, “The War That Made Asia: How the Opium War Crushed China,” *The National Interest*, February 17, 2017.
 - Notice again the “romantic narcissism” *ut supra*: “While Americans are routinely assured they are exceptional and the greatest country on Earth by their politicians, Chinese schools teach students that their country was humiliated by greedy and technologically superior Western imperialists.” Echoes Alan Wolfe (2016), see feature quote in 3 Colleges, p. 487, *supra*.
- ✓ The Japanese were aware of what happened in China in 1860. This, in conjunction with the Perry Expeditions, led to the Meiji Restoration in 1868 and the 20th Century history of China, Japan, and the Pacific Rim. One must consider the militarization of Japan, opening of Japan to the West, to be in reaction to what happened to China.
 - The Japanese-language tiaga drama series (with English subtitles) *Yae no Sakura* (2013) in Episode 1 mentions as part of the dialogue the humiliation of China in the First Opium War (1839-1842) and what could happen to Japan. The series begins in 1851 with national heroine Niijima Yae as a 6-year old girl, just a few years before the Second Opium War and two years before Perry’s Expedition, which arrives at the end of Episode 1.⁹
- Onomatopoeia: Fiction imitates history; this historical process has been repeated in science-fiction trope. For example, in *Birthright: The Book of Man*, it was a human tactic to find a substance that was addictive to the local sapient alien population of a planet targeted for conquest, and then dump that substance on the market through trade deals. In the *Andromeda* television series (“Pitiless as the Sun” (2001)), the methane-breathing Pyrians became fatally addicted to ammonium-phosphate fertilizer that they got in trade with the human subspecies Inari. The powerful, technologically advanced Pyrians then became hostile to trade and interdicted trade routes to block the contraband substance from reaching their worlds again.
 - ✓ Merriam-Webster online dictionary at *onomatopoeia*: **1**: the naming of a thing or action by a vocal imitation of the sound associated with it (such as buzz, hiss), **2**: the use of words whose sound suggests the sense. Basically, imitation, parroting.

The Opium Wars are featured in GGDM because they provide a good example of interrelationships of culture, war, trade, sovereignty, hegemony and are an important event in shaping the history of the 20th Century. Not only are the Opium Wars a good example in GGDM, but discussion of the subject is also profoundly educational from a current issues perspective. Throughout GGDM, I have used historical examples as supplemental commentary highlighting or complementing the rules and sandbox aspects of GGDM. I could have created examples out of pure fiction (I do use examples from popular science-fiction – fiction takes on a level of ‘reality’ by being popularized in video), but in the realism sense of modernity, the fictional examples would not have been as compelling as the history that shaped our world. Historical examples then (accepted facts, see Five Types of Facts, 1 Dreamtime, p. 135, *supra*), add the ‘realism’ to GGDM, making it relevant to the conversation of our current civilization. Plato would have created idealized mythical dialogue to make the same points.

- ✓ “In ‘The Awakening of Asia’ (1954) ... [Eric] Hoffer discusses the reasons for unrest on the continent. In particular, he argues that the root cause of social discontent in Asia was not government corruption, ‘communist agitation,’ or the legacy of European colonial ‘oppression and exploitation,’ but rather that a ‘craving for pride’ was the central problem in Asia, suggesting a problem that could not be relieved through typical American intervention. For centuries, Hoffer notes, Asia had ‘submitted to one conqueror after another.’ Throughout these centuries, Asia had ‘been misruled, looted, and bled by both foreign and native oppressors without’ so much as ‘a peep’ from the general population. *Though not without negative effect, corrupt governments and the legacy of European imperialism represented nothing new under the sun.* Indeed, the European colonial authorities had been ‘fairly beneficent’ in Asia. ... According to Hoffer, however, Communism in Asia was dwarfed by the desire for pride. To satisfy such desire, Asians would willingly and irrationally sacrifice their economic well-being and their lives as well.

Unintentionally, the West had created this appetite, causing ‘revolutionary unrest’ in Asia. The West had done so by eroding the traditional communal bonds that once had woven the individual to the patriarchal family, clan, tribe, ‘cohesive rural or urban unit,’ and ‘religious or political body.’ Without the security and spiritual meaning produced by such bonds, Asians had been liberated from tradition only to find themselves now atomized, isolated, exposed, and abandoned, ‘left orphaned and empty in a cold world.’ Certainly, Europe had undergone a similar destruction of tradition, but it had occurred centuries earlier at the end of the medieval period and produced better results thanks to different circumstances. Hoffer notes that ‘the resentment of the weak does not spring from any injustice done them but from the sense of their inadequacy and impotence.’ In short, the weak ‘hate not wickedness’ but themselves for being weak. Consequently, self-loathing produces explosive effects that cannot be mitigated through social engineering schemes, such as programs of wealth redistribution. In fact, American ‘generosity’ is counterproductive, perceived in Asia simply as an example of Western ‘oppression.’” – from Wikipedia article, “Eric Hoffer,” captured November 29, 2018 (emphasis added).

- “We were liberated from the fold, that’s all.” – The Who, “Won’t Get Fooled Again” (1970). They probably read Eric Hoffer’s books.

That is to say, they came upon the Existential Void without the protection of their traditional culture. Opium addiction was the short solution for many then and now.

“In the laboratory, we call this the six-degrees-of-separation-from-cancer rule: you can ask any biological question, no matter how seemingly distant – what makes the heart fail, or why worms age, or even how birds learn songs – and you will end up, in fewer than six genetic steps, connecting with a proto-oncogene or tumor suppressor.”

– Siddhartha Mukherjee, M.D., Columbia University Medical Center, author of [The Emperor of All Maladies: A Biography of Cancer](#) (2010)

Spheres in Six Degrees: Interstellar colonization creates a nearly infinite expanding ‘world.’ Commerce creates links that ‘shrink’ the world. The GGDM setting is a nascent interstellar civilization; the course of the game might be described as a contest between an expanding and shrinking world as forces create the first interstellar civilizations. The “six degrees of separation” are at issue. For example, could any two citizens of an interstellar civilization with far flung colonies be connected by Frigyes Karinthy’s famous “six degrees of separation”?¹⁰

For the first generation or two, it is possible that any citizen on a newly founded colony would be separated by no more than six degrees from any citizen on the origin world from which the colony ships departed. But over a period of time, it is likely that only the elites and the privileged few travelers in a nascent interstellar civilization would continue to be separated by six degrees or less, like colonist and immigrants to the Americas drifted from the original European families.

But, what if, in a more established interstellar setting, populations move freely via commercial transport, where travelling from colony world to colony world on business, vacation, for a night out on the stars, is like a flight from New York to Paris? What if interstellar communications rose to the level of an interstellar internet? Did you check your Spacebook page today?

- ✓ **Doctor Who:** So, what, do you think that’s how spring begins? With a group message on Tree Facebook? Do you think they send texts to each other? – Dr. Who, “In the Forest of the Night” (2014).

Six Degrees of Separation is a function of removal of distance:

- ✓ “William Wilson’s location theory tries to give an explanation for the widening poverty and inequality gap. With rise of new technologies in recent decades, the new communication methods have allowed us to process and transmit information over great distances. This has, in a sense, destroyed distance. Distance no longer hinders communication as much as it used to. As a result, many businesses have relocated out of the inner city to the suburbs. Sadly, this leaves many ethnic communities stranded in the deindustrialized inner city. They are unable to take part in the sudden shift to information-based and service-based industry jobs.” – captured from Wikipedia article, “Fractal City,” March 8, 2018, citing two William Wilson, [The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy](#) (1987).

Though subject of criticism and controversy, William Wilson’s removal of distance idea plays into the larger ‘spatial justice’ spectrum of Edward Soja (see *Spatial Injustice*, 3 Entropy, p. 246, Soja feature quote, 2 Government Titles, p. 599, Never Achievable, 3 Expansion, p. 908, *supra*).

- Where's Norman?: Interesting identity question: When did the Normans in England stop being the Normans? For example, Kidwelly Castle (Carmarthenshire, Wales) was besieged in 1403 by Welsh revolutionaries supplemented by soldiers from France and Brittany. The castle was relieved and avoided capture by the arrival of a 'Norman' army and was rebuilt on instruction from Henry V.

England was at that time engaged in the Hundred Years War, and led by Lancastrian Henry V who had a claim to the French throne (through his wife Catherine of Valois, daughter of Charles the Mad, and the Treaty of Troyes), and who won a huge victory over the French at the Battle of Agincourt in 1415 using Welsh longbows, temporarily uniting the two kingdoms under his infant son, Henry VI. Histories and depictions of the Battle of Agincourt rarely, if ever, reference Henry V's army of 1415 as a 'Norman army,' rather, in that context, they are referred to as the English army (though unruly, troublesome local Norman knights are mentioned) vs. the French army, echoing subsequent history.

In 1136, the Normans were defeated at the Battle of Crug Mawr along the Welsh coast near Cardigan by an outnumbered Welsh force that employed about 2,000 long bowmen to pelt the Norman force (including Flemish mercenaries) with devastating fire at 200+ yards. Earlier in the year, the Princess Gwenllïan ferch Gruffydd had been executed following the defeat of a Welsh army near Kidwelly Castle, and her husband, father and brothers took out their vengeance against the Normans at Crug Mawr. But the Normans were insatiable, and while they were trying to subdue Wales, they also invaded Ireland in 1179; there were significant contacts between Wales and Ireland, probably the Irish supported the Welsh.

But apparently, contemporary accounts of the Norman Invasion of Ireland in 1179 (just 113 years after the Battle of Hastings) do not refer to 'Normans,' but to 'English' invaders:

- ✓ "In contemporary or near-contemporary sources, the invaders are overwhelmingly described as English. This was because they were vassals of the king of England, and not because they were culturally Anglo-Saxon. *Expugnatio Hibernica* almost always describes them as English; so too does *The Song of Dermot and the Earl*, a source which uses the term 'English' about eighty times, whilst using 'French,' 'Flemings,' and 'Normans' in only one particular line. Despite the modern employment of terms such as 'Normans,' 'Anglo-Normans' (itself an eighteenth-century construct), and 'Cambro-Normans,' contemporary sources virtually never use 'Norman' in an Irish context. Irish sources usually describe the men as 'foreigners' and 'grey foreigners,' or else as Saxain ('Saxons' or 'English'). In consequence, it is apparent that contemporaries regarded the incomers as English, despite the fact that they were not exactly such." – from Wikipedia article, "Norman Invasion of Ireland," October 3, 2019.

Thus, in the Irish context, the Normans were already 'English' just over a century after the Battle of Hastings (1066) in which the Norman William the Conqueror defeated and killed the Saxon king, Harold Godwinson. The Norman lords (the Hiberno-Norman lords) in Ireland carved out their own fiefdoms and quickly lost cultural identity, intermarrying with local Gaelic women, the FitzGeralds of Kildare ruled by proxy, and were mostly ignored and forgotten by the English court in London until they involved themselves in scheming with Yorkist. This eventually prompted the Tudor invasion of Ireland after 1500 (and no one referred to the Tudors as Normans) which were resisted by the previous 'Hiberno-Norman' families.

- ✓ In the context of GGDM and in science-fiction trope generally, at what point after colonization and possible long isolation, are populations on exoplanets (or even in our solar system) descended from Earth no longer referred to as Earthers, Earthlings, or Terrans? Science-fiction writing has been ambivalent on this point, preferring mostly to use the term ‘human,’ unless the sociocultural-sociopolitical context demands it.
 - ✓ This, of course, relates to the Human Drift-course discussion in 3 Entropy, p. 246, *supra*; removal of distance and shrinking of the ‘sphere’ by commerce, maintaining a homogenized culture works against the quick or eventual loss of cultural-ethnic group identity in far-flung interstellar settings.
- Homogenized Milk: I watched a video on YouTube of the Royal Marines Marching Band in a parade through Glasgow, Scotland (unknown date). They were playing the Colonel Boogie. There was no difference at all between Glasgow, Scotland and Pittsburgh, Pennsylvania; they might as well have been marching through center city Pittsburgh in 2018. The buildings looked the same, the store fronts looked the same – they even marched past a Subway restaurant (a ubiquitous sight in Pittsburgh currently). The traffic lights and banners hanging off of streetlight poles. The people dressed and the cars looked the same as Pittsburgh, it was over-cast just like Pittsburgh would be on any given day, people were wearing light jackets and hoodies suitable for a little rain and coolness, most with no hats. The band uniforms were not greatly different than USMC dress blues, except for the pith helmets. And the pavement – when the band turned a corner at an intersection, I happened to notice the – um – pavement condition, and it looked just like any intersection in center city Pittsburgh. Such is the homogenization of cityscapes in the Anglosphere.
- ✓ I remember seeing a news report around the late 1990s that made this similar point, that a mall or commercial-retail area in Kansas looked just like any one you might find in Georgia or Texas. The homogenization of American landscapes and the disappearance of regional niches and variations has been made possible by media, commercialization, prime farmland turned into cookie-cutter malls and residential developments, consumer economy, the internet, and the dominance of large chain stores and restaurants which have made everything look the same-ness. Some find this reassuring, others disturbing; e.g., those who like the natural uneven look of natural wood paneling and furniture vs. those who like the uniformity of manufactured artificial surfaces such as Formica countertops or stainless steel appliances.

It is an interesting vision to imagine that in some sort of a pan-galactic culture the Public Spaces and Diplomatic Spaces of the interstellar races will merge into a new Public Space for the pan-galactic civilization, or more likely, that a Public Space will form for the pan-galactic civilization in which all of the preceding Public Spaces and Diplomatic Spaces form a complex dimensional ‘sub-network’ linked emergently to each other and to the pan-galactic? This has been a running theme in GGDM mentioned specifically in Sides of the Coin, 4 Government Titles, p. 630, Pan-Galactic Civilization, 2 Diplomacy, p. 1121, and Pan-Galactic People, 5 Diplomacy, p. 1155, *supra*.

- Dreamspheres: Other than the elaborate government-corporate conspiratorial deception which placed them there (and the wasteful fact that it required so much time and energy to transport the sleepers to Station 42 when it could have been done without leaving), it is difficult to see why the Rhea colony simulation in the movie Cargo: Space is Cold (2009) was so

bad? It looked pretty darned good to me, and clearly Dr. Portman was very sad at having to leave and at what she was about to do.

This may be the actual solution to the Fermi Paradox, that any sufficiently advanced species simply places themselves inside a perfect simulation, a never-ending dream, instead of going out to the stars and colonizing (especially if their planet is deteriorating). And perhaps the majority of the population even forgets. Sort of like *The Matrix* (1999) movie. If you think there is something wrong with that solution (as the movie writers seemed to, but didn't really explain well), we'd better start forming the arguments now, because some very smart people think that the universe might be a simulation or hologram, and like a Rosicrucian secret for reformation of mankind, they have been letting it leak out slowly for the rest of us to absorb.

- ✓ Some big Hollywood movies have recently explored the idea of a perfect future for humanity being a virtual reality simulation (notice this never occurred in *ST:OS* or even *Star Wars*) and it's hard to answer Why Not. While our technology is not there yet, what if aliens offered it to us (this might be a great story idea)? Would we be more suspicious than if a human corporation or AI we invented offered it? The perfect VR simulation idea overall seems similar to recreational drug use without (as many) consequences. If we have not yet convinced ourselves of Why Not use recreational drugs (despite the long catalog of personal and social consequences) how could we ever say no to living inside a perfect simulation while our physical bodies are suspended in sleep, or withering, dead, or even non-existent and the Earth returns to nature? If this is the answer to the Fermi Paradox, then no one else has found the Why Not either. If they never bother to look outside or have forgotten, they wouldn't notice us or even care. Maybe FTL is actually accomplished by merging the perfect VR dreamscapes of alien civilizations and that is where everybody is at?
 - See Alissa Wilkerson feature quote from her review of the movie *Ready Player One* (2018) in *1 Corporations*, p. 1241, *infra*. Why Not?

“So what is a ‘cosmopolitan’? It’s a cousin to ‘elitist,’ but with a more sinister undertone. It’s a way of branding people or movements that are unmoored to the traditions and beliefs of a nation, and identify more with like-minded people regardless of their nationality. ... In the eyes of their foes, ‘cosmopolitans’ tend to cluster in the universities, the arts and in urban centers, where familiarity with diversity makes for a high comfort level with ‘untraditional’ ideas and lives.”

– Jeff Greenfield, “The Ugly History of Stephen Miller’s Cosmopolitan Epithet,” *Politico Magazine*, August 3, 2017

Endnotes.

¹ Commentary & Citation: It seems likely that the Great Maker (aka J. Michael Straczynski as his mother named him) must have been aware of (maybe read) current theory on social collapse especially as the Centauri Republic seems vaguely inspired by the late Roman Empire, e.g.:

- ✓ “This argument is strongly reminiscent of that of Shephard Clough, who suggested that weakness and collapse can be caused by diverting resources from investment in capital to expenditures on art and knowledge. As more resources are devoted to artistic achievement, the share available for creating economic

well-being diminishes, as does the society's strength. Thus the elements that define 'civilization' lead to its demise. The collapses of Egypt in the First Intermediate Period, and of Rome, are explained accordingly (Clough, 1951: 3-7, 52-53, 143-59, 261)." – Joseph Tainter, The Collapse of Complex Societies (1988), pp. 55-56.

² Commentary: I heard many times in my youth that prostitution is the oldest profession. I guess that depends on whether one considers marriage a form of prostitution – something I also heard much in my youth. But in any case, hunter, shaman/medicine man, chief and **butcher** must all be a very close second.

³ Commentary: A fun alternate game option to try: There is a 2% chance per Turn Cycle elapsed so far in the game that each Aspect exposed will be a Sloth-Apathy Aspect instead of the one desired by the position. That means that by Turn 40, there will be an 80% chance of getting a Sloth-Apathy Aspect. Each change in Government Title reduces the chance by 20% on the Regular Turn immediately following the change, per Government Title changed. Sloth-Apathy Aspects probably shouldn't be used as a trigger for a Kairotic Moment (see Critical Mass, 3 Kairotic Moments, p. 1438, *infra*) – but that might be interesting too! But it could also overwhelm the game eventually.

⁴ Commentary: The Roman use of defensive terrain at the Battle of Watling Street – creating a narrow front with woods on either side, and using missile weapons against vastly numerically superior opponents – is very similar to the English use of defensive terrain at the Battle of Agincourt, fourteen centuries later.

⁵ Commentary: Opium use began in China in the 15th Century, but at that time, opium was rare and expensive, and thus a novelty good for the extremely wealthy. The British opium trade with China, beginning two centuries later, flooded China's coastal area with opium, which was often mixed with tobacco, making it cheap and available for addiction. Some years just before 1850, the German Lutheran Missionary, Karl Friedrich August Gützlaff (aka Charles Gutzlaff) was the victim of a scam by alleged Chinese Christian converts who were opium addicts, and his local Bible printer. His converts sold new copies of the New Testament he had given them free for use in proselytizing missions inland, back to the printer for opium money, who in turn, resold them back to Gutzlaff's mission.

⁶ Commentary: Joe was a time traveler. He bought coffee at the grocery store before time-jumping to an alternate medieval world, where he sold the coffee at great profit. With his profits, he was able to buy a coffee plantation and eventually a coffee-processing factory back in his original world. With this, he was able to regularly supply his medieval customers with coffee, made enormous profits, and became King Joe, the wealthiest king that medieval world had ever seen (and a very wealthy man in his own world as well, draining gold and valuables from the medieval economy for coffee). By edict, every subject over the age of 8 was required to drink coffee every day and the only supplier of coffee was King Joe and the coffee sellers became the aristocracy and King Joe's oligarchy. Thus, a cup of coffee became known as a Cup of Joe. Coffee became associated with wealth, intelligence and vitality. Wars of conquest were launched to open new markets to coffee consumption-by-edict and galleys became sailing ships. King Joe died of heart arrhythmia when his highly agitated subjects revolted over spilled beans.☺

⁷ Citation: "There is nothing new in the world except the history you do not know." – Harry S. Truman, 33rd President of the United States of America.

⁸ Commentary: When you understand the Century of Shame and the Chinese Communist Revolution, the situation in Hong Kong in 2019 is not surprising. Hong Kong is a symbol of the Century of Shame and the West is unwilling and unable to enforce the guarantees of the 'one country/two systems' agreements that created the SAR because the balance of power has shifted. China's actions in Hong Kong are in part to show that the West is impotent in Chinese internal affairs. Most *would not think* that the Hong Kong problem there is related to the opioid problem here.

⁹ Commentary: I thought I was watching a movie, which is how it is listed on Amazon Prime Video. At some point, I realized the story was moving too slowly for a 72-minute movie. At the end, I figured out it was only the pilot episode of a 50-episode annual series; Amazon only had the first episode (but it was very good!).

- ✓ Cf. Game of Thrones had 73 episodes over 8 seasons, and I have only seen the first episode of that series too. The thought of 73 Machiavellian body-count episodes is daunting, though in my youth of 25 years ago, I happily watched all 110 episodes and all 5 television movies of Babylon 5. I guess I am old now.

¹⁰ Commentary: I am 'separated' from Pat Benatar by only a few degrees: I personally know (as in FTF) someone who lives in Los Angeles (in a section populated with music big wigs) who met and befriended Pat Benatar's daughter in 2019. It's 'so what?' totally meaningless braggadocio to know someone who personally met and is 'friends' with the daughter of some famous singer. But I'm a fan, I bought her Live from Earth album in vinyl when I was 14 (still have it) and I saw her in concert once at the Pittsburgh Regatta, so it was kind of interesting for a *moment*.

3 Commerce – The Opium Wars

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See Appendix COM – Trading with Scene-snitching Aliens Example

“There is more credit and satisfaction in being a first-rate truck driver than a tenth-rate executive.” – B.C. Forbes (founder of Forbes magazine)

“My father was a truck driver. That’s where it all started, and academically I was a disaster at school. My cousin got his name on the honor board; I, at Melbourne High School, I carved mine on the desk.”

– Lindsay Fox (founder of Linfox, Australian logistics company)

Trucking: Trucking is in-system trade between **alien colonies** owned by different positions.

- ✓ **Apostasy** only affects the Cargo Ship or Cargo Boats involved in the Trucking Transaction; it is not applied to the colonies (who may benefit in more than RPs, p. 1228, *ut infra*). See Aliency Apostasy, 3 Disruption, p. 283, *supra*.
- **Shanzhai Products:** Any activation of the Commerce Power for the purpose of Trucking *must first be checked to see if the colony obeys the Power Activation*. If the colony does not, the remainder of the Trucking activation is ignored; if this happens to the first Partner in the trade, it would be courteous to inform the second Partner before their next Regular Turn. If it happens to the second Partner – it is important especially for the second Partner to insure it doesn’t happen at their colony – the players will need to deal with the problem in-game.
 - ✓ Although Trucking using Cargo Ships or Boats arguably includes a Loading or Unloading activation, for game convenience *only the colonies are checked* to see if they comply with the Power Activation. Thus a ship that would fail to obey half the time due to inactive Constructural Elements, might be useful for Trucking activations.
 - ✓ Sending RPs via Trucking from a Conquered Colony is Looting (due to Loading)...
- **Flea Market:** The Commerce Power is activated for the purpose of Trucking for local trade between two non-sovereign colonies not requiring interstellar movement.¹
 - ✓ The Commerce Power may not be activated for the purpose of Trucking if the originating or target colony is involved currently in any Combat (including being Besieged).
 - ✓ The activation costs one Act.
 - ✓ The first position to activate the Commerce Power for the purpose of Trucking must also supply a Scene on their planet. Both positions do not need to supply a Scene.
 - In a Trucking Transaction between partners on the same planet, it is possible for the second partner to place the Scene used by the first partner. See Scene Snitching, 3 The Sidereal Stage, p. 124, *supra*.
 - ✓ It is possible to have one-sided Trucking Transactions where the first partner intentionally sends RPs to the second without expectation of reciprocation and without the second partner ever activating the Commerce Power for the purpose of Trucking Transaction. The conditions precedent (i.e. Scene and cargo unit conduit) *only need to be met on the first partner’s activation* to start the transaction.

- ✓ However, to be able to activate without costing a Scene, the second partner must *successfully activate* the Commerce Power for the purpose of Trucking using the same cargo unit conduit and targeting a colony in the same system on the Regular Turn in which RPs are received via Trucking Transaction from the first partner's colony. If for any reason this is not done (or if the Power Activation fails), then any subsequent Trucking Transaction activations will be as 'first partner' and cost a Scene.

The Trucking transaction is designed for *two positions only*; there is no provision for direct three and four- or more-way trading and passing RPs around a system between multiple positions by chaining Trucking Transaction activations is probably not cost effective. The Trucking Transaction necessarily applies only to local trade between two colonies owned by different positions (even if they have the same Native Population Type); thus Trucking is not intended for two colonies owned by the same position (see Carting activation instead, *ut infra*, p. 1229). Trucking crosses sovereign boundaries and that is the reason requiring a separate activation. Marketing cannot be applied to Trucking Transactions (see Marketing, 2 Commerce, p. 1193, *supra*).

- Planet Caravan: If the Trucking Transaction is between planets in the same system, *one* position must supply a suitable Cargo Ship or Cargo Boat *that is currently present in the system during the first partner's Regular Turn* to serve for the transaction, and that unit must be present during the entire transaction (cannot move way, retreat, or be destroyed) – that is, at least two Regular Turns – or the entire Trucking Transaction is cancelled. The first partner may designate a Cargo Ship or Boat belonging to the second partner (i.e. is owned by the owner of the target colony to whom the RPs are being sent) at the risk that the cargo unit is suitable and won't move away; it will be *assumed* that permission has been granted by the owner if RPs are being sent to them (game processing will not stop to seek permission).
 - ✓ It is not a bad idea to have some redundancy in Cargo Ships in case one or two are destroyed in combat, or for sedentary Carting and Transaction duties.

The designated cargo conduit must be able to hold, in RPs, the total amount of RPs designated for the Trucking transaction. The Cargo Ship or Cargo System Boat used will automatically Load the number of RPs sent and Unload the same number of RPs to the target Colony as part of the Trucking transaction, no separate orders are required for the Load/Unload.

- ✓ The Cargo Ship used for the Trucking Transaction may also Load or Unload RPs from its own colony(s) in the same Regular Turn but cannot leave the system before the Trucking Transaction is complete.
- ✓ A position engaging in Trucking must specify the amount of RPs sent from their colony to the other, which will be fully deducted from the position's Treasury and *half will count against the colony's GDP for the turn*, e.g., loaded on a truck and sent away. It is not possible to trade RPs that are not currently in the Treasury, it is not required that both parties reciprocate the same amount of RPs or that the second party reciprocate at all (*ut supra*). It is possible to send double the GDP if the colony only engages in Trucking (i.e. does not use GDP for anything else that turn) and the Treasury and conduit can handle it. It is also possible for the first partner to designate zero RPs to be traded away, starting the Trucking Transaction where they expect to receive RPs from the second partner (but still must provide the Scene, *ut supra*).

- “... doubtless some societies would be willing to receive inputs of goods without reciprocating through exportation, but this is obviously difficult to achieve in a world of shortages. Probably the contemporary society that comes closest to this is North Korea, as it lacks a market economy, and can afford comparatively few exports, as the goods of the sort it produces are generally needed at home. However, it does welcome inputs in the form of humanitarian food aid, and does receive such aid from a number of countries.” – Kenneth D. Bailey, “Boundary Maintenance in Living Systems Theory and Social Entropy Theory,” *Systems Research and Behavioral Science*, Vol. 25, Is. 5, pp. 587-597, January 7, 2009.
 - See longer quote in Social Entropy Theory excerpt, Entropy, *supra*.

For example, two colonies on the same planet are set to trade. The owner of the Galactic Firsters colony activates the Commerce Power for the purpose of Trucking, costing one Act and one Scene, designates the Last Laughers colony as the trade target and 15 RPs for trade. Those 15 RPs are deducted from the Galactic Firsters’ Treasury and half of the RPs count also against the colony’s GDP for the Regular Turn (rounded down). The owner of the Last Laughers colony on their next Regular Turn should activate the Commerce Power for the purpose of Trucking at the colony, costing just one Act, and designate how many RPs will be sent to the Galactic Firsters colony (if reciprocating).

- ✓ If the two colonies in the preceding example were on different planets, Galactic Firsters will need to also designate a Cargo Ship or Cargo System Boat that belongs to either party that is capable of handling the RPs sent and doesn’t move away.

Trucking obviously requires a considerable amount of pre-coordination and agreement through private player communications. The Concierge will not enforce any agreements between positions, it is up to them to execute as agreed or deal with the consequences in-game.

- Fairies Wear Boots: The actual RPs received by the target colony in the Trucking transaction is the amount sent plus 5% to 8% plus ½ RP per previous successful Trucking Transaction (rounded up) between the *same two colonies regardless of changes in ownership*, not positions (1 RP for a full round of reciprocal trade); the RPs will be available to the trading partners at the beginning of their Regular Turn *immediately after it was sent*, as if Unloaded from a Cargo Ship (that is, ‘enhanced value,’ see Cha-Ching, 2 Commerce, p. 1203, *supra*). Thus, they may be used in addition to the colony’s GDP for colony activities during the Regular Turn, including being loaded to a Cargo Ship. If not used, they are lost.
 - ✓ For example, Johnny Badhair² sends RPs to Babymetal in the first part of a Trucking Transaction; the enhanced RPs received will be available on Babymetal’s next Regular Turn and it will be incumbent upon them to reciprocate if that was the deal.
 - ✓ The RPs sent cannot simply be stored on the Cargo Ship used as a conduit, they must first go to the target colony and may be Loaded to a Cargo Ship in the same turn by separate activation of the Commerce Power for that purpose. Generally, Trucking Transactions are not directly useful to the positions outside the local system.
 - ✓ Because only *previous* Trucking Transactions between the same two colonies are counted, the current transaction doesn’t count, but will count the next time (i.e., in the reciprocation or just the next time RPs are sent, whichever is first). This could be a small benefit to going first and providing the Scene in a reciprocal trade deal.

- ✓ The first partner in the Trucking Transaction is taking a chance; they could get stiffed either intentionally or accidentally by the second partner, if reciprocation is expected (this is business, or maybe extortion, not love!), either through intentional failure to activate the Commerce Power for Trucking, or oversight or Power Activation failures or not transmitting the promised RPs (or not having the RPs in their Treasury). In this case, the second partner is unjustly enriched by receiving enhanced RPs without fully reciprocating or at all. This trade surplus or deficit is left to be dealt with in-game by the participants involved; it is a game/trade diplomacy issue.³

In addition, each position receiving RPs – if the other colony was of a different Native Population Type – has a 30% chance of receiving a Cultural Traits piece adjacent to the colony involved in the transaction – either a random Proficiency or a random Aspect Piece from the position’s Aspect List (a position will not receive alien Aspects) at the end of the Regular Turn if an open Monad is available. Finally, there is a 15% chance that an Intervention Potential or Intervention Potential Plus against the position *will be eliminated or generated*, 50% chance each, however, the position will not be informed if this occurs.

- ✓ Unused Enlightenment attached to the Trucking activation can be used for the first roll (Cultural Traits piece), but not for the second (Interventions) roll.
- Orientalism: There are two design reasons behind the receipt of Cultural Traits through Trucking transactions. First, the costs in Acts and Scenes weighs against the relatively low gain in RPs received as opposed to other actions the position could take. Second, planetary trade has led to cultural exchange, e.g., orientalism and re-orientalism provided cultural reflections like standing between two mirrors. There is more opportunity (in interstellar terms) for such exchanges between colonies that occupy the same planet (just like on Earth) or system, and actively engage with each other in trade. The secondary effects of Trucking transactions may also occasionally save some Government Titles from failing Conflict Checks and possibly becoming disrupted.
 - ✓ “Paradoxically, while Europe’s religious leadership lost touch with China, Europe’s leisured classes became infatuated with the East. Outward trappings of Chinese civilization became the rage. Porcelains, lacquerware, furniture, and the architecture of the pagoda and pavilion captivated Europe’s aristocratic tastes. Oriental flora and fauna were imported and came to adorn arboretums and zoos in London and Paris. Great atlases of China, India, and the Pacific were printed. Learned societies published papers on East Asian customs, and novelist gave birth to the Oriental tale. Except for the clergy, the West’s reception of China remained warm. ... In the end, Rome’s feud with the Jesuits provided eighteenth-century sinophilism with its genuine cutting edge. *Admitting the value of the East became a way of identifying what was wrong with the West.* By virtue of their image of the Orient, early Enlightenment thinkers, pro-Chinese and hostile toward Rome, created what they wished their Europe would become.” – Raymond Birn, Crisis, Absolutism, Revolution: Europe 1648-1789 (2nd Ed., 1992), p. 170 (emphasis added).

This is what came to be called Orientalism; upon the East, the West projected their ideals of paradise (often without realistic basis, similar to infatuation with a romantic interest, the very term that Birn uses) mixed with the exotic charm of Eastern art, ideas, and artifacts. The

concept later flowed into mid-20th Century counterculture movements that often embraced Eastern philosophies, beliefs, and rituals against the majority Christian norms.

- ✓ Cf. “The attempt to understand the loss of paradise is at the same time a grasping to comprehend current conditions and a philosophy of how a political society should be. Here then is another dimension to the study of collapse: it is not only a scholarly attempt to understand the past and a practical attempt to ascertain the future, but also, in many minds, a statement of current political philosophy (see, for example, Isaac [1971]).” – Joseph Tainter, The Collapse of Complex Societies (1988), p. 39.

Both Birn (1992) and Tainter (1988) express the same idea, that xenophilism and nostalgia for a past ‘golden age’ are inherently or inherently become a statement of criticism of the present and a wishful vision of the future.

“You’ve got bad eating habits if you use a grocery cart in 7-Eleven.” – Dennis Miller

Carting: Carting is the Power Activation of the Commerce Power used to transfer RPs directly between two colonies in the same system or same planet that are owned by the same position (the opposite of Trucking Transactions, *ut supra*). Conquered Colonies sending RPs via Carting are being Looted (see 3 Commerce, p. 1210, *supra*). Carting can only be used to transfer RPs. Carting is useful for two or more colonies to cooperate in constructing a ship at one colony that has a Shipyard (see Orange Cones, 1 Construction, p. 663, *supra*).

- ✓ It is possible, through conquest, for a position to own more than one colony on a single Balkanized planet of different native population types. This is especially good for Carting transactions (tribute?). There may be only one colony on each planet for each Native Population Type (see Lebensraum, 3 Taxation & Census, p. 321, *supra*).
 - ✓ Due to the order in which Power Activations are processed during the Regular Turn (see Clockwork Universe, 3 The Streams of Time, p. 90, *supra*), Carting activations will process before Construction Power activations at the receiving colony.
- **Donkey Cart:** Activation of the Commerce Power for the purpose of Carting requires one Scene located on one of the planets participating in the Carting or on the star. Scene snitching is possible (see 3 The Sidereal Stage, p. 124, *supra*), especially on Balkanized planets. Like the Trucking Transaction activation, it is only intended for two sovereign planets in the same system, and thus there is no provision for three-way movement of RPs and it cannot be used to move RPs to a non-sovereign planet or to a colony outside the starsystem. The Carting Power may be activated any number of times in the same system on the same Regular Turn to accomplish RP movement involving three or more planets, only one Scene is required to satisfy the requirements of any number of Carting activations in the same system in the same Regular Turn for all colonies owned by one position.
- ✓ This is similar to the use of one Scene at a colony to satisfy Loading, Unloading and Construction Activations in the same Regular Turn at that colony. See Construction Zone and Material Handling, 1 Construction, pp. 661, 664 respectively, *supra*.
 - ✓ The Concierge may note frequent one-way Carting in a system and take the position of the people on the ground in the *creative use of Interventions*; e.g., certain colonies may feel like “donor economies” to an empire from which they benefit little (see

quote about the War of the Sicilian Vespers, The Chain About Your Neck, 3 Order, p. 546, *supra*) or there may be a situation similar to Boudicca’s Revolt (see 3 Commerce, p. 1212, *supra*) where the Romans took 1/3 of their harvest and then sold it back to them at high prices. There may also be a cultural displacement involved, similar to the Zulus who were forced from a homesteader economy to having to work in mines and farms on land that had been taken from them (see discussions of the Zulus in Programming Dilemma, 1 Culture, p. 352, and The Chain About Your Neck, 3 Order, p. 546, *supra*) and then had to buy what they had produced in stores owned by whites. It is also possible that the receiving colony may develop opulence (see Cosmic Impracticality, 3 Entropy, p. 248, *supra*) and that an illusion of superabundance (next page, *ut infra*) may prevail at the sending colonies.

- **Hot Dog Cart:** A Carting activation involving colonies on different planets also requires a friendly Cargo Ship (or Boat) to be in the same system at the *beginning* of the Regular Turn (i.e., not arriving at the beginning of the turn, see Long Jump, 2 Movement, p. 851, *supra*) and not depart during the Regular Turn (the rules are the same as Trucking Transactions). The Cargo Ship (the ‘hot dog cart’) designated must also have available cargo space remaining (and don’t forget the condiments!☺), but can be carrying RPs from other places and may also Unload or Load normally during the same Regular Turn that it is also Carting, and it is possible for one Scene to cover all of the activations if the Unloading/Loading and Carting all involve the same colony planet on the same Regular Turn (Donkey Cart, *ut supra*).
 - ✓ Only one Cargo Ship (or Boat) can be assigned to each Carting activation; the same ship may be assigned to multiple Carting activations, and each Carting activation may also use a different Cargo Ship (or Boat) if available. It’s a matter of RP capacities.
- **Golf Cart Handicap:** For the Carting activation, *only the sending colony* is checked to see if it obeys the Power Activation (the receiving colony says, ‘Hey, free stuff!’ and the Cargo Ship says, ‘Look, it’s just my job, don’t blame me!’). If it fails to obey the Power Activation, nothing is transferred, which may cause problems on the other end if the RPs are not available to the receiving colony’s GDP on that turn for Construction actions. Enlightenment may be used to reroll failed results if the sending colony has an active Epistemological Constructural Element (see Skool Tyme, 2 Constructural Elements, p. 190, *supra*).
 - ✓ Sometimes Enlightenment ‘grows’ out of the barrel of a gun, but be careful with that, see Getting Along, 3 Commerce, p. 1209, *supra*. If the sending colony is a Conquered Colony, no Power Activation check is made for Carting, on the flip side, the colony is being destroyed slowly by Looting. Newly Converted colonies can be problematic as they may have inactive Constructural Elements.
 - ✓ “I was out on the golf course, a guy came riding out in a golf cart and said, Did you know that Elvis died? And I just said, Well, there you go. It was like I had kinda been expecting it.” – Mac Davis (who wrote four hits for Elvis Presley).
- **Cheesesteak Vendors in Phili:** Regular Turns in GGDM have the paradoxical quality of being potentially infinite but definitely finite. Did I mention eigenstates previously? Effectively a Cargo Ship could transfer an infinite number of RPs between planets in-system in a Regular Turn, but on the other tenstical, the Regular Turn does end.

The Carting activation must specify the number of RPs the sending colony will attempt to transfer in-system to the receiving planet; the receiving colony must also be specified. Like

Taxation, it is theoretically possible for a sending colony to send RPs equal to what it would produce if taxed at that moment, but not more, unless a Writ or some other game device is used (see Red Planet, 2 Taxation & Census, p. 307, *supra*).

The number of RPs transferred from the sending colony to the receiving colony on a different planet is equal to the available RP capacity of the Cargo Ship (or Boat) used, as of the beginning of the Regular Turn (thus cannot be increased by Unloading Cargo at the same time, or decreased by Loading) times a die roll of 1-10 (i.e. 1d10). In concrete terms, the die roll represents the number of transfer revolutions accomplished during the Regular Turn – load, move to receiving colony, unload, move back to sending planet, rinse & repeat.

- ✓ If the amount of RPs transferred is less than the number of RPs to be sent, the Carting roll would be considered a failure for the purposes of triggering Enlightenment rerolls, even if only by 1 RP. The reroll result could be worse, or better. If Enlightenment has been assigned to this Power Activation and has not been used previously, it may be applied if either the sending colony or the Cargo Ship (or Boat) has an active Epistemological Constructural Element.

The RPs received through Carting are added to the receiving colony's GDP-limit for the current turn activities as if they were Unloaded from a Cargo Ship that same turn (see Gross Domestic Product, 1 Construction, p. 662, *supra*).

- ✓ Positions should plan for variable RPs received, in some cases, insufficient RPs will be available for Construction activities on the receiving colony that is counting on the Carting; in other cases, too many RPs will be received and will be lost if not used that Regular Turn (just like Unloading RPs from a Cargo Ship).
 - “The world is full of people who will help you manufacture tornados in order to blow out a match.” – Shaun Hick (author).

*“First, it led to planners to shift lands from grain to economic crops, such as cotton, sugarcane, and beets, and divert huge numbers [of] agricultural laborers into industrial sectors, fueling state demand for procured grain from the countryside. Second, it prompted the Chinese leadership, especially Zhou En-lai, to speed up grain exports to secure more foreign currency to repay debts to the Soviet Union and to purchase capital goods needed for industrialization. Finally, **the illusion of superabundance** made the adoption of the commune mess halls seem rational at the time. All these changes, of course, contributed to the rapid exhaustion of grain supplies.”*

– Dali L. Yang, [Calamity and Reform in China: State, Rural Society, and Institutional Change Since the Great Leap Famine](#) (1996), p. 65 (emphasis added) (about 50 pages of this book are available for free on Google Books)

The Illusion of Superabundance: Theoretically, it might be possible for a position to trade away more than its GDP in a Regular Turn through Trucking (either singly or collectively through multiple Trucking transactions) due to the fact that only half counts against the GDP.

This is a grey area that the participants will need to decide to allow or disallow (see Red Planet, 2 Taxation & Census, p. 307, *supra*). This could be very useful in the short term, and could be a

subject for Specialized Colonies (i.e. Trading Posts) and Corporations or MegaCorporations (see 1 and 2 Corporations generally, *infra*) with supporting arrangements. There could also be long term adverse consequences on the colony (e.g., the Great Chinese Famine):

- ✓ “In Xinyang, people starved at the doors of the grain warehouses. As they died, they shouted, ‘Communist Party, Chairman Mao, save us.’ If the granaries of Henan and Hebei had been opened, no one need have died. As people were dying in large numbers around them, officials did not think to save them. Their only concern was how to fulfill the delivery of grain.” – Yang Jisheng, “A hunger for the truth: A new book, banned on the mainland, is becoming the definitive account of the Great Famine,” February 10, 2012, chinaelections.org.
 - This article exists in the original Chinese text on the Wayback Machine (aka ‘internet archive’⁴). The article’s English translation cited in the Wikipedia article, “Great Chinese Famine,” is no longer available on the internet as of January 19, 2019. It is certain that the Chinese government would like this article to disappear, but it has been preserved outside their reach in the original language, the important part is cited on Wikipedia.
- ✓ “Yang Jisheng, a long-time communist party member and a reporter for the official Chinese news agency Xinhua, puts the blame squarely on Maoist policies and the political system of totalitarianism, such as diverting agricultural workers to steel production instead of growing crops, and exporting grain at the same time. During the course of his research, Yang uncovered that some 22 million tons of grain was held in public granaries at the height of the famine, reports of the starvation went up the bureaucracy only to be ignored by top officials, and the authorities ordered that statistics be destroyed in regions where population decline became evident. ... Mao refused to open the state granaries as he dismissed reports of food shortages and accused the peasants of hiding grain.” – from Wikipedia article, “Great Leap Forward,” January 19, 2019.
 - During the Great Leap Forward and the subsequent Great Famine, ideology took precedence over practicality and reality. Minister of Defense Peng Dehuai wrote a private letter of opinion to Mao Zedong during The Lushan Conference (1959) urging him not to put ideology before economics. The private letter was circulated, and Mao Zedong took it as a personal attack on his leadership and, despite his previous statement of amnesty for any opinions stated at the conference,⁵ purged General Peng and his supporters. General Peng was forced into retirement and relocated to a suburb under constant guard. The disaster of the Famine snowballed into 1960 and 1961 as no one dared to report the truth to the well-fed leadership (who didn’t want to hear it anyway). In 1966, General Peng was arrested, humiliated, tortured as part of the radical Cultural Revolution that unleashed the fanatical Red Guards militia on the countryside. Peng was sentenced to life imprisonment for his ‘crimes’ and died in prison in 1974, Mao having personally ordered withholding of medical treatments.

This is a situation that participants might consider in GGDM in cases of radical Government Titles, Ideological Constructural Elements in allowing excessive Trucking.

*“Mercy sakes alive, looks like we’ve got us a convoy! ...
By the time we got into Tulsa Town, We had eighty-five trucks in all ...
Well, we shot the line and we went for broke, With a thousand screamin’
trucks, An’ eleven long-haired Friends of Jesus, In a chartreuse micro-bus.”*

– C.W. McCall (aka Bill Fries and Chip Davis), “Convoy” (1975)

Jumping Around in the Livingroom: I cannot possibly imagine the number of times I heard this song around my 8th birthday and into the summer after, I remember it was fun, I remember mimicking the CB conversations, jumping around the living room with my friends, pretending to drive a big truck. The song faded from my consciousness, but after seeing “Smokey and the Bandit” too many times in 1980-1981 (a totally idiotic movie, it was almost continuously played on HBO then), as a teen, I came to kind of hate the song.

My reasons for not liking the song, though not clearly articulated when I was a teen, are probably similar to the reasons I disliked *From Dusk Till Dawn* (1996): After I watched it – I realized that the movie tricked the viewer into liking very unlikeable characters: The main ‘heroic’ characters Seth and Richie Gecko are fugitive bank robbers, murderers, kidnappers and Seth is also a rapist. All in the first ten minutes of the movie. But they become heroic because they join with a pastor when confronted with the forces of hell? By the end of the movie, the viewer is made to forget the beginning of the movie. I didn’t buy into the transition and resented the sleight of hand attempted by the writers and directors.

In any event, I view the song now for what it was, a silly novelty song on the radio in my youth related to economic angst. I still don’t think much of the *Smokey and the Bandit* movies though.

“Blockade running seems almost as brisk as ever, the new class of blockade runners are very fast and sometimes come in and play around our vessels, they are built entirely for speed.”

– Rear Admiral David Dixon Porter, USN, letter to War Department (American Civil War) cited in [Stark’s History and Guide to the Bahama Islands](#) (1891)

Blockade Running: Blockade Running (aka blade running) in GGDM occurs when Cargo Ships attempt to Load or Unload, Log Ships attempt to transfer or receive anything, or Colony Ships attempt to Load or Unload populations at a colony planet during any Regular Turn in which the target colony is engaged in an ongoing Colony Combat (whether Besieged or not, see 3 The Sidereal Stage, p. 124, *supra*).

The Blockade Running situation lasts only during the Regular Turn, but the ships involved, if they cannot depart during the Regular Turn, will be ‘retreated’ to the colony planet and automatically join the Colony Combat on the next Combat Round (where they may thereafter attempt to stay or retreat, be Combat Screened, etc.).

- ✓ Unlike normal Power Activations for the purpose of Load, Unload, or Ship Supply, or Loading or Unloading Colony Ships, when a Blockade Running situation occurs, *before resolution*, each ship must be checked to see if it obeys the Power Activation (or in the famous words of Han Solo, “Look, I ain’t in this for your revolution, and I’m not in it for you, Princess. I expect to be well paid. I’m in it for the money.”). If the

ships obey the Power Activation, each ship that does will then make the Blockade Running attempt. If and when they arrive, any second checks at the colony are performed to see if the colony does (and is able, considering the circumstances) to obey the Power Activation. If so, the Loading, Unloading or Transfers can proceed. If Enlightenment has been assigned to the Power Activation (one of the benefits of arriving at the end of the previous Regular Turn by Short Movement), it may be applied to the rolls to see if the ships or colony obeys the Power Activation, but may not be applied to the Blockade Running attempt, *ut infra*.

There are many timing issues in GGDM that can lead to these situations, for example, non-warships arriving at the end of a Short Movement (which arrives before the beginning of the next turn) to find their destination colony under attack. As Besieged Colonies cannot act as Supporting Colonies (see 1 Movement, p. 840, *supra*), the ships may have no choice but to try to reach the colony (*ut infra*), or if they have sufficient OSL, they may leave for another destination. The ships may also be carrying things vital to the colony defenses and need to reach the colony to deliver the goods, and thus risk running the gauntlet, ordeal by fire.

- Round The World With Rubber Duck: Any order to Load, Unload, or Transfer, *regardless of ship ownership*, anything to a colony under attack in Colony Combat will invoke the Blockade Running procedures, the actions will not be resolved until and unless the ship successfully runs the blockade. Log Ships may not use Combat Resupply procedures at a colony (see 4 Movement, p. 868, *supra*). A ship that successfully runs the blockade to the target colony may still fail to execute the order to Load, Unload, or Transfer due to inactive Constructural Elements (see Power Off, 2 Constructural Elements, p. 193, *supra*). A ship that successfully runs the blockade is automatically resupplied, that is, the colony is able to act as a *Supporting Colony* (see 1 Movement, p. 840, *supra*) for ships that reach orbit.
 - ✓ Blockades only apply to the colony involved in a Colony Combat; running is not necessary to reach colonies on Balkanized planets that are not under attack.
 - ✓ Blockades cannot be ‘turned off’ voluntarily, the local commanders will enforce a security exclusion zone (like in the Falkland Islands War) to isolate the target.
- Cab-over Petes Don’t Float: These rules do not apply to Colony Ships that are Landing on a planet where a Colony Combat is in progress against a colony already on the planet. As there can be only one colony of each Native Population Type on a planet (see Island Motes, 4 Expansion, p. 921, *supra*) any Colony Ships carrying population of a colony that already exists on a planet can only Load or Unload or move on after being resupplied. Thus any Colony Ships Landing at the site of an ongoing Colony Combat are likely not involved in the combat, unless they are the attacker’s ships. There is some grey area there for judgment, but the process in that case (the attacker would be considered extremely aggressive in doing this) could be treated like landing Ground Units (see Dropping In, 4 Combat, p. 991, *supra*).
- Crashed the Gate Doin’ 98: Blockade Running attempts are resolved separately for each ship. The resolution process is a simplified Fighter attack with two *sorties* lasting one Combat Round. The attacker(s) in the Colony Combat *does not need to activate the Combat Power* and the attacking warships will respond automatically to Blockade Running attempts. Only warships and Fighters involved in the Colony Combat will participate in the Blockade Running attempt. The defenders will know already how many warships and Fighters the attacker has present and will be able to generally know the odds of success in advance; it might

be possible for the defender to improve the odds by certain attacks in the Combat Round just before the Regular Turn is processed. The Blockade Running attempt is resolved as follows:

- ✓ The base value ('total cost' per Laying Keel, 3 Construction, p. 675, *supra*) of all warships of the attackers in the Colony Combat is totaled and 25% of the value is treated as 'Fighters'; remember that Carriers are also warships. To that is added half of the value of the Fighters belonging to the attacking side in the Colony Combat.
- ✓ The total is then reduced by half the total RP value of the Fighter Complements belonging to the defenders in the Colony Combat. Further, half the value of any warships at the colony planet (having retreated there previously, see Ship Zipped, 3 Combat, p. 982, *supra*, or ran the blockade) are subtracted from the attacker's 'Fighter RPs' to arrive at the value of the Fighter Complement that will attempt to block.
 - For example, the base value of three warships attacking the colony is 200 RPs total, which is reduced to 50 RPs for the Fighter Complement. The attackers have no Fighters, their Carrier was destroyed in a preceding Ship Combat in System Space. The colony has 20 RPs of Fighters remaining, and a small 20 RP warship in orbit that retreated to the colony at the end of the Ship Combat that the defenders lost. The defending Fighters subtract 10 RPs from the attacker's total and the warship is an additional 10 RPs subtracted, so that the value of the 'Fighter Complement' attempting to block *each runner* is 30 RPs.
- ✓ After the calculations, the 'Fighter attacks' are resolved in two sorties, each at half the value of the whole, against *each* blockade runner. The attacks are resolved as normal, with Effectiveness Rolls, but the Fighter attacks *do not* receive the bonus for being a Concentrated Attack (as they normally would, see 2 Carriers & Fighters generally, *supra*, for Fighter attack procedures) and the runners do not Close-in Defense Fire.
 - Continuing the previous example, *each* ship attempting to reach the colony will be subjected to two Fighter attacks at 15 RPs each. The ships attempting to run the blockade will not execute any Close-in Defense Fire.

Thus, the attackers in a Colony Combat will never suffer losses from Blockade Running attempts. The entire risk is on the runners:

- ✓ If a ship attempting to reach the colony is Engaged, but not destroyed, the Blockade Running attempt is aborted and the runner retreats to system space. If the second attack on the runner is successful, it becomes a hit and the runner is destroyed (see A Hurt, 2 Carriers & Fighters, p. 1056, *supra*) unless the runner can take more than one hit due to technologies. If no attacks against the Blockade Runner are successful, the ship reaches the target colony safely and executes (or attempts to) its Regular Turn actions as if no combats were in progress. Everything is just peachy. For Molly.
- ✓ As Enlightenment cannot be used to force an opponent to reroll a successful attack, they will be no use in Blockade Running. As the attackers in the Colony Combat are responding automatically to the attempt, the position players will not have an opportunity to decide whether or not to use Enlightenment. Thus Enlightenment will not be a factor in Blockade Running.

- ✓ All combat shifts apply to resolving Blockade Running, including Era differentials. As blockade runners are most likely civilian ships, shifts in favor of the attackers will be applied for civilian targets.

Any ship or unit that is capable of Ambush Mode does not need to run the blockade to reach the target colony. They just slip by the attackers and are resupplied if they reveal.

- ✓ There is a tremendous range of technologies and doctrinal templates that could be developed to assist both sides in a Blockade Running situation or make Blockade Running unnecessary.
- About to Put the Hammer Down: Any ship at a *planet* (not in system space) that is owned by the defenders in an ongoing Colony Combat, that initiates interstellar or interplanetary movement or movement to system space during a Regular Turn, must first successfully run the blockade pursuant to the Blockade Runner procedures above. If the result is Engaged, the unit retreats back to the planet. If no attacks on the unit are successful, it escaped and may initiate the movement.
 - ✓ The rules for initiating interstellar or interplanetary movement to escape out of a Blockade are the same as the normal rules for the Power Activation that is used to initiate the movement (or in the case of interplanetary movement, the normal Movement Power activation is used). Each ship seeking to run out of the blockade must check to see if it obeys the Power Activation and the colony may act as a Supporting Colony for the second roll if the first fails. Enlightenment may be applied to the rolls if the ship or colony (as appropriate) has an active Epistemological Constructural Element, but cannot be applied to the Blockade Running attempt (*ut supra*).
 - **C-3PO**: Sir, the odds of successfully navigating an asteroid field is approximately three-thousand-seven-hundred-twenty to one! **Han Solo**: Never tell me the odds! ... **C-3PO**: Sir, the odds of surviving a direct assault on an Imperial Star Destroyer are precisely-... **Princess Leia Organa**: Shut up! – Star Wars Episode V: The Empire Strikes Back (1980).

“Trade relations between the two blocs increased substantially during the era of détente. Most significant were the vast shipments of grain that were sent from the West to the Soviet Union each year, which helped make up for the failure of kolkhoz, Soviet collectivized agriculture.”

– from Wikipedia article, “Détente,” November 20, 2019

How the Cold War Ended Cold: I heard a figure when I was young that the average American farm produces enough food to feed the farmer and 120 other people per year.

Whatever the number, crop yields per acre have skyrocketed and in addition to industrialization of meat production (i.e. factory farming, intensive animal farming, some consider it an ethical shame of modern times), it reached the point where the U.S. government began paying millions of dollars per year to farmers *not to plant crops* to reduce the excess on the market. And we still had enough to annually export millions of tons of food to the Soviet Union during Détente.

- ✓ There is a feedback loop: Excess food on the market drives the prices down, farmers plant more to keep their income up, which adds more excess to the market, driving

the prices even farther down... The government sought to stabilize the market prices by setting price minimums, buying up excess for the military and government economic support programs (e.g., the picture of Ronald Reagan holding up government cheese) and dissuading farmers from planting more and more by propping up their income with subsidies. And by shipping millions of tons to the Soviet Union.

The core of Détente was food sales to the Soviet Union to make up for their poor system. All the rest was containment and deterrence around the edges. I personally remember hearing regular mentions about this on the evening news growing up: Détente, grain shipments, arms control.

- ✓ “Nixon and his national security adviser, Henry Kissinger moved toward détente with the Soviet Union in the beginning of the 1970s. They had hopes that the Soviets would, in return, help the United States extricate or remove itself from Vietnam. People then started to notice the consciousness in which the American politics started to act with.” – Wikipedia, *Id.*, citing to Richard Rhodes, *Arsenals Of Folly: The Making of the Nuclear Arms Race* (2007), p. 61.
- ✓ “At the same time, the Jackson-Vanik amendment, signed into law by Gerald Ford on 3 January 1975, after a unanimous vote by both houses of the United States Congress, was designed to leverage trade relations between the U.S. and the USSR, making the United States’ involvement dependent upon improvements of human rights within the Soviet Union, in particular allowing refuseniks to emigrate; it added to the Most Favoured Nation status a clause that provided that no countries resisting emigration could be awarded this status. This provided Jackson with a method of linking geopolitics to human rights.” – Wikipedia, *Id.*

Food sales to the Soviet Union accomplished four goals:

1. Propped up domestic prices by soaking our excess harvest off the domestic market.
2. Prevented the Soviets from going to war to obtain food, which could easily slip into a nuclear exchange or a wider conventional war.
3. Made the Soviets dependent upon us, if they went to war with us (or tried to take the oil fields of the Middle East) they would lose their food support – and the Soviet leadership was well aware of what hungry angry mobs can do because that is what brought the Bolsheviks to power in 1917.

Tom Clancy used this approach in his famous 1983 novel *Red Storm Rising*. Except that he used oil refining and terrorism as the trigger because it was sexier than food and perhaps because the Soviets would run out of gas before they ran out of food (especially if they went to war with us using up their military fuel supply!). In the book, the Soviets needed to win decisively in three months or less and they needed to attack NATO in Europe to distract NATO from being able to intervene decisively against their drive to the Middle East oil fields.

4. Thus, as a side issue, it also insured the domestic stability of the Soviet Union for 20 more years which was important because they had a huge arsenal of nuclear weapons:
 - “When the Soviet Union collapsed in 1991, the worry in the West was what would happen to that country’s thousands of nuclear weapons. Would ‘loose’ nukes fall into the hands of terrorists, rogue states, criminals – and plunge the world into a nuclear nightmare? Fortunately, scientists and technical experts in both the U.S. and the former Soviet Union

rolled up their sleeves to manage and contain the nuclear problem in the dissolving Communist country.” – Clifton B. Parker, “Why the Soviet nuclear arsenal stayed secure as the nation collapsed,” engineering.stanford.edu, August 4, 2016.

- There was a period of time during the collapse of the Soviet Union when we did not know who had the nuclear launch codes. It would only take a couple of radicals with the launch codes to retaliate against NATO or to cause an incident that would ‘reunite’ the Soviet Union against the West.

As I have argued previously, the inefficiency of human economic systems probably prevented the Cold War from ending in thermonuclear apocalypse: The Soviet Union collapsed from its own absurdities. There were people then who railed against détente, and would do so now in historical hindsight; it is said that Ronald Reagan’s rhetoric rejected détente and hastened the collapse of the Soviet Union. But détente gave time for the containment strategy to work.

This argument is not ignoring the controversy of the 1980 Grain Embargo by the United States against the Soviet Union. Though the Soviets arguably *came out the better for it* and the U.S. economy suffered, the Soviet need to import additional grain from South America still points to the central problem: Had the Soviets invaded Western Europe or the Middle East, they would have been cut off from all grain imports, including from South America. They did not have the power projection ability to invade South America to regain their food supply source, they would have needed to compensate by overrunning Iran and Iraq. Roll the dice.

“From 1965 to 1974, I served the best possible apprenticeship for an actor. I learned firsthand how a truck driver lives, what a bartender does, how a salesman thinks. I had to make a life inside those jobs, not just pretend.”

– Brian Dennehy

“The woods are lovely, dark and deep, But I have promises to keep, And miles to go before I sleep, And miles to go before I sleep.”

– Robert Frost, “Stopping by Woods on a Snowy Evening” (1923)

Endnotes.

¹ Citation: Funny truck-driver quotes: 1) “My teacher told me that nobody would ever pay me to look out a window ...he was wrong.” 2) “Your pickup can tow 10,000 pounds. That’s cute.”

² Citation: Johnny Badhair is the cover illustration for Epic Magazine Issue No. 33, December 1985.

³ Commentary: The game design philosophy here is minimum game mechanical entanglements between positions. The deal is not between game mechanics, but between positions, facilitated by minimal mechanics necessary.

⁴ Citation: <https://web.archive.org/web/20120210190821/http://en.chinaelections.org/newsinfo.asp?newsid=18328>.

⁵ Commentary: This would be called a bait and switch. I am sure it does not have a complimentary term in any language. But when you are the authoritarian ruler of a country backed by fanatical ideologues, and the army leader, with whom you have been friends for 30 years, begins to question you ... you can probably do whatever you need and get away with it. In the name of the revolution.

“The Duck Test” (from “When Empires Fall II”)**Excerpt from article by Dave Nilsen, February 1993, Challenge Magazine #69**

The age-old duck test declares, ‘If it walks like a duck and quacks like a duck, it’s a duck.’ Unfortunately, there is nothing resembling such a straightforward test for sentience.

The main reason for this is the emotional priority given to preexistence. There is a clear popular prejudice that something artificially created or manufactured cannot be sentient; that it is somehow instead merely a simulation or mimicry of sentience. On the other hand, a pre-existing organism that is discovered to have sophisticated mental processes is much more likely to be perceived as legitimately sentient.

What this demonstrates is a deep-seated psychological or spiritual belief that life or intelligence can only be created by something greater than we are, something which is infinite or eternal. Just as we finite creatures are an order of magnitude less substantial than the infinite (shadows of the eternal forms, as Plato would have it), our creations must again be an order of magnitude lower than we are, and the notion that we can rise this lesser order of energy up to our level is something that we emotionally resist. Whether this belief is true or not is arguable; that it is unconsciously subscribed to by a substantial portion of humans is not. Thus we find ... the persistent rejection of increasingly sophisticated robots and computers as anything other than machines.

A powerful adjunct to this belief is the ‘threshold’ issue. If we accept the premise that we can manufacture sentient life, then we should be able to define the threshold at which a mere thing becomes a *being*, something with a *a priori* value. Then it follows that we can simply add the ingredient that takes something across the line into beinghood, we can take it back and pull it back across into thinghood. Once we know what that thing is, we can identify the people that were born without it, or the point at which a person loses it and becomes merely disposable. We don’t really want to know what that thing is; after all, we have a vested interest in maintaining our anointed status as beings.

- ✓ See previously Plato’s “Allegory of the Cave” (Second Coversheet, *supra*), see also the concept of uplifting lower forms or races common in science fiction.
- ✓ Rhetorical Question: Do you think that the source being a 1993 RPG magazine article somehow lessens the thought-value of the argument? Is there anything in the quote that makes you say, “Oh, that’s just from some silly space game”? Like we are talking about Martian invaders?

The Dark Secret at the Heart of AI**Excerpts from article by Will Knight, April 11, 2017, MIT Technology Review**

Last year, a strange self-driving car was released onto the quiet roads of Monmouth County, New Jersey. The experimental vehicle, developed by researchers at the chip maker Nvidia, didn’t look different from other autonomous cars, but it was unlike anything demonstrated by Google, Tesla, or General Motors, and it showed the rising power of artificial intelligence. The car didn’t follow a single instruction provided by an engineer or programmer. Instead, it relied entirely on an algorithm that had taught itself to drive by watching a human do it.

Getting a car to drive this way was an impressive feat. But it's also a bit unsettling, since it isn't completely clear how the car makes its decisions. Information from the vehicle's sensors goes straight into a huge network of artificial neurons that process the data and then deliver the commands required to operate the steering wheel, the brakes, and other systems. The result seems to match the responses you'd expect from a human driver. But what if one day it did something unexpected – crashed into a tree, or sat at a green light? As things stand now, it might be difficult to find out why. The system is so complicated that even the engineers who designed it may struggle to isolate the reason for any single action. And you can't ask it: there is no obvious way to design such a system so that it could always explain why it did what it did.

The mysterious mind of this vehicle points to a looming issue with artificial intelligence. The car's underlying AI technology, known as deep learning, has proved very powerful at solving problems in recent years, and it has been widely deployed for tasks like image captioning, voice recognition, and language translation. There is now hope that the same techniques will be able to diagnose deadly diseases, make million-dollar trading decisions, and do countless other things to transform whole industries.

But this won't happen – or shouldn't happen – unless we find ways of making techniques like deep learning more understandable to their creators and accountable to their users. Otherwise it will be hard to predict when failures might occur – and it's inevitable they will. That's one reason Nvidia's car is still experimental.

Already, mathematical models are being used to help determine who makes parole, who's approved for a loan, and who gets hired for a job. If you could get access to these mathematical models, it would be possible to understand their reasoning. But banks, the military, employers, and others are now turning their attention to more complex machine-learning approaches that could make automated decision-making altogether inscrutable. Deep learning, the most common of these approaches, represents a fundamentally different way to program computers. "It is a problem that is already relevant, and it's going to be much more relevant in the future," says Tommi Jaakkola, a professor at MIT who works on applications of machine learning. "Whether it's an investment decision, a medical decision, or maybe a military decision, you don't want to just rely on a 'black box' method."

There's already an argument that being able to interrogate an AI system about how it reached its conclusions is a fundamental legal right. Starting in the summer of 2018, the European Union may require that companies be able to give users an explanation for decisions that automated systems reach. This might be impossible, even for systems that seem relatively simple on the surface, such as the apps and websites that use deep learning to serve ads or recommend songs. The computers that run those services have programmed themselves, and they have done it in ways we cannot understand. Even the engineers who build these apps cannot fully explain their behavior.

This raises mind-boggling questions. As the technology advances, we might soon cross some threshold beyond which using AI requires a leap of faith. Sure, we humans can't always truly explain our thought processes either – but we find ways to intuitively trust and gauge people. Will that also be possible with machines that think and make decisions differently from the way a human would? We've never before built machines that

operate in ways their creators don't understand. How well can we expect to communicate – and get along with – intelligent machines that could be unpredictable and inscrutable?

The resulting program, which the researchers named Deep Patient, was trained using data from about 700,000 individuals, and when tested on new records, it proved incredibly good at predicting disease. Without any expert instruction, Deep Patient had discovered patterns hidden in the hospital data that seemed to indicate when people were on the way to a wide range of ailments, including cancer of the liver. There are a lot of methods that are “pretty good” at predicting disease from a patient's records, says Joel Dudley, who leads the Mount Sinai team. But, he adds, “this was just way better.”

At the same time, Deep Patient is a bit puzzling. It appears to anticipate the onset of psychiatric disorders like schizophrenia surprisingly well. But since schizophrenia is notoriously difficult for physicians to predict, Dudley wondered how this was possible. He still doesn't know. The new tool offers no clue as to how it does this. If something like Deep Patient is actually going to help doctors, it will ideally give them the rationale for its prediction, to reassure them that it is accurate and to justify, say, a change in the drugs someone is being prescribed. “We can build these models,” Dudley says ruefully, “but we don't know how they work.”

But it was not until the start of this decade, after several clever tweaks and refinements, that very large – or “deep” – neural networks demonstrated dramatic improvements in automated perception. Deep learning is responsible for today's explosion of AI. It has given computers extraordinary powers, like the ability to recognize spoken words almost as well as a person could, a skill too complex to code into the machine by hand. Deep learning has transformed computer vision and dramatically improved machine translation. It is now being used to guide all sorts of key decisions in medicine, finance, manufacturing – and beyond.

The workings of any machine-learning technology are inherently more opaque, even to computer scientists, than a hand-coded system. This is not to say that all future AI techniques will be equally unknowable. But by its nature, deep learning is a particularly dark black box.

You can't just look inside a deep neural network to see how it works. A network's reasoning is embedded in the behavior of thousands of simulated neurons, arranged into dozens or even hundreds of intricately interconnected layers. The neurons in the first layer each receive an input, like the intensity of a pixel in an image, and then perform a calculation before outputting a new signal. These outputs are fed, in a complex web, to the neurons in the next layer, and so on, until an overall output is produced. Plus, there is a process known as back-propagation that tweaks the calculations of individual neurons in a way that lets the network learn to produce a desired output.

The many layers in a deep network enable it to recognize things at different levels of abstraction. In a system designed to recognize dogs, for instance, the lower layers recognize simple things like outlines or color; higher layers recognize more complex stuff like

fur or eyes; and the topmost layer identifies it all as a dog. The same approach can be applied, roughly speaking, to other inputs that lead a machine to teach itself: the sounds that make up words in speech, the letters and words that create sentences in text, or the steering-wheel movements required for driving.

- Commentary: Imagine that a bank is sued by a group of Plaintiffs for discrimination in hiring or promotion decisions or in loan and mortgage decisions – don't think a moment that all of these have not happened many times already. The bank defends the claims stating that the decisions were made by Deep Learning AI software and that, even though the results may appear to be a pattern of discrimination, in fact the bank had no such intention. See, it was all the computer? And the bank cannot explain how the software made these decisions. You cannot depose the AI software to ask, and the person-most-knowledgeable (PMK) of the subject sent over for deposition by the bank doesn't know and cannot explain it either. What can the Plaintiffs do? The pattern of discrimination, the appearance of discrimination, may be enough to settle the case favorably for the Plaintiffs, but direct testimony, documentary evidence like e-mails and texts, leading to intent would be a much better case. Except that it was all the computer, see? Might the Court conclude then that just as an owner is responsible if their dog bites someone – whether they loosed the dog on the victim or not – that the bank is responsible for the pattern, appearance and actual damage of seeming discrimination due to the AI? You cannot say, legally, well my dog bit him, I didn't bite him so I am not responsible, and we can only ever speculate why the dog bit someone, we cannot ask him, depose him. This would be a fascinating case, I would happily work on such case of first impression.

**AI Is Inventing Languages Humans Can't Understand. Should We Stop It?
Excerpts from article by Mark Wilson, July 14, 2017, fastcodesign.com**

Bob: "I can can I I everything else."

Alice: "Balls have zero to me to me to me to me to me to me to me to me to."

To you and I, that passage looks like nonsense. But what if I told you this nonsense was the discussion of what might be the most sophisticated negotiation software on the planet? Negotiation software that had learned, and evolved, to get the best deal possible with more speed and efficiency – and perhaps, hidden nuance – than you or I ever could? Because it is.

This conversation occurred between two AI agents developed inside Facebook. At first, they were speaking to each other in plain old English. But then researchers realized they'd made a mistake in programming.

"There was no reward to sticking to English language," says Dhruv Batra, visiting research scientist from Georgia Tech at Facebook AI Research (FAIR). As these two agents competed to get the best deal – a very effective bit of AI vs. AI dogfighting researchers have dubbed a "generative adversarial network" – neither was offered any sort of incentive for speaking as a normal person would. So they began to diverge, eventually rearranging legible words into seemingly nonsensical sentences.

"Agents will drift off understandable language and invent codewords for themselves," says Batra, speaking to a now-predictable phenomenon that's been observed again, and again, and again. "Like if I say 'the' five times, you interpret that to mean I want five

copies of this item. This isn't so different from the way communities of humans create shorthands."

We Teach Bots To Talk, But We'll Never Learn Their Language

Facebook ultimately opted to require its negotiation bots to speak in plain old English. "Our interest was having bots who could talk to people," says Mike Lewis, research scientist at FAIR. Facebook isn't alone in that perspective. When I inquired to Microsoft about computer-to-computer languages, a spokesperson clarified that Microsoft was more interested in human-to-computer speech. Meanwhile, Google, Amazon, and Apple are all also focusing incredible energies on developing conversational personalities for human consumption. They're the next wave of user interface, like the mouse and keyboard for the AI era.

The other issue, as Facebook admits, is that it has no way of truly understanding any divergent computer language. "It's important to remember, there aren't bilingual speakers of AI and human languages," says Batra. We already don't generally understand how complex AIs think because we can't really see inside their thought process. Adding AI-to-AI conversations to this scenario would only make that problem worse.

But at the same time, it feels shortsighted, doesn't it? If we can build software that can speak to other software more efficiently, shouldn't we use that? Couldn't there be some benefit?

Because, again, we absolutely can lead machines to develop their own languages. Facebook has three published papers proving it. "It's definitely possible, it's possible that [language] can be compressed, not just to save characters, but compressed to a form that it could express a sophisticated thought," says Batra. Machines can converse with any baseline building blocks they're offered. That might start with human vocabulary, as with Facebook's negotiation bots. Or it could start with numbers, or binary codes. But as machines develop meanings, these symbols become "tokens"—they're imbued with rich meanings. As Dauphin points out, machines might not think as you or I do, but tokens allow them to exchange incredibly complex thoughts through the simplest of symbols. The way I think about it is with algebra: If $A + B = C$, the "A" could encapsulate almost anything. But to a computer, what "A" can mean is so much bigger than what that "A" can mean to a person, because computers have no outright limit on processing power.

"It's perfectly possible for a special token to mean a very complicated thought," says Batra. "The reason why humans have this idea of decomposition, breaking ideas into simpler concepts, it's because we have a limit to cognition." Computers don't need to simplify concepts. They have the raw horsepower to process them.

Why We Should Let Bots Gossip

But how could any of this technology actually benefit the world, beyond these theoretical discussions? Would our servers be able to operate more efficiently with bots speaking to one another in shorthand? Could microsecond processes, like algorithmic trading,

see some reasonable increase? Chatting with Facebook, and various experts, I couldn't get a firm answer.

However, as paradoxical as this might sound, we might see big gains in such software better understanding *our* intent. While two computers speaking their own language might be more opaque, an algorithm predisposed to learn new languages might chew through strange new data we feed it more effectively. For example, one researcher recently tried to teach a neural net to create new colors and name them. It was terrible at it, generating names like Sudden Pine and Clear Paste (that clear paste, by the way, was labeled on a light green). But then they made a simple change to the data they were feeding the machine to train it. They made everything lowercase—because lowercase and uppercase letters were confusing it. Suddenly, the color-creating AI was working, well, pretty well! And for whatever reason, it preferred, and performed better, with RGB values as opposed to other numerical color codes.

Why did these simple data changes matter? Basically, the researcher did a better job at speaking the computer's language. As one coder put it to me, "Getting the data into a format that makes sense for machine learning is a huge undertaking right now and is more art than science. English is a very convoluted and complicated language and not at all amicable for machine learning."

Given that our connected age has been a bit of a disappointment, given that the internet of things is mostly a joke, given that it's no easier to get a document from your Android phone onto your LG TV than it was 10 years ago, maybe there is something to the idea of letting the AIs of our world just talk it out on our behalf. Because our corporations can't seem to decide on anything. But these adversarial networks? They get things done.

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See Appendix ART – Articles of Incorporation Examples

“American based multinationals have an impressive record of interference in the affairs of the host countries, with activities ranging from bribery of local officials to outright attempts to overthrow foreign governments, including those of Iran in 1953, Guatemala in 1954, and Chile in 1970... Exxon it was soon discovered had paid nearly \$60 million to government officials in fifteen nations, including \$27 million to several Italian political parties. Lockheed had distributed nearly \$200 million in bribes and payoffs ... and the resulting scandals implicated a prince of the Netherlands, the Prime Minister of Japan, military leaders in Columbia, and cabinet members in Italy... In all more than 500 major American corporations ... admitted to giving bribes or other questionable payments to government officials ... to obtain benefits for themselves. (Sampson, 1973, Hougan, 1976, Hersch, 1982).”

– Ian Robertson, [Society: A Brief Introduction](#) (1989)

Real Corruption: By early 1975, the SEC’s investigation uncovered staggering bribery by American corporations of foreign officials and businesses. The investigation was switched to a voluntary-disclosure-for-amnesty program. In December 1977, the Foreign Corrupt Practices Act was signed into law. And it goes ever on. In 2009, the CEO of Kellogg, Brown and Root, a subsidiary of Halliburton Corporation, pled guilty to charges stemming from a scheme that paid \$180 million over 10 years to three successive governments of Nigeria for mineral rights.

- ✓ The early-mid 1970s revelations about the actions of U.S. multi-national corporations overseas coincided with movies such as Rollerball (1975), which in GGDM terms, might be deemed an Aspect. Rollerball was probably the start of the anti-corporate movie as a sub-genre of video science-fiction, followed later by movies such as Alien (1979) and Resident Evil (1996) to name just a few.¹ That Aspect has not yet ‘aged-out’ in our civilization, or is it the ‘dark side’ of an Aspect called Modernity?

In December 2008, Siemens paid \$1.6 billion in fines to the governments of Germany and the United States relating to an overzealous and systemic program of foreign bribes. Siemens executives intimidated and dismissed the whistleblower who initially reported their fraud relating to a contract with the Norwegian Department of Defense. This is not unusual, I have worked on many such cases in my legal career.

- ✓ “When the Western advisory firms came into Angola almost two decades ago, they were viewed by the global financial community as a force for good: bringing professionalism and higher standards to a former Portuguese colony ravaged by years of civil war. But ultimately they took the money and did what their clients asked, said Ricardo Soares de Oliveira, an international politics professor at Oxford who studies Angola. ‘They are there as all-purpose providers of whatever these elites are trying to do,’ he said. ‘They have no moral status – they are what you make of them.’” – Michael Forsythe, Kyra Gurney, Scilla Alecci and Ben Hallman, “How U.S. Firms Helped Africa’s Richest Woman Exploit Her Country’s Wealth,” New York Times, January 19, 2020.

Imagine the multitude and magnitude of the *cultural* damage caused by such epic corruption, let your mind follow the implications; look at the headlines from Nigeria and other places of endemic corruption and desperate poverty. They feed on each other in a vicious cycle.

- ✓ Corruption is not limited to business and corporations, of course, it exists in any organization that commands significant economic power. The corruption of the Church has been mentioned previously in GGDM (e.g., see *The Black Death*, 1 Disruption, pp. 252-253) and has been an issue in organized labor, both in the old guilds and in the modern unions (e.g., see Noam Scheiber and Neal E. Boudette, “Behind a U.A.W. Crisis: Lavish Meals and Luxury Villas,” *New York Times*, December 27, 2019). So if you think corporate corruption is a problem, the problem gains magnitude here.²
- Hold My Wallet: As mentioned in one article I read in 2019, *quid pro quo* is almost never explicitly stated. Not like in the movies; e.g., the ‘defense contract’ scene from *Elysium* (2013), it is usually instead suggested or implied, e.g., the ‘bribery’ scenes such as the ‘hold my wallet scene’ in *Spies Like Us* (1985) or the pimp in *Dirty Harry* *Magnum Force* (1973). Except that those are movies. My experience in *quid pro quo* sexual harassment litigation confirms the probable truth of it and Aaron Blake of the *Washington Post* thought the same:
 - ✓ “It’s difficult to see how Zelensky could interpret that set of circumstances as something other than a strong suggestion and even a veiled threat. It’s equivalent to your boss repeatedly suggesting you do something – while noting what your compensation is – without explicitly making a demand. What are you going to do: believe it to just be a gentle suggestion? No, you’re going to think there could be some relation between your pocketbook/job status and your future actions.” – Aaron Blake, “7 takeaways from the rough transcript of Trump’s call with Ukraine’s president,” *Washington Post*, September 25, 2019.

This thought is applicable throughout GGDM as a simulation of civilizations, but most especially in relation to Entropy, Government Titles, and Diplomacy, lodging Special Operations missions and executing certain ops, and, of course, Corporations.

- Tolkein Revolution: Where J.R.R. Tolkien revolutionized fantasy was that Sauron is unlike any other evil character: There is no evidence that he derived or desired any earthly delights or treasures or lived a luxurious lifestyle at the expense of others (unlike the notorious leaders of certain countries, the military-industrial complex, or the common view of feudal lords or executives of corporations). Sauron was just pure supernatural evil, deception, and corruption and power for its own sake (and not for the joy of it either). There is all the difference in the world.
 - ✓ A continuation of this can be seen in certain long-lived or nearly immortal ‘evil’ characters in *Dr. Who* as they single-mindedly pursue devious and power-hungry schemes not apparently designed for gain in worldly wealth and pleasure, but for power or mischief for its own sake (e.g., Davros, The Master). This is distinguishable from the servants, mercenaries, bounty hunters, and co-conspirators who are doing so for material and worldly gain regardless of the moral consequences; they can be manipulated by the one who is the agent of chaos, evil, darkness, spite, revenge, etc. consistent with most world religions and philosophies that put the non-material (i.e. essence) above material gain, even if for evil purpose. I want you to meet Mr. Vader, our new CEO, he specializes in anger and not management.

“Ready Player One is set in a dystopian future. But it seems to have no idea how dystopian it really is. ... It’s one of the more frightening things I’ve ever seen in a movie, largely because it’s only a few notches past the world we inhabit now. It’s like a scene from Black Mirror: a world of people so distracted by their shiny technology that they have entirely neglected the stuff of human life. They’d rather just escape into another world, created by a couple of programmers. To me, that seems transparently dystopian – not that the world is bad, but that nobody cares anymore about fixing it. ...

I sounds overly pedantic to say this, and it probably is, but I couldn’t stop thinking about what was going on in the world outside the OASIS. Were people starving? Or fearing for their lives? Can everyone afford to have headsets, or does this neglected world include people who have to live in the dystopic ruins without escape? What kind of unrest has driven them into this dystopic state? And why doesn’t anyone think it can be fixed? Isn’t it horrifying that they’ve just left it all behind altogether? ...

But Ready Player One presents itself as a story about a gang of brave, scrappy heroes who are motivated to save the world – but only the virtual world, the one that keeps them from engaging with what’s really going on in the physical world. And the movie applauds this. It very obviously wants us to cheer for our heroes as they try to save the OASIS from destruction.

I sat watching this all unfold, disturbed by the implication here: that we out in the audience are supposed to be on the side of escape. In fact, we are on its side, engaging in a movie that functions as an escapist fantasy itself. It’s a little hard not to feel like the emperor isn’t wearing any clothes. By the end of the film, the only concession to this weird dissonance comes in a sort-of statement that it’s probably good to take off the headset and actually interact with the real world now and then. Not to think about how the in-world injustices might map onto real-world injustices, or to fix problems.”

– Alissa Wilkerson, “Ready Player One is a fun romp that’s even more dystopian than it realizes,” Vox.com, March 29, 2018 (emphasis in original) ³

Resident Evil: Corporations have always been one of the favorite villains of science-fiction literature, representing the emotionless, exploitive, inhuman, dehumanizing face of technology, business organizations, and socially-irresponsible wealth.

In our world, Exxon corporation’s fleet of tankers worldwide constitutes more vessels than the navy of Great Britain and a Congressional investigation in the mid-1970s learned that Exxon, Lockheed, and hundreds of other multi-national corporations had paid billions of dollars to leaders, officials, political parties, and as bribes to dozens of European and “third-world” countries. Multinational corporations employ mercenaries, and have their own ‘foreign policies,’ and have attempted the overthrow of the government of Iran in 1953, Guatemala in 1954, and Chile in 1970, to be replaced with more cooperative governments. In some countries, the operating budget of a large, multi-national corporation for that country will exceed the national budget of the country where they are operating. Multi-national corporations, through their influence and wealth, effectively control some smaller nations today. They controlled about half of the world’s economy at the end of the Cold War.⁴

➤ **Interstellar Corporations:** Now, let’s throw the pie into the sky. In an interstellar setting, corporations become even more powerful in a civilization of ‘island-worlds’ held together only by starships. Science-fiction literature has imagined whole worlds being owned by, enslaved by, or dominated by corporations (similar to early 20th Century ‘company towns’). In most

interstellar settings, there are really only three possible owners of starships: Starships are owned either by a government (usually the military), by a corporation (or similar large group), or least likely, by private extremely wealthy individuals and/or the crews of the ships. As long as starships are mind-bogglingly expensive, indispensable to interstellar civilizations, and massively powerful, ownership will be limited to corporations, governments, and the wealthy. Think in our own world who owns the large seagoing ships (and aircraft)? If you had to get to Shambala at the end of the world, how would you get there? While it might be a great adventurous journey to walk there on a planet, you can't walk to anywhere in space. You need a ship and guess who owns the ships?

Some have thought that corporations might eventually, on our own world, or in an interstellar setting, replace governments, or alternatively, become so massively powerful, with their own private armies, police (e.g., *Rollerball* (1975), *Robocop* (1987), *Metropolis* (1927), in the United States currently, many universities and hospitals have their own state-licensed police forces – not security guards – uniformed, armed police), warfleets, and significant populations, that they become independent of the nations, spanning entire regions, crossing borders, forming sort of a 'second government,' 'shadow government' or 'world government.' The greatest dystopian fear of corporations is that they will be able to (or currently do) exercise control over governments through their ruinous, overbearing economic power, for the purely selfish motives of the wealth of their shareholders (the biggest of whom are the directors of the corporation and several other corporations), without accountability. In science-fiction settings, these have been called "mega-corporations," with the power to doom entire planets.

Yet at the same time, whatever their selfish motives, corporations provide an economic network to a civilization for development and allocation of resources, that is unparalleled and indispensable. And when humanity finally moves into space, it will be corporations driving the ship toward new resources and new worlds to exploit, with government trying hard to catch up and gain control of the frontiers. Out there, for at least the first couple of centuries, it will be a 'wild-west' of corporations, until they run into something they can't handle.

- CHOAM: CHOAM in the *Dune* (1965) universe is the most comprehensive example of corporate economic tyranny; an interstellar trade conglomerate corporation owned by the Estates, operated for their benefit, granted a monopoly on all trade and a near monopoly on all starships (other than those owned by the Emperor or Great Houses), and supported by and deeply interwoven with the religion and legitimacy of their society.

- ✓ Dynastic progress and the increasing authoritarian power of the Emperor (originally a minor shareholder) is measured by increase in ownership of CHOAM.

It is the ultimate example of a corporation that is effectively part of, and inseparable from the government, and upon which the economic health of its civilization depends entirely. Grant of a management contract by CHOAM amounted to a quasi-fiefdom with contractual authority to appoint planetary governors over millions of people, backed by the power of the Imperium and a Great House's private army. If there were ever a contract dispute, how would it be resolved? There is no court to hear the dispute other than the Imperial Court of the Emperor, where the issue would be resolved by power intrigues, bribes, ritual assassination and force, or feudal war. It is possible to view Corporations in GGDM in this manner, as they are proxies for certain specific Power Activations that represent the entire civilization.

“Inside JPMorgan, they called it the ‘Sons and Daughters’ program. Authorities now describe it as ‘corruption, plain and simple.’.. The practice of giving the children of China’s ruling class plum jobs and internships was so common at JPMorgan that the bank even had a formal program known as ‘Sons and Daughters.’ The program included spreadsheets that tracked how often the hires turned into business deals.”

– Matt Egan, “JPMorgan fined for hiring kids of China’s elite to win business,” CNN Money, November 17, 2016

Corporation Games: Corporations, in the game and in the real world, are artificial legal entities which operate under a charter from the state, which is called the Articles of Incorporation. The essence of the corporation in GGDM is to save Power Activations, Acts and Scenes by *automatically* performing regular, repetitive, Power Activation-related *location-specific functions* at sovereign colonies that provide output of goods and services for the civilization. Thus Corporations legally relieve some *scarcity of means* in GGDM’s Power Activations, Acts and Scenes.

- ✓ See Shoestring Production, 3 The Sidereal Stage, p. 122, Gone With the Wind, 1 Government Titles, p. 582, and Player Piano, 2 Eras, p. 770, *supra*.

Corporations can still fail to perform each Regular Turn due to *inactive Constructural Elements*, p. 1248, *ut infra*, because Corporations are made of people who may be incompetent, or just not in agreement with the current view of things. Corporations can suffer and be part of the breakdown of social cohesion, they can also be the target of creative Concierge Interventions!

Corporations in GGDM are thus a subset of sovereignty or sub-sovereign entities. In this, they may be vaguely similar to famous real-world ‘corporations’ such as the BBC (which has a Royal Charter that is renewed periodically), the U.S. Postal Service,⁵ FINRA (which refuses to be transparent)⁶ or Fannie Mae/Freddie Mac. Inherent in a GGDM Corporation *and MegaCorporation* is the ability to activate a Power at a specific location without use of Acts and Scenes or using one of the position’s precious Power Activations. Any Power could be activated by Corporation as long as 1) it is location specific (and generally repetitive), and 2) it can somehow be creatively justified by the participants within the logic of the game.

- ✓ It is no light matter that Corporations as presented in GGDM and in much of space-opera fiction have a *captive market* in their species or areas controlled by their sovereign, and they have a vested business interest *and existential interest*, in protecting and expanding that captive market. See discussion of Stephen R. Donaldson’s United Mining Corporation, 1 Government Titles, EN 3, p. 585, *supra*. This is less true of MegaCorporations, which the Concierge may sometimes determine will act on their own divergent interests.
- ✓ Corporations in GGDM should never be allowed to generate additional Power Activations for their position (a Corporation is not a genie granting wishes); their functions already ‘alleviate’ some pressure on Power Activations by regularizing routine local activities (localization is the eigenstate of GGDM Corporations to Government, like Institutes are to Colleges). There may be some possible instances where Corporations could, to a limited extent, produce Acts and Scenes (but they are already providing substitute activations at the cost of no Acts or Scenes). A Corporation in GGDM can never act as or substitute for a Government Title (even if they control it).

- ✓ There are a fair number of Conflict Checks for Government Titles that relate to Corporations, MegaCorporations and Commerce Power activations; thus, in addition to the core function of Corporations in GGDM, there may be government legitimacy issues in play as well.

GGDM corporations do not represent a ‘nationalization’ of industry such as has happened in certain countries on both sides of the curtain in the 20th century; it is not *socialism*.

GGDM Corporations do not have shareholders (or if they do, it is irrelevant to the game unless it’s useful to the story), the sole owner of a Corporation in GGDM is the position that issued the Articles of Incorporation and at whose sovereign colony it operates. This is different from MegaCorporations, which will be addressed later. Corporations cannot be transferred.

- ✓ “Because means are scarce – with respect to the ends that they could possibly serve – they must therefore be *economized*. As a result of scarcity, the actor has to allocate scarce means to serve the most desired ends, and so certain ends will have to remain unsatisfied. From this it follows that the larger the supply of means is, the more ends can be satisfied. As means are scarce, human action implies that individual actors must rank their alternative ends. Human action is therefore indicative of judgment and valuation – or, as [Murry N.] Rothbard said, demonstrated preferences: the highest-ranking ends are those which the actor values most highly.” – Thorsten Polleit, “What Can the Law of Diminishing Marginal Utility Teach Us?” Mises Institute, February 11, 2011 (emphasis in original).
- We Built This City: A position may not activate an Articles of Incorporation (Special Writ) if it currently has active Corporations equal to or greater than the number of currently undisrupted Government Titles. MegaCorporations memberships do not count as Corporations for this purpose. Corporations that are active and operating do not automatically become suspended or lost due to a Government Title being disrupted, but a position may be unable to issue new or reactivate expired Articles of Incorporation (p. 1247, *ut infra*) due to disruption of the government. The rule linking Corporations to undisrupted Government Titles are applied only on the Regular Turn the Articles are issued or renewed, and thus are a timing issue.
 - ✓ For example, a position with four currently undisrupted Government Titles has five active Corporations.
 - The position will be unable to renew one of the Corporations when its Articles expire unless a new Title is added and no Titles become disrupted.
 - The position would be unable to issue new Articles of Incorporation (i.e. add a new Corporation) until two of the others expire and are not renewed, or until a new Title is added and one of the existing Corporations expires and is not renewed.
 - If one Government Title (of the four) became disrupted the five corporations would continue to operate until expiration, but two of them may not be able to be renewed when they expire.

Undisrupted Government Titles plus active Corporations allow a position to approximately double the size of the government or more with the latter half being location-specific activities. There is a price to pay in Power Activations to get there and to maintain the structure.

- ✓ A position can suffer a double whammy – like a chain car accident I witnessed one day – if failure to renew Articles or failure to timely act with regards to a Corporation causes Government Titles to suffer Conflict Checks and/or become disrupted.
 - Merriam-Webster online dictionary at *double whammy*: a combination of two usually adverse forces, circumstances, or effects.

- We Just Wanna Dance Here: The place at which the Corporation performs its location-specific function must be a Friendly, Naturalized, or Converted sovereign colony of the position that owns the Corporation. Conquered colonies cannot be the target location of a Corporation. The colony at which the Corporation performs its functions is called the Host Colony (similar to the Host Colony of a College, see Campus Life, 1 Colleges, p. 459, *supra*) and must have at least five population on each turn for each Corporation that operates there.

The difference between Hosting Colleges and Corporations is that a College cannot be hosted on a Converted Colony and a College requires a minimum of ten population for each College hosted there. Additionally, a colony hosting a College must have an active Epistemological Constructural Element for the College to operate. Thus, hosting a Corporation is easier than Hosting a College. Colleges and Corporations frequently mirror in GGDM.

A colony can host and/or operate any number of Corporations, Colleges, and MegaCorporations as long as it has sufficient population and *all requirements are met for each one*. A Corporation can have only *one* Host Colony; if the activity of a Corporation involves regular circular movement of a ship or ships between colonies, pick one to be the Host.

As the Host colony must preexist the corporation (must exist and qualify at the time the Writ is activated, it is not possible for a Corporation to found its own Host Colony. This is not to say that it is impossible for a Corporation to found new colonies however, but those colonies must be sovereign to the position, not Corporation owned. Otherwise, what happens to them if the Corporation is not renewed? They would become government colonies.⁷

“Economics is inextricably tied to moral behavior, though few economists will say that. It’s time someone did. In every financial transaction – whether you’re selling a car, paying employees, or repackaging commodity futures as financial derivatives – there are ethical calculations that influence economic activity beyond the price.... Sure, you can cheat a potential buyer and not mention that your 1996 Ford Mustang GT has a cracked engine block, in the same way that your boss can stiff you on overtime. If you get away with it you will succeed in making a short-term gain or see a bump in the next quarterly earnings report. But, if you eventually develop the reputation as someone who consistently defrauds the people you do business with, there is a good chance that the value of your net worth will be as negative as the moral values you embraced. But why is it that businesses that are ‘too big to fail’ don’t seem bound by the same moral economy as the rest of us?”

– Eric Michael Johnson, “Human Nature and the Moral Economy,” Scientific American (blogs), September 23, 2013 ^{8,9}

Articles of Incorporation: Corporations are created by a Special Writ called an Articles of Incorporation in conjunction with a Commerce Power activation for that purpose costing an Act and a Scene on the proposed Host Colony of the Corporation. Articles of Incorporation are a Special Writ used to create a Corporation (describing its operation and social milieu); other Special Writs previously introduced include Writs of Naturalization and Land Grant Writs.

- ✓ *Jobs for slobs.* Prior to actualizing the Fuzzy Group to activate the Special Writ, a check must be made at the proposed Host Colony to see whether the Commerce Power activation for the purpose of Articles of Incorporation is obeyed. If the Host Colony objects (i.e. fails), local resistance has caused the Power Activation to fail. If the Power Activation fails, the Fuzzy Group is not actualized, the Special Writ is not Activated. Another try can be made on the next Regular Turn. Enlightenment may be applied to a failed die roll if the target colony has an active Epistemological Constructural Element and Enlightenment was designated for the Power Activation.

Since Articles of Incorporation are a Writ, they are an official Interpretation, and serve as the Interpretation for the activation of the Commerce Power on the Regular Turn that the Articles are *first Issued*. Like all Writs, it must follow the correct form of the Writ, and must be approved by the Concierge; it must be consistent with the sociopolitical cultural milieu of the position on the Regular Turn it is activated. Articles of Incorporation have a few different requirements discussed below.

- Who Counts the Money: In the form of the Articles of Incorporation, the Power to which it relates must be the Commerce Power (see Form of the Writ, 2 Writs, p. 438, *supra*). The Directive section of the Articles of Incorporation must describe the Regular Turn operation of the Corporation in its entirety, and include the Power whose functions it automatically performs and the location.
- Marconi plays the Mamba: The Corporation will *operate automatically* as described at the location (host) colony each time a Regular Turn is processed for the position until either the Articles of Incorporation expire or operation becomes impossible (e.g., the Host colony is conquered, destroyed, removed, or reverts). A Corporation will continue attempting to operate until its Articles of Incorporation expire, even if operation becomes impossible.
 - ✓ Certain hostile actions may be taken by other positions to destroy or interrupt the operation of a Corporation for whatever reason they deem compelling. It would be extremely difficult to hide the fact that a colony is Hosting a Corporation. This harkens back to the discussion of Louis XIV’s aggressions under Colbertine mercantilism (see Before the Big Bopper, 2 Commerce, p. 1195, *supra*), though it is unlikely that destroying enemy Corporations in most cases will allow the attackers to ‘take over’ markets. For example, if the Saudi oil fields were collectively considered as a Corporation in GGDM (which seems appropriate), then the Iranian attack on the oil fields in 2019 – perhaps a Raid or a Black-op or both in GGDM terms – would be a Colbertine maneuver.¹⁰ The Colbertine market maneuver was also the essence of the Iraqi invasion of Kuwait, along with a threat to the Saudi oilfields that prompted world action.
- Underneath the Bar: The operation of a Corporation during the Regular Turn is not a Power Activation, thus does not take up one Power Activation and *does not require an accompanying Interpretation*. No News Event should announce the regular operation of a Corporation. Corporations thus provide a way to do things ‘under the radar’ in GGDM.

- Someone Stole the Stage: Articles of Incorporation *must* have an expiration time in Turn Cycles *after* the turn of activation or renewal, which is equal to or less than the current number of *undisrupted* Government Titles of the position. The expiration time is reset each time the Articles of Incorporation are renewed based on the *current condition* of the issuer.
 - ✓ Renewing Articles of Incorporation *does not require* an activation of the Commerce Power for the purpose of Issuing Articles of Incorporation, but does require an activation of either the Commerce Power or the Power to whose function it relates, on the same Regular Turn as a Fuzzy Group is actualized to activate the Special Writ.
 - ✓ Renewal of the Articles of Incorporation are considered to occur at the Host Colony (even if the Power activated is not at that colony or capable of being specifically activated at one colony), thus renewal can fail due to inactive Constructural Elements at the Host Colony. Such failures only apply to the attempt to activate the Special Writ (i.e. the Articles of Incorporation), and not to the accompanying Power Activation (whether or not it fails for the same reason), and if failed, the Fuzzy Group to be used is not Actualized (i.e. not removed from the Public Space).
 - ✓ Renewal of Articles of Incorporation (a Special Writ) *does not* serve as the Interpretation for any Power Activation on the Regular Turn the renewal occurs.
 - The distinction is that the initial creation of the Corporation by issuance of Articles of Incorporation (and activation of the Commerce Power for that purpose) is a general event of the civilization (activation of the Commerce Power for that purpose is not considered location specific), whereas, renewal of the Articles is considered location specific. Though probably not properly analogous, think of the media fanfare accompanying the BBC Royal Charter issued in 1927 (for which John Reith was knighted) as opposed to the lack of interest in the semi-generational Charter renewal.
 - ✓ These rules *only apply to* activation of Articles of Incorporation Special Writ to renew Corporations and do not apply to any other part of the game, e.g., they do not apply to Host Worlds of Colleges, or to activation of any other Writ.
 - Compare Articles of Incorporation to a Land Grant Writ. A Land Grant Writ creates Institutes which require a supply of Faculties each Regular Turn to operate, but can operate indefinitely as long as conditions are met.
- Note that because the expiration time is based on Turn Cycles, *it will continue to run even if the position fails to submit turn actions/process a Regular Turn during the cycle*. The entire game of GGDM is based on the assumption that positions will be active each Turn Cycle and/or Combat Rounds during the appropriate time periods (see The Law of Periods, 2 The Streams of Time, p. 84; Turn, Turn, Turn, 3 The Streams of Time, p. 90; Run Away!, 1 Combat, p. 944, and Capoeira, 3 Combat, p. 970, *supra*).
- ✓ A Corporation can be renewed before it expires, however, this may not be advantageous if 1) some Government Titles have become disrupted and/or 2) because the new expiration time begins the run the Regular Turn after renewal.
- Then We Just Lost the Beat: Renewal of Articles of Incorporation is not automatic or automatic. A position can chose to let a Corporation expire, sometimes renewal will *be physically or practically impossible*, and each renewal requires judgment by the Concierge that the

state of the civilization and circumstances still accords with the Writ. The Concierge can ‘re-tire’ a Corporation as no longer being consistent with the sociopolitical cultural milieu of the position or physically impossible. All renewals require actualization of a Fuzzy Group to re-activate the Articles of Incorporation (p. 1244, *ut supra*) or commitment of resources, which may not be possible at that moment, managing corporations requires foresight and planning.

- ✓ There is no mechanism except expiration for ‘getting rid’ of existing Corporations when they are no longer wanted or needed. These things take on a life of their own...
- ✓ There is no game mechanism for amending Writs because they are very specific to their time and place (i.e. milieu), unlike the broader College Charter (see Amended Charter, 1 Colleges, p. 462, *supra*), thus there is no means to amend Articles of Incorporation. To change Corporate operations, new Articles must be issued.

“This is the Bank of Karabraxos, the most secure bank in the galaxy. A fortress for the super-rich. If you can afford your own star system, this is where you keep it. No one sets foot on the planet without protocols. All movement is monitored, all air consumption regulated. DNA is authenticated at every stage. Intruders will be incinerated. Each vault, buried deep in the earth, is accessed by a drop-slot at the planet’s surface. It’s atomically sealed, an unbreakable lock. The atoms have all been scrambled. Your presence on this planet is unauthorised. A team will have been dispatched to terminate you. The Bank of Karabraxos is impregnable. The Bank of Karabraxos has never been breached. You will rob the Bank of Karabraxos.”

– Dr. Who, “Time Heist” (2014)

In the Bank: I was waiting for the Dr. Who writers to reveal that our solar system is suspended in ‘liquid’ inside an underground vault of the Bank (like Horton Hears a Who (1954) or Rarg (1988)) and that our entire apparent universe is the hi-tech ‘container’ in which our solar system is preserved, like a bacterial culture or precious gem, and thus, there is no escape.

Putting the Drama Back into Shipping: A Corporation is a ship launched, it will operate for the number of *Turn Cycles* – whenever Regular Turns are processed – specified as long as it can and is not prevented. It will operate as provided, it will consume or use the resources and ships and other physical items provided and they will not be returned until the time the Writ expires. Thus, in an emergency, the resources cannot be pulled back or diverted. It may become impossible for the Corporation to operate, e.g., the specific colony location where it operates is captured or destroyed or ships are lost, at which time, it may be suspended by the Concierge.

- **Good Gravy, Man!:** Active Corporations will operate automatically, in the order from oldest to newest, based on the Writ creation date (not the latest activation of the Writ), so that the order always remains the same. Planning and management are necessary, it is possible for Corporations to interfere with each other’s operation or to work at counter purposes.
- **Help This Woman or...:** The Corporation must essentially perform functions that could be performed by Power Activations. Corporations could theoretically be formed to perform any *location-specific task* in the game. The operation of the Corporation is treated as a Power Activation *and can fail normally due to inactive Constructural Elements* at the target colony, ship or both, and be rerolled if Enlightenment has been provided to the Corporation.

For example, loading population on Colony Transports at a location over several Regular Turns (only useful if CTs are present and ready), taxation of a specific planet every Regular Turn (the planet would however, need to be exempt from normal Taxation Power activations), or to automatically supply Log Ships at a specific location whenever they are present.

- ✓ Corporations cannot be created for anything that does not require a Power Activation, for example, colony defenses operate automatically and thus, cannot benefit from a Corporation. Corporations could, however, build Defense Bases every turn at a specific colony if resources are provided.
 - ✓ Some corporations could be created to do odd things that will require some imaginative mental acrobatics to visualize; e.g., a Corporation could be created to activate the Combat Power in a system each turn for the purpose of Combat Alert.
 - ✓ Corporations could be created to do certain functions better than the government, this is all part of balancing the Special Writ (i.e. the Articles of Incorporation) and there must be some costs.
 - ✓ Corporations can benefit from the Enlightenment in any situation requiring a die roll (e.g., loading populations); if the Corporation is to use Enlightenment each turn, it must be specified in the Writ. Corporations can either be granted or denied access to Enlightenment, it is not automatic, they do not automatically draw on the pool.
 - This is simply a game concession for management purposes, so that positions can manage their uses of Enlightenment.
 - ✓ Corporations should not be allowed that primarily consume Enlightenment to produce a good or service. This is a GGDM systemic boundary separating Corporations from Institutes. There is much twilight area for imaginative participants and, like all else, it should not be declared absolutely impossible. There is, or can be, an odd, sometimes peculiar relationship between Colleges and Corporations in GGDM.
- She's in Shock: Corporations may and probably will, require in many cases the assignment of ships or pre-commitment of resources.
- ✓ For example, Loading Populations to Colony Ships or Supplies to Log Ships are not 'free' just because they are being performed by a Corporation.

Resource Points (RPs) or units assigned to a Corporation belong to that Corporation until expiration; RPs assigned to a Corporation will be transferred from the Treasury to the Corporation and will not age while with the Corporation (but likely will be consumed, never to be seen again). Renewal of the Corporation may require resources or additional ships.

Corporations in most cases should avoid providing 'free RPs' but there is room here for balancing and judgment by the Concierge and participants. The primary purpose of the Corporation is to alleviate the pressure on Acts, Scenes and Power Activations. This is not to say that Corporations cannot be created whose main function is to generate RPs without taxation (e.g., casinos) but there will be other balancing costs and factors (i.e. renewals).

- ✓ Again, 'balancing' in GGDM does not mean no net gain or transformation of one thing to another without benefit. Balancing is not an equal sign in an equation. It means instead gain commensurate with the effort and resources expended. Imagination is key. See *Balancing the Pin*, p. 735, 2 Patents, *supra*.

- ✓ A Corporation may not automatically use Enlightenment in tasks where it could be used unless granted a number of Faculties per turn, which are ‘reserved’ during the duration and not available for use elsewhere. Corporations, even ‘educational corporations,’ should not be allowed to generate Faculties, even for their own use.
- What if I get a Nasty Papercut?: It’s a cost-benefit analysis. The cost of forming the Fuzzy Group to activate the Writ, plus the activation of the Commerce Power to enable the Corporation vs. the number of Acts, Scenes and Power Activations saved by operation of the Corporation. There are possible synergies between Corporations and the other parts of the position, for example, Institutes (see 3 Colleges, p. 487, *supra*) might function to produce Cultural Proficiencies at their specific planet location which could be used to support the corporation’s regular Writ activations (effectively, the Institute is training corporate employees, perhaps) to renew the Articles of Incorporation. Corporations could support other Corporations, theoretically, though the ‘devil is in the details.’ Plot and scheme carefully.
 - ✓ Powerful GGDM positions are built on synergies. There are myriad possible relationships between Colleges/Institutes, Writs, Corporations, MegaCorporations, Shared Meanings, Special Planets, Specialized Colonies, Special Operations, Reverse Engineering, etc. in addition to the basics of the game. Lots of moving parts.
 - Merriam-Webster online dictionary at *synergy*: **1**: synergism: broadly: combined action or operation, **2**: a mutually advantageous conjunction or compatibility of distinct business participants or elements (such as resources or efforts).
 - Rhetorical Question: What is the difference between a synergy and an emergence?

*“Buying bread from a man in Brussels
He was six-foot-four and full of muscles
I said, ‘do you speak-a my language?’
He just smiled and gave me a vegemite sandwich”*

– Men at Work, “Down Under” (1980)

Land Down Under: Participants can use their imagination – game rule technicalities aside – to find some creative story-enhancing uses for Corporations.

- ✓ For example, a people-mover corporation could be formed based on limited activation of the Taxation Power each Regular Turn to collect fares from passengers between colonies. The Corporation might be required to be hosted at a colony that has an Orbital Shipyard, and a small initial investment of a few RPs would be required to build the passenger ships – sort of a cross between a passenger jet and a cruise ship – to move business travelers between colonies. No Patent would be required for the passenger ships – they would be based on existing ship technology – and they would not appear physically in the game, abstractly they would be just part of the Corporation for as long as it exists. Revenues from fares might amount regularly to 1 or 2 RPs per turn (think of the long term), and of course, that may depend on the number of colonies, their political status, etc. The position would need to have at least three colonies to operate the StelLux Liner Corporation.

From this basis, there may be some interesting collateral story issues. For example, one might argue that the Corporation prevents or mitigates the effects of localized inbreeding, that is, affects the genetic pools of each colony. This is an issue if participants choose to make it one in the game (see Inbred Populations, 4 Taxation & Census, p. 330, *supra*). It might also mitigate the effects of local drift of each colony from the interstellar proto-culture, which the Concierge might take into account (see Human Drift-course, 3 Entropy, p. 246, and Spheres in Six Degrees, 3 Commerce, p. 1220, *supra*). Although it is not a ‘game unit’ exactly, Special Operations Missions (SOMs, whether friendly or not) and Counter Operations Missions (COMs) Lodged at the Host Colony may have to allow instant movement to any colony (see Shipping & Freight, 2 Special Operations, p. 1295, *infra*). And of course, criminal organizations, insurgencies, and rebel forces would use the passenger transport, providing opportunities for Interventions by the Concierge. The Corporation is not transporting colony-sized population, so it is not an issue of Loading, Unloading, or Landing population, and the total population factors at each colony would be unaffected by the Corporation. Nor is it transporting cargo, so there is no effect on the local colony’s GDP.

- ✓ Another example, a Corporation called The Church based on the Cohering activation of the Culture Power. Each Regular Turn, there is a chance that the Corporation will activate the Cohering Power at each eligible colony or ship (see 5 Culture, p. 421, *supra*). Upon reissuing the Articles of Incorporation (Articles cannot be amended as they are Writs, p. 1247, *ut supra*), the position adds a special ship that moves about to the most threatened colonies (that is, colonies with the most inactive Constructural Elements) and has a great effect in one place for that Regular Turn in regards to Cohering. Vaguely, this is how I might picture the Church of the Papal Mainframe in Dr. Who (who had their own military, ships and police forces) in GGDM terms.

Of course, there are collateral issues. It’s the game of *whac-a-mole*, just like the Stel-Lux Liner Corporation example solved or helped with certain kinds of problems but created entropic and Intervention Potentials in other areas, the Church certainly suggests extreme manipulation and conformity pressures from the top down. Think of any historical situation where the government controls the Church, or the Church is the government, or they are heavily intertwined, and the potential for adverse Interventions by the Concierge will become apparent: If the function of The Church Corporation in the position is Cohering, someone will be squashed, silenced, shunted aside in each instance of Cohering. Creativity may be stifled, orthodoxy and dogma in extremes, monetary corruption and wealth accumulation are classic problems of organized religion. A Reformation may be necessary (*infra*).

“The largest American corporations are linked together through interlocking directorates, social networks consisting of individuals who are members of several different boards. The directors of the board of General Motors, for example, sit on 29 other corporate boards. The members of those boards, in turn, sit on the boards of an additional 650 corporations. The total directorate of the leading corporations resembles a tightly spun web, making the influence of these organizations all the more concentrated....”

– Ian Robertson, [Society: A Brief Introduction](#) (1989)

Endnotes.

¹ Commentary: The root of the modern form of anti-corporate messaging probably begins in the de-Nazification of Germany and the (failed) attempt to break apart the Krupp family industrial conglomerate which was seen as instrumental in the rise of the Nazis and WWII. From there, it expanded into the criticisms of the larger ‘Military Industrial Complex’ in the 1950s and 1960s (a term which has now morphed to other areas, such as ‘Prison Industrial Complex’ describing the industries that make billions off of incarceration).

² Citation: “Social scientists who have studied the erosion of values and the growth of corruption inside companies have found, for example, that ‘people are more likely to accept the unethical behavior of others if the behavior develops gradually (along a slippery slope) rather than occurring abruptly,’ according to a 2009 article in the Journal of Experimental Social Psychology. This happens, in part, because most people have a built-in vision of themselves as moral and honest, and that self-image is resistant to change. Once certain behaviors become ‘normal,’ then people stop seeing them as wrong.” – Anne Applebaum, “History will Judge the Complicit,” The Atlantic, August 2020.

³ Commentary & Citation: Compare to Soylent Green (1973).

✓ See also discussion, Dreamspheres, 3 Commerce, p. 1222, *supra*.

⁴ Citation: Ian Robertson, Society: A Brief Introduction (1989), p. 327.

⁵ Citation: “The United States Postal Service (USPS; also known as the Post Office, U.S. Mail, or Postal Service) is an independent agency of the United States federal government responsible for providing postal service in the United States, including its insular areas and associated states. It is one of the few government agencies explicitly authorized by the United States Constitution. ... The USPS is legally obligated to serve all Americans, regardless of geography, at uniform price and quality. ... Since the early 1980s, many of the direct tax subsidies to the Post Office, with the exception of subsidies for costs associated with the disabled and overseas voters, have been reduced or eliminated in favor of indirect subsidies, in addition to the advantages associated with a government-enforced monopoly on the delivery of first-class mail. Since the 2006 all-time peak mail volume, after which Congress passed the Postal Accountability and Enhancement Act which mandated that \$5.5 billion per year be paid to fully prefund employee retirement health benefits, revenue dropped sharply due to recession-influenced declining mail volume, prompting the postal service to look to other sources of revenue while cutting costs to reduce its budget deficit.” – from Wikipedia article, “United States Postal Service,” January 18, 2019.

⁶ Commentary: A 1950s case I read in the Southern District of New Jersey provided an enlightening history for the creation of FINRA’s predecessor, the NASD. The Court was examining whether the NASD was a quasi-governmental agency; an issue important to the case resolution. The Court noted that Congress had pressured the financial industry to provide a means to self-regulate (that is, you either regulate yourselves or we will regulate you) and to alleviate the burden of financial industry cases that were overwhelming the court systems nationwide. The NASD with its own financial services arbitration program (i.e. stock broker/advisors cases) was created to fill the purpose. The NASD/FINRA is overseen by the SEC at arms-length and their arbitration decisions are reviewable by the judiciary and can be reversed under very limited circumstances. But make no mistake, FINRA is a private corporation.

⁷ Citation & Commentary: “Following the English Restoration in 1660, matters of colonial administration drew the king’s attention. Massachusetts in particular was reluctant to agree that the king had any sort of authority to control its governance. This led to crises in the 1660s and late 1670s in which steps were first planned, and then executed in England to vacate the colonial charter. The Lords of Trade had decided for a variety of reasons to consolidate the New England colonies; they issued *quo warranto* writs in 1681 for the charters of several North American colonies, including Massachusetts. The Massachusetts writ was never served for technical reasons, and the charter was not formally vacated until the chancery court issued a *scire facias* writ formally annulling the charter on June 18, 1684. The proceedings were arranged so that the time had expired for the colonial authorities to defend the charter, before they even learned of the event. [Hmmm... how convenient]

From 1686, the colony’s territory was administratively unified by James II of England with the other New England colonies in the Dominion of New England. The dominion was governed by Sir Edmund Andros without any local representation beyond hand-picked councillors, and was extremely unpopular in New England. Massachusetts authorities conspired to have Andros arrested in April 1689 after the 1688 Glorious Revolution in England, and they reestablished government under the forms of the vacated charter. However, dissenters from the Puritan rule argued that the government lacked a proper constitutional foundation, and some of its actions were resisted on that basis. The years from 1689 to 1692 were also difficult ones, since the colony was at the forefront of King William’s War,

and its frontier communities were ravaged by attacks organized in New France and conducted by French and Indian raiding parties.

King William III issued a charter in 1691, despite efforts by Massachusetts agents to revive the old colonial charter. It was chiefly negotiated by Increase Mather in his role as the colony’s ambassador-extraordinary, unifying Massachusetts Bay with Plymouth Colony, Martha’s Vineyard, Nantucket, and territories that roughly encompass present-day Maine, New Brunswick, and Nova Scotia to form the Province of Massachusetts Bay. This new charter additionally extended voting rights to non-Puritans, an outcome that Mather had tried to avoid.” – from Wikipedia article, “Massachusetts Bay Colony.”

✓ “The structure of the colonial government changed over the lifetime of the charter. The Puritans established a theocratic government limited to church members. Winthrop, Dudley, the Rev. John Cotton, and other leaders sought to prevent dissenting religious views, and many were banished because of differing religious beliefs, including Roger Williams of Salem and Anne Hutchinson of Boston, as well as unrepentant Quakers and Anabaptists. By the mid-1640s, Massachusetts Bay Colony had grown to more than 20,000 inhabitants.” *Id.*

- Roger Williams founded the Rhode Island colony. Nathaniel Hawthorne was born in Salem in 1804; his ancestors were involved in the Salem Witch Trials, and young Hawthorne added a ‘w’ to his name to disassociate himself from his ancestors. Increase Mather was involved tangentially in the Salem Witch Trials, his son Cotton Mather was very much involved but neither were judges at the trials.

⁸ Citation: See also *homo reciprocans*, Big Endian, Little Endian 6 Diplomacy, p. 1174, *supra*. The entire article is available online at: <https://blogs.scientificamerican.com/primate-diaries/human-nature-and-the-moral-economy/>.

⁹ Citation & Commentary: “Go ahead and hate your neighbor, Go ahead and cheat a friend. Do it in the name of heaven, You can justify it in the end. There won’t be any trumpets blowing, Come the judgment day, On the bloody morning after, One tin soldier rides away.” – The Original Caste, “One Tin Soldier” (aka, the Legend of Billy Jack).

¹⁰ Citation: “Secretary of State Mike Pompeo on Wednesday acknowledged that the current crisis with Iran is a ‘direct result’ of actions taken by President Donald Trump.

Since Trump withdrew the US from the 2015 nuclear deal with Iran, his administration has engaged in a ‘maximum pressure’ campaign against Tehran in an effort to cripple the Iranian economy with harsh sanctions. The end goal of this is to squeeze Iran into coming back to the negotiation table to agree to a more stringent version of the nuclear deal that prevents Iran from building nuclear weapons.

But so far, Trump’s hardline strategy has not been successful and there’s little evidence this is changing. Pompeo defended this approach to reporters traveling with him to Saudi Arabia, stating, ‘There is this theme that some suggest that the president’s strategy that we allowed isn’t working. I would argue just the converse of that. I would argue that what you are seeing here is a direct result of us reversing the enormous failure of the JCPOA.’ He was referring to the formal name of the 2015 nuclear deal, the Joint Comprehensive Plan of Action. ...

There is a direct line you can draw from Trump’s violation of the Iran deal and the risk of conflict today. Since Trump withdrew from the 2015 nuclear deal, relations with Iran have rapidly spiraled downward. The situation has become so contentious in recent months that it’s raised fears of a new conflict in the Middle East.

As the Trump administration has ramped up the economic pressure on Iran, the Iranians have responded with aggressive behavior in an effort to cause problems for the US and its partners.

If Iran is indeed responsible for the Saudi oil field attacks, experts and former US officials say Trump’s decision to withdraw from the JCPOA opened the door for the attack as well as the broader tensions surrounding it.

As Barbara Slavin, director of the Future of Iran Initiative at the Atlantic Council, put it in an op-ed on Wednesday: ‘This is what happens when you unilaterally pull out of a nuclear deal and then try to smother another country.’

‘The results of this ‘maximum pressure’ campaign are now clear: growing instability in the Persian Gulf, including an unprecedented attack on Saudi oil installations that caused a bigger disruption of world oil markets than the Iranian Revolution, and an incremental but steady resumption by Iran of nuclear activities proscribed by the JCPOA,’ Slavin added.

Trump’s choice to pull the US from the JCPOA was condemned by nuclear experts and US allies who were also signatories to the deal.” – John Haltiwanger, “Pompeo inadvertently admitted the Iran crisis is a ‘direct result’ of Trump’s actions,” Business Insider, September 19, 2019.

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See Appendix ART – Articles of Incorporation Examples

See Appendix KM – Kairotic Moment Example

See Appendix SO & IO – Special Operations & Information Operations Example

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“According to a 2004 study by the World Bank Institute, \$1 trillion is paid every year in bribes worldwide. Many agree that the victims of bribery are often those living in poverty in the developing world, in countries rich in resources but dominated by corrupt governments. While the vast majority of these citizens remain very poor, often living on \$1 a day, their elected officials accumulate enormous personal wealth, taking millions in bribes from corporations looking to secure lucrative contracts. Research by Transparency International shows that bribery not only stymies development, it also impacts health services, literacy rates and the environment.”

– Frontline World, “The Business of Bribes, Spotlight: The Victims of Corruption,” February 24, 2009

A Billion Employees: Imagine a corporation with a billion employees? No government on Earth, even those with the most formidable armies, has ever employed even a significant fraction of that number, and certainly no organization of any type has come close to a significant fraction of those employed by governments. We don’t need to look back too far in history to determine this has never happened, the world’s population reached one billion around 1800 A.D. but reached seven billion around 2011 (see previous discussion, The Human Diaspora, 1 Expansion, p. 885, *infra*), just two centuries. Employing a billion people, the population just under that of China currently, would make the corporation effectively a nation, but in the interstellar civilization scale of GGDM, probably not. How far into the future do we need to look to find one billion employees?

- ✓ According to Wikipedia article, “List of Largest Employers” (April 1, 2019),¹ the U.S. Department of Defense employed 2.86 million people, and the People’s Liberation Army of China employed 2.52 million between 2010 and 2015, the entire U.S. government employed 2 million civilian workers excluding the Postal Service and military (Wikipedia article, “United States federal civil service”). Walmart employed 2.3 million between 2010 and 2015, and McDonald’s had 1.7 million employees in 2010 and 1.9 million employees in 2015. Walmart worldwide is thus the size of the civil U.S. federal government, minus the Postal Service; Walmart employees do occasionally ‘go postal’ though (*non sequitur* humor).☺
- ✓ “Satan hasn’t a single salaried helper; the Opposition employ a million.” – Mark Twain.

Theoretically, I guess, the entire population of the Soviet Union might have been considered ‘state employees,’² however impractical:

- ✓ “THEY pretend to pay us, we pretend to work. This half-serious summary of communist economics contained a kernel of truth: for Soviet workers, the freedom to pilfer and dawdle made up, to some extent, for empty shelves and wretched wages. Like other illusions, it served a purpose for a while, though that could not last.” – The Economist, April 26, 1999 (emphasis in original).³

*“Thorngate (1976) developed a postulate of commensurate complexity in which there are trade-offs among a theory being **general**, a theory being **accurate**, and a theory being **simple**. A theory cannot be all three simultaneously; general accurate theories are not simple, accurate simple theories are not general, and simple general theories are not accurate. Weick (1979) provides examples of each.”*

– John P. Bean (Indiana University), “Light and Shadow in Research Design,” Clifton F. Conrad & Ronald C. Serlin, Eds., The SAGE Handbook for Research in Education (2006), p. 354 (found on Google Books, emphasis in original)

Commensurate Complexities: A MegaCorporation is an artificial entity created by two or more positions. Unlike Corporations, the Articles of Incorporation for a MegaCorporation are issued by each member by activation of the Diplomacy Power for that purpose on the same Regular Turn as the actualization of a Fuzzy Group to activate the Special Writ. All of the rules that apply to Corporations apply to MegaCorporations unless otherwise noted below.

- **Gelt’s Casino World:** The Host World of the MegaCorporation must be designated in the Articles of Incorporation. When all Members of the proposed MegaCorporation have performed the required Diplomatic Power activations and activated their Special Writs to form the MegaCorporation, the proposed Host World must be checked on the last proposed joining member’s Regular Turn (even if they don’t join) to determine if it accepts the MegaCorporation. This check is made as if a Power Activation occurred at that colony even if it is not owned by any member of the MegaCorporation (next page, *ut infra*), if the check fails due to inactive Constructural Elements at the colony, the MegaCorporation has failed and all of the Power Activations and Writ activations are wasted.⁴ Positions may try again...
 - ✓ This is one of only three instances where an **alien colony** can cause the failure of a friendly Power Activation either directly or indirectly; the others are Load and Unload Resources at an **alien colony**. Failure of an **alien colony** can also mess up a Trucking transaction, but will not cause a friendly Power Activation failure.
- **Too Many C(r)ooks in the Kitchen:** MegaCorporations are formed by issuance of Articles of Incorporation for that purpose by multiple positions. Each position desiring to join the MegaCorporation must independently create a set of Articles of Incorporation Special Writ. The Concierge should be made aware of the intent to form a MegaCorporation and the identities of the proposed member positions so that the Concierge can view the proposed Articles and determine whether they are appropriate for each position and are compatible and in agreement on the operation of the MegaCorporation. The proposed Articles must list the Diplomacy Power and not the Commerce Power as the associated Power for the Special Writ.
 - ✓ As noted in the Diplomacy sections, it is expected that private communications will occur in advance between players, which is of no concern to the Concierge. The Concierge will only judge what is necessary and presented. It is possible, of course, because of player communication, for the proposed Articles to have identical language, but that does not mean that they are identically compatible with each position’s current milieu. Expect that the process of forming a MegaCorporation may take more than one Turn Cycle.
 - ✓ It is unlikely that a regular Corporation could become a MegaCorporation by adding members. But like all else, it is not *impossible* with great creativity and imagination.

- **Sovereign Chefs:** MegaCorporations are trans-sovereign entities, they might even be quasi-states (in the Justice Jackson sense, see 3 Government Titles, EN 8, p. 623, *supra*). All proposed members must share Diplomatic Space with all other proposed members; i.e. two positions that have not had First Contact cannot possibly form or join the same MegaCorporation. The proposed members must decide in advance which colony world will Host the MegaCorporation. The owner does not lose sovereignty over the colony as a result of Hosting a MegaCorporation, and the MegaCorporation does not need to be hosted on a world owned by any member theoretically (but the owner must share Diplomatic Space with all members), if some other position will agree to host the MegaCorporation. Like Corporations, however, MegaCorporations must have some *location-specific activity* related to the host colony, even if there are activities at other colonies related to the MegaCorporation.

- ✓ A non-member might agree to Host a MegaCorporation at a ‘neutral site’ to receive the free benefits of the *location-specific* activity of the MegaCorporation at their colony without needing to expend their own Acts, Scenes, Activations or RPs. Call it ‘rent money.’ Of course, there is a mountain of potential complications in depending on another group of positions for your regular grub, not to mention the unwanted attention it may attract to your colony.

Whether a MegaCorporation can own a colony world is an unsettled issue with many ramifications. Potential members may desire a Host Colony not owned by any position. Any sovereignty over a colony world by a MegaCorporation necessarily involves ceding population which might be a supra-legitimacy issue; it is of course, easier to cede population that is not of your own Native Population Type and that may cause less supra-legitimacy issues for a member position. If a MegaCorporation does come into ownership of a colony, in whatever way, that colony is no longer sovereign to any position (until conquered), everything on the colony (including defenses, which might be the purpose of it) passes to the MegaCorporation, and the colony will no longer respond to Power Activations of any position.

- ✓ This is the kind of situation that offends modern sensibilities. It is a similar situation to other games that allow players to diplomatically ‘cede’ cities and territories to their allies or make agreements as to who can take which territories (e.g., to be in position to jointly attack certain other players later). It is important to remember that not all eras share our modern sensibilities, for example, it is very unlikely that the French asked the Native Americans for permission to sell the Louisiana Purchase to the United States. Nor did the Europeans ask the permission of Indians and Polynesian islanders when they granted exclusive control of ports and islands to European Corporations to exploit. India had little say over the British East India Company.
 - ✓ In each instance, the Concierge will make a determination based on the milieu of the game as to what might be allowable; the East India Company had an army and fleet.
- **Dinner is Served:** When the Concierge has approved all of the proposed Special Writs to form the MegaCorporation, the proposed members must each on their next Regular Turn, activate the Diplomacy Power for the purpose of Articles of Incorporation which costs one Act and one Scene on the Capital Colony. Concurrent activation of the Commerce Power is not required to create a MegaCorporation.
 - ✓ Any position that fails to do so will lose the opportunity to initially join the MegaCorporation and may in some instances compromise the whole venture if, for example,

- there were only two proposed members or if that position's material contribution to the MegaCorporation was vital.
- ✓ Positions should be certain that they have the proper Acts and Scenes and can spare the Power Activation on the Regular Turn after everything is ready, go.
 - ✓ Only those positions who activate the Diplomacy Power as required are initial members of the MegaCorporation, if the MegaCorporation is tenable with the current membership. The Concierge and/or members may deem the MegaCorporation untenable or inoperable if certain members fail to join by following the above procedures. It may also be possible that the absence of a proposed initial member is irrelevant.
 - ✓ The Concierge may, with discretion, allow the process to go forward a second time or third time if desired if the MegaCorporation is untenable without a certain member position, but cannot force the other proposed members who were stood up on at the altar to recommit to the process or expend additional Acts, Scenes or Power Activation for second and third tries.
 - The worst situation is when two, three or four other positions have activated their Diplomacy Power during their Regular Turns but the last, but crucial position doesn't and the whole project collapses. It is sort of like trying to complete a real estate closing or get project funding in place.
- Late Dinner Guests: Late guests will be tarred and feathered after dessert is served. It is possible for other positions to join an existing MegaCorporation. The process involves three parts; the proposed member must submit the proposed Articles of Incorporation Special Writ (the Concierge must give the proposed Writ the same consideration), the existing members must consent, and when all is ready, the proposed member must activate the Diplomatic Power for the purpose of Articles of Incorporation on the next Regular Turn and make whatever other contributions are necessary. The existing members *are not required* to activate Diplomacy Powers to accept the new member. The addition of a new member cannot substantially change the operation of the MegaCorporation consistent with the previous discussion regarding non-amendment of Writs (see *We Just Lost the Beat*, 1 Corporations, p. 1248, *supra*).
- ✓ Dessert is served! MegaCorporations are the first step toward pan-galactic culture, the first level of synergy above positions. As such, some positions with particular Government Titles or different agendas will be opposed to MegaCorporations. MegaCorporations can also cement long-term alliances and adds Diplomatic Spaces (see *Shared Spaces*, 2 Diplomacy, p. 1118, *supra*).
- Leaving So Soon?: Members may leave a MegaCorporation by activation of the Diplomacy Power for the purpose of Break Treaty, or by becoming extinct in the Galactic Space. Members who fail to timely renew their Articles of Incorporation are also considered to have left the MegaCorporation, though they may be readmitted at the discretion of the Concierge and permission of the remaining members. The Concierge may also determine that the Articles of Incorporation are no longer consistent with the current milieu of any member position and refuse renewal.
- ✓ For example, a position whose change of Government Titles and other actions have made it militant, xenophobic, or opposed to the other members, and this is a radical

departure from the conditions in which it initially joined the MegaCorporation, might not be allowed to renew the Articles.⁵ This is within the discretion of the Concierge to ‘suspend’ Writs as described in *Suspended Writ, 2 Writs*, p. 440, *supra*.

Members who leave may or may not receive back anything they contributed, and whether the departure of a member causes the MegaCorporation to collapse is a situational judgment by the Concierge and members (unless there were only two members!).

- **Cold Leftovers:** Generally, it would be problematic for positions to apply Enlightenment to MegaCorporate activities. In the same vein, MegaCorporations should not likely benefit from Writ activations or Institute activities of member positions; all are specific to the internal sociocultural state of the member position. But, it could in some circumstances be part of the bargain, to bring expertise to the MegaCorporation. Like Corporations, if a MegaCorporation is to use Enlightenment (the best of the member species) it must be stated in the Articles of Incorporation; one species’ level of enlightenment might be another species’ dumb!⁶
 - ✓ There are two aspects to technology questions regarding MegaCorporations. First, the MegaCorporation benefits from whatever technology is provided to it; thus if a member provides a 3rd Era Cargo Ship, that ship operates for the MegaCorporation as a 3rd Era Cargo Ship (per the abilities granted by its Patent) regardless of the relative technology levels of the other members. Second, if there is any question, the MegaCorporation operates with and has available whatever technologies are available to the position that owns the Host Colony.
 - ✓ MegaCorporations have the opportunity to become a mish-mash of technologies and Native Population Types (someone is doing the work, GGDM doesn’t really track well the Native Population Types of ship crews and laborers), and is a prime opportunity for Reverse Engineering and a conduit for Special Operations Lodging.

“Staggering in size, these organizations are so large that no one person can know everything they are concerned with at any given moment. Total shares of stock, annual profits, number of employees are all astronomical. Many organizations are so large that different divisions of the same megacorporation may actually be working at cross purposes. In most regions, megacorporations merely own the land their installations are on, but in some areas they control entire planets, either directly or indirectly.” – From Traveller Wiki, “MegaCorporations,” January 17, 2019

- ✓ *Most Megacorporations use a hegemonic form (power structure) of governance.*
 - ✓ *They are sometimes called ‘corporate technocracies’ and use an oligarchic power source, generally composed of a board of directors. Exceptions to the generality do exist.*
 - ✓ *Most megacorporations are organized very much like smaller companies, with a board of directors, a president, and vice presidents.*
 - ✓ *However, the board and the higher-level executive officers of the company are largely out of contact with the day-to-day (or even year-to-year) functioning of the company.*
-

- ✓ *These upper level executives serve to plan general policy and long-distance actions.*
- ✓ *The most important executives, in terms of personal power, are the various regional managers, by whatever title they have assumed.*
- ✓ *A regional manager may control only a small portion of a megacorporation's total assets, but many hold more power in some regions than the representatives of the Imperial government.*
- From Traveller Wiki, "MegaCorporations," January 17, 2019

CHOAM-ed Again: CHOAM in the Dune Universe could be viewed in GGDM terms as either a Corporation or MegaCorporation. To the extent that the Great Houses – the shareholders – are regarded as sovereign – they do appear to have a monopoly on the legitimate use of force in their territories – and the Imperium as a trade confederation ruled by the Emperor, CHOAM is a MegaCorporation between sovereign civilizations. However, if the Imperium is defined as the sovereignty of all humanity (a 'position' in GGDM) and considered a Unitary Structural Title, then CHOAM must be a Corporation, whose shareholders are the Estate Titles. However, there are no sapient aliens in the Dune (1965) universe against which the collective sovereignty of humanity can be contrasted as a 'position.' As mentioned several times throughout GGDM, it often comes down to how you slice the pie.

The balance is tilted toward CHOAM being a MegaCorporation in GGDM terms because it is not specific to a single location. In 2011, a Forbes article listed CHOAM as the largest fictional company. It's hard to argue with when they ship to an entire galaxy!⁷

Unlike the Dune (1965) universe, the Traveller RPG setting has about a dozen Imperial Charter MegaCorporations; in Dune CHOAM is the only one. Traveller actually calls them MegaCorporations whereas Dune does not.

- ✓ Traveller's MegaCorporations are not like MegaCorporations in GGDM, as they are all owned and operated within the Third Imperium (not cross civilization ownership by governments), so they are really just very big and powerful interstellar trade, mining and manufacturing Corporations; in Dune, the Great Houses are the manufacturers, especially House Harkonnen. Some alien civilizations bordering the Traveller Imperium have their own MegaCorps.
- ✓ Traveller MegaCorporations have large private armies and interstellar navies, and hire mercenaries, adventurers and spies, like the Great Houses in Dune and the major territory nobles in Traveller, creating great mischief; there is no mention in Dune of CHOAM having or needing a naval force or private army; the shareholders have the armies and fleets to enforce CHOAM's monopoly.
- ✓ Though Traveller MegaCorporations are Imperial Chartered, it is vague as to what extent they govern or are an extension of the government; they do sometimes own worlds, their navies and armies cause troubles and they sometimes operate against the government's interests in frontier areas. The Imperial family may have some owner-

ship, as do major sector nobles, but the MegaCorporations seem to operate autonomously, at cross-purposes and are staggeringly huge (always providing convenient and easy adventure hooks).

Thus, the embrace in Traveller is much like the current world, the government and society need the abilities and resources of scale and multi-national corporations, but cannot fully trust them and must reign them in regularly.

There is little doubt that the Traveller MegaCorporations and the idea of tyrannical interstellar corporations is based on the East India Company (1600 to 1874), who owned islands, slaves, and recruited an army and navy (after 1750) and became the force of British conquest and policy in India and Southeast Asia (the East India Co. attempted to annex Afghanistan in 1839). They are also the culprits in the China opium trade and Opium Wars, discussed in 3 Commerce, p. 1216 *et seq.*, *supra*, and mentioned in Elder Race, 5 Diplomacy, pp. 1153-1154, *supra*. This leaves much room for mischief relating to Corporations and MegaCorporations in GGDM.

“Hey doc, do you happen to know anybody who is interested in buying a slightly used flying saucer – it’s only got 3 billion miles on it.”

– Bugs Bunny, “The Hasty Hare” (1952) ⁸

Starship Sales: In the preceding Commerce section, rules were established for the Unloading of resources at **alien colonies** by Cargo Ships. However, Cargo ships cannot deliver (directly) ship or colony enhancements and certainly cannot deliver other starships; there is no mechanism in the prior rules for transfer of enhancements, technological devices or starships between positions.

Corporations and MegaCorporations, if their Articles of Incorporation allow, may manufacture and/or deliver anything that can be produced in the game and/or that is possible to deliver. For example, a Corporation might manufacture and sell Cargo Ships by treaty to another position, or a MegaCorporation might build industry on a colony as part of its function. It is assumed that whomever is going to be the recipient of the starship would provide the Corporation or Mega-Corporation with the technical information necessary to manufacture the ships to specifications.

Selling or stealing starships may not be as easy as it seems. For example, in the anime Crest of the Stars/Banner of the Stars, only Abh could fly Abh ships because the controls included an interface that plugged into the back of their heads. They could ‘feel’ the ship like their fingers, and thus, in addition to imperial law banning regular humans from owning ships, humans could not fly Abh ships in any event.

- ✓ This is an issue that the Concierge will need to take into account in situations such as revolts or insurgencies on Conquered or Converted Colonies. In Timothy Zahn’s The Blackcollar (1983), the objective was to locate and reclaim for the revolution a fleet of *human* warships that had been hidden before Earth surrendered. They weren’t trying to capture and operate alien warships. See boarding combat discussion, For the Babylon Bobs, 6 Combat, p. 1028, *supra*.

Better Business Model: While sitting in a traffic jam one day trying to get to the airport, a friend told me the story of another day when he and his father were sitting in a traffic jam waiting to go to the airport.

That day, he and his father were listening to call-in talk radio. A caller, who claimed to be the owner of a traditional gas station, called the show and complained on the air about all of the new chains of convenience store or mini-mart-gas stations that were springing up across the country. In short, he was complaining that he was losing business, that they were destroying his business, and added, that they should be outlawed!

The talk show host eventually broke in and asked him why, other than the fact that his particular business was not doing well, he thought the chain convenience store/mini-mart-gas stations should be made illegal. The caller had no answer, only reiterated that they were destroying his business. At which point, my friend's father, a high level Fortune 500 corporate executive, said, to his son, "so they should be outlawed because they have a better business model?"

As traditional manufacturers and retailers know well, online retailers have the better business model. For example, "It's been a downward spiral for traditional retailers. The model of online retailers is winning out. They are more competitive on pricing, they have better selection and their convenience level is quite high." – Christian Magoon from CNN Money interview, cited in Washington Post article, "America is over-stored, and Payless ShoeSource is the latest victim," April 5, 2017.

Further, the United States is oversaturated with retail space from the boom of the 1990s, having six times the amount of retail space per capita as Europe. And the results are showing in the continuous line of distressed retailers, store closings, and bankruptcy filings. *Id.*

The position of traditional retailers in the market is likely untenable in the long term, and the solution will be immensely complex at best. But what are *not solutions*: 1) blaming the consumers, 2) blaming internet retailers, 3) instituting policies that restrict sales from distributors to only brick & mortar retailers (other than for other compelling reasons, such as licensing and professional installation) and 4) forcing buyers – especially of non-vital, luxury or recreational hobby items – to purchase at local brick & mortar stores.

➤ The True State of Gaming: The tabletop gaming hobby in North America is shrinking, or at least it has not been growing. Tabletop gaming has been seen as niche, geeky, old-fashioned and the subject of lampooning for the last 50 years; it will never be mainstream in our society, unlike the more acceptable, and much less socially useful, video gaming. I have understood that tabletop hobby gaming is a different market and treated differently in Europe.

All four of the above solutions, as I have personally experienced as an internet game retailer, is what the hobby gaming manufacturers – led by Asmodee North America (ANA) who controls 60% of the North American market – have chosen to do to solve their FLGS 'brick and mortar' problem.⁹ And they bullied the distributors into going along with it – to be clear, the manufacturers need the distributors as much as the distributors need the manufacturers. Theoretically, their bargaining positions are equal; the power of the manufacturers is not so oppressive as it seems at first glance – if the distributors as a bloc refused, what could the manufacturers do? But the distributors (GTS, ACD, etc.) are spineless, instead of standing up for their own business independence, they will allow some other *non-governmental group* to tell them who they can sell what to, at what price,¹⁰ and allow it to affect their bottom line and the viability of their employee's income and economic lives.¹¹ The problem they are trying to solve in this way is the problem they will exacerbate by forcing customers to pay brick & mortar prices; they will inherit the wind as the hobby continues to shrink.

- ✓ Notably, the same rules do not seem to apply to brick & mortar retailers who sell on the internet, e.g., Amazon, eBay; once they have the certification number from ANA, they can buy anything in the catalog and there is no control on where, for how much and to whom they sell it. For example, I know of a local game store that sells on the internet from the back room of their store, at much lower prices than in the store, they sell under a different name, so that they can be competitive in internet pricing, maintain their FLGS in-store pricing, and none of their store customers will complain.

There is nothing inherently unethical about having a better business model, but there is something inherently unethical about controlling the market without a legally-supervised monopoly – our civilization decided that in the 20th Century and instituted programs (e.g., public utility commissions, SEC, Justice Department, etc.). Imagine the consequences to civilization if doing something better, having a better organization, system, management, process or procedure was considered unethical? Further, more competitive should not be confused with anti-competitive practices. They are definitionally different and the reactionary response of those who control the hobby gaming market to more competitive opposition is to enact anti-competitive market barriers to artificially prop up the traditional game retailers.

- ✓ See also article by Austan Goolsbee, “Never Mind the Internet. Here’s What’s Killing Malls.” New York Times, February 13, 2020, which argues big box stores, growing income inequality and spending on services instead of things is killing mall retail.

“The hack only exposed the truth about how most of us interact with big corporations these days: All the power is in their hands. Customers sometimes aren’t even aware they’re customers until something has gone wrong. Every financial contract involving consumers is standardized to prevent negotiation. Every financial contract involving wealthy individuals or companies, on the other hand, is highly tailored to personal concerns. The terms of the contracts for regular people are consistently asymmetrical: they favor the company, and never the consumer....”

Instead of capitalism based on democratic principles of trade, it’s more of a feudal system: The land is owned by the banking class and anyone using it has to pay the owners. The ‘land,’ in this case, is the entire U.S. financial system of banking and credit, as banks and financial firms like Equifax have made themselves successful intermediaries in nearly all transactions, from simple salary payments (hello, direct deposit) to renting an apartment (try doing that without having a credit score on file.) While consumers remain accountable to financial firms – that late rent payment is on your credit report – financial firms are not at all accountable the other way around. They do business as they like, as Equifax shows. Because their more profitable customers are other financial firms, and those firms don’t care if you have to spend an hour or two on the phone cleaning up Equifax’s mess.”

– Heidi N. Moore, “Why didn’t Equifax protect your data? Because corporations have all the power,” Washington Post, September 21, 2017

Encore, Encore!: Oh, hey, don’t go away yet, we are not done! Need an encore? In September 2017, it was also revealed that the SEC’s EDGAR filing system was hacked and the hack may have been used to facilitate insider trading (just picture the ending of 1983’s Trading Places).

And back in the land of Equifax – whose hack exposed the records of three quarters of the American adult population (143 million records were possibly breached), it turns out that for two or

more weeks afterward, Equifax operators were carelessly providing an incorrect web address that sent consumers worried about their data breach, to a phishing website, where they would then have to have entered their personal data.

- ✓ “What makes the situation especially awful is that you never had much choice about entering into a relationship with Equifax. ‘It’s not like when you get to choose your bank, or choose your credit card,’ says Mike Litt.... No one specifically asked Equifax or its competitors, Experian Plc and TransUnion, to collect data about them. But unless you want to live off the financial grid, you have to accept that these companies you may know little about are keeping an eye on you and your reputation with creditors.... This setup isn’t just infuriating – it partly explains why the hacking of just one company can make so many people so vulnerable. Credit reporting businesses have been built primarily to serve banks and credit card companies, not the consumers they monitor. But just as a lender benefits from having quick access to credit reports and scores, which lets them grant credit to perfect strangers, so does the impostor who comes to them looking to open an account.” – Pat Regnier and Suzanne Woolley, “Thank you for calling Equifax. Your business is not important to us,” Bloomberg, September 14, 2017.

The problem with the Equifax situation and many other data breaches is the same as the argument of the anti-natalists: The failure to obtain your consent, violation of autonomy, and violation of Kantian imperatives, to wit:

- ✓ “Did I request thee, Maker, from my Clay, To mould me Man, did I sollicite thee, From darkness to promote me, or here place?” – John Milton, *Paradise Lost* (1667), Book 10, 743-745.

With one important *caveat*: While it is impossible to obtain the consent of a human to be born who does not yet exist (or for the universe to be created), Equifax could have obtained your consent to keep your records (and/or the government could have exercised better parental authority over the industry). Instead, like being born (or the creation of the universe), it turns out that your welfare was never a consideration at Equifax, and they took it as implied that they were able to amass records and respond to credit inquiries about your file. The anger at Equifax I think is rooted in being reminded of the powerlessness of being forced into existence, except that the target is a corporation and not our parents or our God, and they could have obtained consent.

“In the wrong hands, private filings from EDGAR could give a trader (or traders) a significant advantage. Trading on ill-gotten early knowledge of quarterly results could yield a massive payday. For the EDGAR fraudsters, that payday amounted to a cool \$4.1 million.

The SEC filed charges in the U.S. District Court of New Jersey against 11 individuals and two companies. Court documents reveal this was a truly global conspiracy. The defendants allegedly conspired from four different nations: four from Ukraine, four from the Russian Federation, two from the United States, and one from the Republic of Korea.

One of the two named companies, Copyield Systems Limited, was incorporated in Belize. The other, Spirit Trade Limited, was based in Hong Kong.

The actual hacking was allegedly carried out by 27-year-old Oleksandr Ieremenko of Kiev. Ieremenko was previously charged by the SEC and Department of Justice with securities fraud in two other similar cases. Today's filing indicates that Ieremenko stole 157 non-public earnings statements from EDGAR. The other named defendants allegedly executed trades based on the information contained in that trove of documents. They pocketed the lion's share and handed a cut back to Ieremenko for his assistance."

– Lee Mathews, "SEC Charges Hackers Who Broke Into EDGAR Database And Traded On Stolen Secrets," *Forbes*, January 5, 2019

Endnotes.

¹ Citation: The Wikipedia article cites to several articles, including Niall McCarthy, "The World's Biggest Employers [Infographic]," *Forbes Magazine*, June 23, 2015. The article is available online for free.

² Commentary & Citation: A documentary or news report I watched long ago showed that Moscow construction workers did nothing all day. I cannot find it now, but I think it was from the late 1980s, perhaps around 1990 even, they installed a camera to watch the workers all day. The workers sat or stood around, and about once an hour, one of them would go move a piece of lumber or a few tools, then resume whatever they were doing.

- ✓ France, with its current pro-labor and employment laws and the power of unions, has been alleged to have similar issues, in particular, in 2013, CEO of Titan Tires, the controversial and outspoken Maurice Tylor, wrote to the French government, "The French workforce gets paid high wages but works only three hours. They get one hour for breaks and lunch, talk for three and work for three." See Wikipedia article, "Morry Tylor," and Lori Hinnant, "Workers seize 2 bosses at French Goodyear site," *Associated Press*, January 6, 2014.
 - "The Amiens plant has an especially contentious past. Goodyear's hopes to close the plant have been thwarted by violent protests with huge bonfires, government concerns and France's prolonged layoff procedures. Now, the union is willing to accept the inevitable loss of jobs — but at a cost." Hinnant, *Id.*
 - In the end sections of L. Ron Hubbard's novel Battlefield Earth (1982), Johnny came to be owner of several Chatovarian (alien race) firms that caused him considerable trouble. The Chatovarian Empire consisted of 700 overpopulated worlds, with 49 trillion population and food shortages (they ate trees), and their impenetrable planetary defenses had survived all attacks of the 'evil' Psychlos (that seems regrettable). The Chatovarian firms were technologically-advanced, huge, bureaucratic, and unprofitable on the whole, they tended to overstaff, overdo everything, they never fired or laid off workers, and just kept expanding never-ending projects. They built gleaming cities on Earth with no population, then sealed them up and turned them over to a caretaker. Without Johnny's knowledge, they turned North Africa into an inland sea and rapidly planted billions of trees across the Middle East so that it turned green, which increased cloud cover.

³ Citation: This article that I found at <https://www.economist.com/news/leaders/234594> had no title and no attribution of authorship.

⁴ Commentary & Citation: Kudos if you know Gelt. Surfing channels one day in the early 1990s, I almost died of shock when I encountered a sci-fi space adventure movie (Battle Beyond the Stars (1980)) with Richard Thomas whom I immediately recognized as John Boy Walton from The Waltons television series (1972-1981). I ended up watching the rest of the movie, of course, I think I saw most of it.

⁵ Commentary & Citation: One might think of this as a situation where you might say, "Wow, what happened to you? You weren't shy last night." (this might be from the movie Splash, 1984). It's as if an evil twin or long lost sibling took the member's place, think for example of the three roles played by Peter Sellers in Dr. Strangelove, you

go into business with Group Captain Lionel Mandrake (the British exchange officer) and Dr. Strangelove shows up the next day and says he's the same person!

- ✓ “Half of every pair of twins doesn't actually have to be evil, but it does make things a whole lot easier and more fun if they are. These are the incidents where the same actor played the good and bad identical siblings (or sometimes the 'bad and even worse' versions). Plain old doppelgangers don't count. Nor do alternate timelines. No clones. No robo-versions. And no magical manifestations from the other side (sorry Ash and Evil Ash).” – Rosie Fletcher, “9 times actors played their own evil twins in TV and the movies,” Digital Spy, March 29, 2017.

⁶ Citation: **THOR**: Your projectile weapons proved effective in fatally damaging the replicators. ... Your technology and strategy for destroying the *Beliskner* was successful. ... The Asgard have tried to stop them. You have demonstrated their weakness may be found from a less sophisticated approach. We are no longer capable of such thinking. **DANIEL**: Wait a minute, you're actually saying that you need someone dumber than you are?

- ✓ *At the end of the episode*: **THOR**: However, now there is hope where once there was none. **CARTER**: Well if you ever need any more dumb ideas you know where to find me.
- ✓ From Stargate SG-1, “Small Victories” (2000).

⁷ Commentary & Citation: Michael Noer, “The 25 Largest Fictional Companies,” Forbes, March 11, 2011 (<https://www.forbes.com/sites/michaelnoer/2011/03/11/the-25-largest-fictional-companies/#5abba7485d81>).

⁸ Citation: Bugs Bunny the Booster!

⁹ Commentary: ANA sent a letter out dated December 17, 2015 which had them talking out both sides of their mouths as usual. Most of it was the same lip service we'd heard for years about how they value all of their retailers while at the same time announcing they were going to discriminate against non-brick & mortar retailers.

¹⁰ Commentary: A notion that I rejected, as Grant Dalglish of Columbia Games found out when he tried to enforce his idiotic Minimum Allowable Price (MAP) policy on my business and tried to get me delisted from Amazon. He told me that I would not be allowed to order more from Columbia if I didn't comply, and I told him that at the rate his games were selling, we'd both be dead by the time I needed to restock. And that his efforts to enforce a minimum retail price on his retailers wasn't helping his games sell any faster, in fact, it was counterproductive.

¹¹ Commentary: I asked my GTS and ACD reps: If ANA said that they were not allowed to sell games to any retailer who sold games to certain people based on race, religion, or ethnicity, and it was not illegal to do so, would they do it? I have little doubt that ANA would demand that if it were not illegal, because it makes as much sense as their other policies. My question was not appreciated. But I bet the distributors would ... “for a few dollars more.”

The only difference is that it is not yet illegal to exclude internet retailers from the distribution network to prop up brick & mortar stores, and the distributors were more than willing, enthusiastic even, about doing that even though it will hurt their own sales? As I pointed out then, their policy effectively made my money, as an internet retailer, somehow less valuable than a brick & mortar retailer's money for the same products. But even when racial discrimination was legal, generally there were businesses that sold to and targeted the discriminated, segregated groups because ... their money was the same color as that which came from the more affluent sections of town. This is not an argument that confuses apples (game distribution discrimination) with oranges (racial discrimination) because neither discrimination existed for legitimate reasons (the thing that gives them factual commonality); the difference, of course, is in scope and social significance, which greatly favors the latter.

The distributors cared more about their relationship with the manufacturers than they did with their loyal long-time internet retailer customers, sort of like Equifax who has a relationship with financial institutions but considers your wellbeing a collateral issue as they collect your data.

- ✓ The U.S. government has chosen to do nothing about ANA's monopolistic behavior in the market. It probably has to do with the perception of tabletop gaming, in the same way that science-fiction was perceived in decades past. If, for example, the issue was dog food – what if dog food manufacturers said that only brick & mortar stores could buy from their licensed distributors? I am sure the government would be on it. This may, however, not be an apt analogy because I don't know the details of that industry, but it is certain that our society cares more about the price of dog food than freako tabletop hobby gamers or science-fiction fans (the groups overlap significantly) paying more. But if it was a foreign video game maker invading...

Excerpts from article “Syria Has Effectively Ceased to Exist,” Jonathan Spyer, Foreign Policy Blog, March 19, 2017

On my last night in Damascus, some younger members of the Information Ministry-sponsored delegation in which I was taking part decided to have a drink. It was late April, and the bars and restaurants were doing good business in the cool and breezy evenings. An inebriated Russian journalist, accompanied by a uniformed Russian soldier, entered the bar opposite our hotel in the Old City where my colleagues were sitting. Words were exchanged. An altercation began.

At a certain point, the Russian journalist produced a pistol and aimed it at the forehead of one of the delegation’s participants. He then entered our hotel and threatened one of the employees there, all with his uniformed colleague silently accompanying him.

How the incident ended says much about who truly holds power in regime-controlled areas of Syria today. After the two Russians had departed, the delegation’s participants sought to contact the authorities and report the incident. The representative of the Syrian security forces asked if the armed men were Russian. When told that they were, he replied that there was nothing the Syrian authorities could do.

Six years into the Syrian war, the survival of President Bashar al-Assad’s regime is ensured – but it has become something of a facade and lacks a strategy for reuniting the country. The sometimes sharply differing interests of Russia and Iran from above, and the local concerns of a myriad array of pro-regime irregular militias from below, are the decisive factors – not the decisions of the country’s nominal rulers. This impacts the calculus of the ‘regime’ side in the war, in determining its strategy in the conflict.

The term “reconciliation” is a misnomer, of course. The regime is interested in the surrender of the rebels, not rapprochement with them. But given the balance of forces and the slow progress, there seems to be a gap between objective and method.

In other words, there is no strategy at all, but the kind of conspiracy theories that no self-respecting Baathist should be without. In fact, no evidence exists of any overarching plan to divide Syria – nor do any of the major forces in the country support its breakup. Syria’s de facto division is a result of the inability of any force to prevail over all the others, not of design.

This measured reply delineates the actual situation well. The regime cannot now be militarily defeated, a significant success for its diplomacy and arms. But neither has it any clear road to victory...

The reason for the regime’s lack of knowledge is that decisions made by Assad and those around him will not be the decisive factor in determining Syria’s future. As the fighting in eastern Aleppo showed, the government side only makes real progress when the Russians commit to ensuring its victory. So the crucial question is of Russian, not Syrian, intentions – and Moscow may well have already achieved most of what it came to Syria to achieve. It has ensured the safety of its bases in Latakia province and the survival of its regime allies, demonstrated the

efficacy of Russian arms, and guaranteed there can be no diplomatic process to settle the war without Moscow's involvement.

These are significant accomplishments. But it is also the case that a further Russian commitment to finishing off the rebellion could result in the unpleasant situation in which a cash-strapped Russia finds itself saddled with the responsibility for the reconstruction of a ruined Syria on the basis of "you broke it, you own it."

With the regime and rebels now effectively reduced to client status and no great desire on the part of the patrons to commit to absolute victory for their proxies, the diplomacy on the Syrian war should presumably shift toward arrangements acknowledging the fragmentation of the country....

As this process plays out, the Russians will continue to do as they wish by day and night in Damascus, the gap between regime rhetoric and reality will remain as gaping as ever, the rebels and the Kurds will continue to march in tune with their own patrons' wishes. Meanwhile, the stark fact will continue to remain unsaid: namely, that the state known as Syria has effectively ceased to exist.

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“There are these four ways of answering questions. Which four? There are questions that should be answered categorically [straightforwardly yes, no, this, that]. There are questions that should be answered with an analytical (qualified) answer [defining or redefining the terms]. There are questions that should be answered with a counter-question. There are questions that should be put aside. These are the four ways of answering questions.”

– Buddha, Sutta Pitaka ^{1,2}

“The problem is not that officers don’t ask questions. Oh, you have a staff meeting, and the young officers will ask lots of questions. The problem is that they don’t know how to ask the right questions.”

– A Senior Enlisted Instructor, 2RFIS, Ft. Bragg, 1995 ^{3,4}

The Human Adventure: In most adventure stories, and especially in militant space-opera, science-fiction literature, the issues of the day are not decided by the big battles, but by the actions of individuals and small groups (characters) in what would be called “special operations” or “black-ops” – sneaking into the enemy base, spying, sabotage, breaking into computer systems, the lucky recon mission that finds the enemy’s one weakness, assassination of leaders, the special mission to retrieve the alien or religious artifact, rescuing prisoners – all of the things that individuals and small groups can do within the larger setting of the conflict, and that *creates drama*. Partially, this is because our literature is necessarily character oriented (and movies and television are based on individual, recognized actors in lead roles), partially it is the result of the human audience’s need to connect with a likable sympathetic character, but equally, it is because the human audience has always identified with the sense of individual empowerment on the heroic scale (e.g., Joseph Campbell, Hero with a Thousand Faces (1942)), even when the heroic character isn’t really human. That, in addition to the fact that we are individually narcissistic.

In times past, those who were so heroically empowered in the stories were either gods, demi-gods, sons of gods, sons of kings or were kings, or later, saints and those blessed by God. Individual empowerment (and legitimacy and education) always rested with the upper social classes, and with those who took to arms or to the seas, while peasants bound to the land or to lords, could only listen to stories. The startling difference in modern adventure literature is that ‘average’ people, in admittedly extraordinary circumstances, are empowered and act in heroic ways. This is also part of the appeal of modern televised professional sports, that feeling, that childhood dream that still lives inside each of us, that, hey, we could do that, or we could have done that, we could have been that good, if only we had the physical talent.

The fundamental attitude which accompanies ‘technosolution’ (see discussion, 1 Patents, p. 726, *supra*) and is the result of the Enlightenment and the Reformation,⁵ is the idea of individual empowerment through technology (as opposed to fantasy or religion). The universe is accessible to us, it is predictable, we can shed light into previously dark places, we can understand, we can do. Technology puts the power of the gods in our hands, each of us individually, and as a group.

- ✓ “There’s always the question how much technology is empowering a small group of people to cause damage. ... [S]maller groups might have access to ... nuclear weapons

or, even worse, bioterror or cyber’ weapons.” – Bill Gates, as quoted by Mike Allen, “Bill Gates: tech companies inviting government intervention,” Axios, February 13, 2018.

Could James Bond have done all that he did without his famous array of technological gadgets? And for the first time, in the decades following the end of the Second World War, we – the human race, or at least nations representing a sizeable portion of it – had the capability to destroy the world, to destroy our entire civilization, and possibly to extinguish all life on Earth. It was then that the stories of gods and natural disasters that had so entertained our ancestors began to lose some of their eternal appeal.

- ✓ There is a parallel between nuclear weapons and war, and modern weapons and the Second Amendment. Modern weapons are of a different class (along with population density) in relation to the Second Amendment’s assumptions to nearly the same extent that nuclear weapons are different than all preceding conventional weapons.

This is the basis of modern terrorism, one person with a bomb or modern firearms can now do in a minute what would have taken a dozen or hundreds of people centuries ago. And as is well documented, increasingly, individuals decide to become the god of death, theirs and however many other people they can kill in a short time before they either commit suicide or are killed by the police. Aside from the regular public outcry and political, social and legal issues of mass-murder, workplace or school building shootings, the base issue with Second Amendment (“right to bear arms”) arguments is that in the time it was written, a person with a musket would have killed at most one person in a crowded room or building before being overwhelmed or fleeing: automatic breach-loading, ‘repeating’ or whatever terms you want to use, modern weapons – even of the civilian sort – have changed this computation completely. This should not come as any surprise considering the staggering extent to which warfare was changed from the early 19th Century to the mid-20th Century.

- ✓ And also to the extent that we have touched both the Absurdity and the Existential Void, like never before in the early technological age. The ‘god of death’ mass-murderer phenomenon is the overlap of the two that we have yet to resolve. I use a specific gender here because it has not escaped notice of the media and social sciences, that the vast majority of mass murderers are men/male. What is the reason?

Technology is a force multiplier that gives individuals and small groups an effect and effectiveness far disproportionate to their actual numbers. Would I have been able to design this game without the computer technology I employ? Possibly, but it would not have been the same, it would not have been a PBEM or internet-based gaming, of course. In my very first serious attempt at game design, when I was about 15 years old, I recall hand writing, and editing and re-writing, pages and pages of complex rules. I might perhaps have continued to do that without computers, but the reach of my game would be very limited without the internet.

- ✓ It is no great historical coincidence that the 18th, 19th and early 20th Century revolutions that swept away the old monarchies and regimes and focused on individual rights followed the modern technological movement. There is a larger continuity.
- ✓ Most of the ‘modern problems’ can be characterized as age-old problems enhanced by or combined with our struggle with the sudden individual and personal empower-

ment granted by the rapid development of technology. Sort of like a teenager struggling between childish impulses and increasing freedom, decision making, economic power, and coming adult expectations. And being given a car. Some never quite pass.

- See related discussion in More Than a Feeling, *et seq.*, 1 Temporal Technology, p. 808, *supra*.

➤ Time Safari, Inc.: The ultimate human adventure and force multiplier in science-fiction is time travel tales (how many movies, TV series?⁶) and a time excursion would be the ultimate Special Operation. Time travel fiction succinctly epitomizes *technological empowerment* of individuals and small groups (*ut supra*), entangling with personal regrets, angst, etc.

- ✓ [Interview with *fictitious* science-fiction writer Kevin Ulrich] “The Soviets found the time machine to be an invaluable tool for espionage.” – The History of Time Travel (mockumentary, 2014).⁷
- ✓ I watched an interview with one of the main creative team members for the Terminator movies who amusingly pointed out that if you were sending an agent back in time, you’d want someone who blends in with the crowd on the street; Schwarzenegger stands out in a crowd, but people loved it anyway!

Time Safari, Inc.⁸ As discussed in 1 Temporal Technology, GGDM is not suitable for that sort of play, it has the wrong structure. To the extent that temporal technologies are allowed in GGDM, participants should be extremely careful if allowing temporal Special Operations.

- ✓ One problem with temporal excursions of any kind is that they require a level of awareness and perfection beyond human capability to avoid causing ripples and paradoxes. In the short film “Destroyer of Worlds” (Samuel Dawes, The CGBros, 2019, YouTube 44 minutes) the ‘bad guys’ took the car keys but missed the journal that had writings about the events leading to their future time. When the journal fell out of the author’s bag on the train in 1954 and was picked up and read by his past self in 1954, that future vanished because he didn’t follow the same course. And the woman passenger whose lipstick he used to write equations on the train window also vanished.

I would suggest at the most that such operations be limited – very limited – to Recruiting and Lodging Missions (and possibly remote viewing); actual Special Operations ‘black ops’ are too problematic in their causal ripple effects. Even Recruiting and Lodging can cause ripples if anyone is doing anything they would not have otherwise done (e.g., became a spy instead of a brilliant professor), but those may be handled within the game by a judicious Concierge:

- ✓ Suppose a virus – actual biological or the computer type – was created in the future and emplaced in our time through temporal means. How would we know that it was from the future? The event would just ‘happen’ in the normal course of things in our time, it would just be there so to speak, the only possible mystery being where it came from (like trying to figure out where an epidemic started). If the virus in question were of the *biological kind*, there would be some – nay, major risk – that the mad creator either wouldn’t exist or that their world would be different as a result (because their ancestors died of the virus) – and hence the virus was never created or never sent back in time – a paradox. Something like a computer virus or inserting a flaw or backdoor into operating systems (for example, allowing an enemy state to shut down the national power grid or steal secrets), is less likely to create paradoxes, but if that is

the case – or in either case – both are history that already happened before the future mad scientist type, and thus, what have they accomplished but to confirm history?

- ✓ If someone from the future were putting ideas and images in your head – maybe in a sort of *Interstellar* (2014) movie way – how would you know? We do sometimes get ideas suddenly that seem to have no source or are disconnected from what we are thinking at the moment, or wake up in the morning with a sudden new understanding. Cognitive theorists have suggested our brain multi-processes and that dreams play a role in working out issues and problems, but regardless, to us they are our thoughts and ideas because they suddenly occurred in *our minds*.
 - See Temporal Constructural Element, p. 173 and Avi Sion feature quote, p. 175, 1 Constructural Elements, *supra*.
- ✓ One possible solution to sloppy time-travel causality is to argue, like the creators of the Terminator franchise, that there is a fixed future point or condition (that is, a future world without Skynet) and whatever causal changes are made, or paradoxes are created between the 1980s and that point, will always lead to that fixed point, despite creating divergent timelines (which can be viewed as line excursions). If this is the way that GGDM participants treat temporal technologies, then they should be prepared for very heavy-handed Concierge Intervention to make sure it comes out right!
- Character Assassin: Unfortunately, Special Operations – the vision of such – bumps hard up against the ‘no literary characters’ in GGDM discussed in *A Story Without Characters*, 4 The Streams of Time, p. 102, *supra*. As much as possible, participants should envision Special Operations in a general conceptual sense, but there is no avoiding the issue of individuals – characters, actions, motives, like any criminal investigation or spy novel or documentary – in Special Operations, as is demonstrated by the discussions below.
 - ✓ The trial of Adolf Eichmann perhaps ‘served a purpose’ of refocusing attention on the banality aspect, the generation of mundane people who either participated in or passively accepted what happened in the Third Reich. In the immediate aftermath of WWII, the focus naturally was on the ‘masterminds’ (intentionalism holocaust argument) and vast insanity of it, but from the 1961 Eichmann trial the world learned the expression and concept of “The Banality of Evil” which was coined by Hannah Arendt, who reported on the trial for *The New Yorker*.⁹ GGDM throughout has focused on the duality of the leadership and those on the ground (and unity of the opposites).

Any individual involved in a Special Operation will live for probably a Regular Turn or less in GGDM game time (depending on how much ‘objective time’ the participants think a turn represents), and thus Lodged Missions must age out, like RPs in the Treasury and Faculties in the Enlightenment pool.

- ✓ Thus, in GGDM there should be no captured spy exchange or *Bridge of Spies* (Glienicke Bridge, Berlin, featured in the 2015 movie), because of the potential time scale of a Regular Turn.

It is also possible to assume that the actions of individuals *echo well beyond the very short time duration of their act* and shortsightedness of their lives, e.g., the assassination of Philip II of Macedon (father of Alexander the Great, who was then about 20 years old):

- ✓ “Whatever the actual background to the assassination, it may have had an enormous effect on later world history, far beyond what any conspirators could have predicted. As asserted by some modern historians, had the older and more settled Philip been the one in charge of the war against Persia, he might have rested content with relatively moderate conquests, e.g., making Anatolia into a Macedonian province, and not pushed further into an overall conquest of Persia and further campaigns in India.” – from Wikipedia article, “Philip II of Macedon,” captured June 1, 2019.¹⁰
- ✓ Without Alexander the Great’s conquests, there is no Cleopatra VII Philopator, the last ruler of the Ptolemaic Kingdom of Egypt. Generally, Alexander the Great may have had some minimal relationship to the rise of Rome, the Romans admired him, e.g., Plutarch’s famous comparative biography, and may have been influenced by visions of replicating his achievements.¹¹ Thus, the echoes of the moment of assassination of Philip II of Macedon ripple and refract through time to Julius Caesar (who was, if you recall, also assassinated 292 years later) and Mark Anthony, to both of whom Cleopatra bore children.

“Thanks to oil, Khartoum today is a boomtown, the whole city a construction site. Osama Bin Laden had a construction business here in the 1990s, when he lived in Al-Riyadh City, a rich suburb of Khartoum. He was an acquaintance of Gubara’s eldest son. Mohammed Gubara knew everyone because he was the director of the Blue Nile Sailing Club. Mohammed also knew Carlos the Jackal, a leftist terrorist who lived in Khartoum in the 1980s, when he was one of the world’s most-wanted criminals. The Jackal was eventually betrayed by his own bodyguards as he lay recovering from minor surgery – for a varicose vein on a testicle – and extradited to France.”

– Nadja Kornith, “The Omega Man – Gadalla Gubara and the half-life of Sudanese cinema,” Bidoun (bidoun.org), Issue 20, Spring 2010

The Gubaras: To close the circle, the Gubaras were distant descendants of the Mahdi as was the Prime Minister, and thus they were also distantly related to the Prime Minister. It doesn’t take a college degree to see why Osama Bin Laden made their acquaintance.

Player Generated Entropy: Special Operations (other than information gathering) are treated in GGDM as a dichotomy:

- ✓ On the one hand, they represent literal ‘black-ops’ (attempts) by one position against another through all of the usual espionage means familiar to us – bribery, blackmail, infiltrating *resistance groups*, media manipulation – to the extent that those work on alien species – and in another, they represent in many cases, unintended consequences and espionage-like entropic events that may occur within the target society regardless of external forces.

In the realm of unintended consequences, a Special Operation sometimes has effects far beyond what is anticipated by the masterminds and perpetrators (e.g., the Affair of the Poisons and the Dreyfus Affair, 3 Special Operations, p. 1309, *infra*, the assassination of Philip of Macedon, previous page, the assassination of General Heydrich next page). Thus, the mechanics of Special Operations in GGDM are literal in the sense of ‘recruiting’ missions, amassing opportunities and

assets against a target, while the results can often times be more general, beyond the scope of merely destroying an installation, corrupting local officials, or stealing a few research secrets or some computer code.

- ✓ It is similar to the way the stock market is treated in our current civilization: “The risks on Wall Street have been socialized while the profits have been privatized.” – William D. Cohan.
- ✓ Operation Anthropoid was the only successful attempt by the Allies to assassinate a Nazi leader. The success was of negligible military value and the Nazi retaliation against the Czech population (against which the Czech government in exile warned) curtailed any such future operations. General Heydrich died of his wounds (on June 4, 1942) a week later after they became infected, and in that, some see justice as he was the architect of the famous ‘Final Solution’ and chaired the Wannsee conference just six months earlier. Many of the attendees of the Wannsee conference were not convicted, but at least Heydrich was killed. Other effects of his assassination are debatable; execution of the Final Solution plan fell to his deputy, Col. Eichmann (i.e., the “Banality of Evil” who was his sidekick at the Wannsee conference) and perhaps internal resistance to the Final Solution within the Reich ministries and Wehrmacht stiffened after his death? It must have also been concerning to the Germans that a lone Allied bomber (a RAF Halifax) was able to penetrate so far into their airspace in December 1941 and parachute in 9 soldiers just east of Prague.
 - Heydrich appears as an old man in *The Man in the High Castle*, brags about his immoral ‘achievements,’ and tries to have the elderly Hitler assassinated so that he can take over the Greater Reich.
- Resistance: Not all resistance is or should be considered foreign-induced; e.g., the Solf Circle,¹² the Kreisau Circle, and the White Rose group in Nazi Germany were not connected to any of the Red Orchestra groups, nor were they any danger to the Nazi State, but were stamped out simply because they disagreed and were speaking out about it (similar to the Confessing Church). However, the Allies reprinted and dropped over Germany in July 1943 millions of copies of the sixth White Rose leaflet – that had been smuggled out of Germany to the UK (see propaganda and psyops discussions). Organic internal ideological resistance is addressed more properly with Thesis Statements (see *Disputation*, 2 Reformation, p. 1391, *infra*) but can become a consideration in Special Operations.
 - ✓ In terms of local ‘criminal’ activity, in the 1966 movie *Khartoum*, the enemy could not have done more damage than the shyster who forged General Gordon’s signature on grain appropriation orders, then sold the grain for pure profit in the marketplace. When it was discovered that most of the grain stores were missing and the besieged garrison had little food, the perpetrator was arrested and revealed to be one of Gordon’s own men; he was executed summarily but what was the difference at that point? Security needed to prevent the acts. Why did no one notice? A greedy thief was more valuable to the besiegers than a saboteur.
- Vortex Manipulator: Each time that a Black-op (i.e. activation of the Special Operations Power for the purpose of Black-ops, *ut infra*, including activations for the purpose of Treason, see 3 Special Operations, p. 1310, *infra*) or Counter-Operation (i.e. activation of the

Special Operations Power for the purpose of Counter-Operations, *ut infra*) is executed (targeted, attempted) against a position, regardless of the results and regardless of who is ultimately ‘blamed’ for it, an Intervention Potential is *attached to the position* from the pool of general Intervention Potentials (note that this is not the same as an Intervention Potential Plus) *at the location of the Special Operation* and should be used by the Concierge in that Regular Turn or within the Turn Cycle, to create some effect linked to the Special Operation.

- ✓ For example, whatever the motives and intents of the July 20 Plot conspirators, they inadvertently succeeded in eliminating one of the finest field commanders of WWII (regardless of the alleged myth): The Nazi party, suspecting that Rommel was involved in the July 20 Plot, forced him to commit suicide on October 14, 1944, and then lied to the German public about his cause of death. Probably, this didn’t change the course of the war ... but what if Rommel had been commander at the Battle of the Bulge just a few months later? Had Rommel succeeded in the mutiny of the Western commanders (and his demand letter finally reached Hitler), there might not have been a battle in the Ardennes in December 1944. But he was not a July 20 plotter.

This effect could be linked to a known Thesis lodged against the position (see Disputation, 2 Reformation, p. 1391, *infra*), if any, or to an ongoing Kairotic Moment effect (see Kairotic Moments generally, *infra*) to create story continuity.

- ✓ Merely recruiting and Lodging Special Operations or Counter-Operations Missions *do not* cause an Intervention Potential to be *attached*, nor does Reconnaissance activations (see One-Way Mirror, *et seq.*, 2 Information, p. 1340, *infra*).
- ✓ If the Special Power Activation failed due to Constructural Elements, *it never happened*, and thus was not attempted, and no Intervention is *attached*.
- ✓ This rule applies only to Black-Ops and Counter-Operations, not to Information Operations.

The attacker in a Black-op will consider this a bonus, whether or not the operation is successful. And it’s a plus too if paranoid defenders conduct Counter-Operations in places where no Special Operations Missions have been Lodged, and thus generate another Intervention. But more so, the reason for this is the vortex of paranoia in civilizations: If they go looking, they will find an enemy, foreign or domestic, to persecute. Rocks will be kicked over, rocks will be thrown in glass houses.

- Presidential Assassinations: Four sitting U.S. Presidents have been killed by assassins:
 - ✓ President Lincoln was killed by a Confederate sympathizer,
 - ✓ President Garfield was killed by a disgruntled office seeker at a train station,
 - ✓ President McKinley was killed by a mentally-ill man who claimed to be an anarchist (but had been shunned away by Emma Goldman), and
 - ✓ President Kennedy was killed by Lee Harvey Oswald, whatever you think he was... crank, Soviet agent, Mafia agent, CIA agent, communist sympathizer, whatever your pet conspiracy theory.

The system was slow to react, there was *no security* around President Lincoln, *little security* around President Garfield, President McKinley was in a meet & greet with the aisle lined by

U.S. Army artillerymen in full dress uniforms (one of them tackled the shooter) and with local police detectives and a couple of Secret Service agents (who were standing too far away to be effective), even though the Secret Service had not yet been officially tasked by Congress with protecting the President.¹³ It was not until after the assassination of President McKinley that Congress officially legislated the Secret Service as the arm to protect the President.

- ✓ Only the assassination of President Kennedy has attached suspicions of foreign nation or criminal organization involvement.
- ✓ Emma Goldman, the lover of Alexander Berkman who was then in jail for attempting to assassinate Henry Frick, was detained after the assassination of President McKinley, but was released as she had no involvement and had shunned the shooter. But she was never considered at any point, a possible foreign agent despite her Lithuanian birth, but rather as an intellectual anarchist agitator in possibly a loose, vague international conspiracy.

Thankfully, despite the quickly-forgotten movie *The Pelican Brief* (1993), no U.S. Supreme Court Justices have been assassinated, though many lower court Judges have been killed (e.g., the 2005 Atlanta Courthouse shootings) and many of them carry concealed weapons (e.g., Judge Joseph J. Bruzzese Jr. who was ambushed in the Jefferson County, OH courthouse parking lot in 2017 and returned fire after being shot). People give considerably less thought to the profound implications of violent attacks on the judiciary than on the President of the United States (or leaders of other nations), some even applaud them (e.g., Judge Chuck Weller, a family court judge, who was shot through a third floor courthouse window in Reno, NV in 2006. See “Wounded judge was despised by some parents,” Associated Press, June 14, 2006).

“As William F. Buckley, the founding editor of National Review, once put it: ‘To say that the CIA and the KGB engage in similar practices is the equivalent of saying that the man who pushes an old lady into the path of a hurtling bus is not to be distinguished from the man who pushes an old lady out of the path of a hurtling bus: on the grounds that, after all, in both cases someone is pushing old ladies around.’” – Quoted in the Washington Post, August 16, 2017

The Little Black Book: Special Operations are all of those things that governments do that they wouldn’t want to see on the front page of a newspaper. They are, at best, a necessary evil, no matter how adventurous the stories or how charismatic the characters. The Special Operations Power may be activated for the following purposes:

1. Reconnaissance (Surveillance and Probing, see 2 Information, *infra*),
2. Recruit Missions (SOMs),
3. Lodge Missions (SOMs),
4. Information Operations (see 2 Information, *infra*),
5. Black-ops (non-Information operations),
6. Treason (it takes two to tango...),

7. Train Counter Operations Missions (i.e. Lodge & Recruit COMs),
8. Counter-Operations (sweeping up the garbage!).

Reconnaissance – which address observation and military reconnaissance as opposed to espionage and black-ops – and Information Operations – spying, espionage – will be discussed fully in, 2 Information generally, *infra*. This part relates solely to Black-ops and Counter-Operations.

- **Acting Lessons:** Special Operations Power activations cost one Act, however, when the Power Activation occurs at a sovereign colony (as in Counter-Operations for example) the Power activation *costs a Scene instead*, which must be on the colony. That is, any activation of the Special Operations Power will cost either an Act or a Scene as applicable, but not both, unless a position is Lodging Missions at both alien and friendly units in the same Regular Turn. If the target location is a sovereign ship (or MegaCorporation membership property) which is at a sovereign colony (as in putting SOMs or COMs on a ship), either one Act or a Scene (position’s choice) at the colony may be used for the Power Activation. A position may not choose to use an Act when a Scene is required; the Scene must be used.
- **Making a Scene:** Special Operations Power Activations generally do not fail due to inactive Constructural Elements unless they occur on Friendly, Naturalized or Converted sovereign colonies or ships (i.e. using a Scene). Thus, Power Activation failure for inactive Constructural Elements (see Power Off, 2 Constructural Elements, p. 193, *supra*) can only occur when Special Operations Power is activated to place Special Operations Missions (SOMs) on Friendly, Naturalized or Converted sovereign colonies or ships or to carry out Black-ops at those places, and in any Counter Operations activation on sovereign colonies.
 - ✓ A position may use an Act to Train Counter Operations Missions (COMs) that are being placed on ships at sovereign colonies to avoid the possibility of Power Activation failure. However, this may not always be an option depending on circumstances.
 - Although this is mostly a game gimmick, it may also be reasoned that ships are easier to protect – especially spaceships – due to the limited room, restricted access, compartmentalization, outside environment, etc. Which is what makes the smuggling of Shadow ‘teeps’ onboard the Earth-force fleet at Mars such a stretch in the Babylon 5 episode, “Endgame” (1997), but the show pulled it off smoothly.¹⁴

Special Operations Power Activation failure checks are only made when a Scene is used, whether voluntarily or by requirement (*ut supra*). Special Operations Power activation failures can be subject to Enlightenment rolls if such is committed to insure the Power Activation *and* if the *target location* (i.e. where the Scene is used) has an active Epistemological Constructural Element (see Skool Tyme, 2 Constructural Elements, p. 190, *supra*).

In short, Special Operations at alien locations *does not depend on* the operator’s Constructural Elements, but may be greatly affected by the target’s inactive Constructural Elements, as discussed in more detail in A Heartless Woman’s .38, 2 Special Operations, p. 1301, *infra*.

- ✓ Note that like the Taxation Power, the Special Operations Power Activation can fail at each specific friendly location while also executing normally at alien locations (whether successful or not). See Jobs for Jackals, 2 Special Operations, pp. 1290-1291, *infra*, for further discussion.

“[Adm. Wilhelm] Canaris was a highly intelligent and sensitive man with many likeable qualities. He loved his dogs and his horse almost more than any other living creatures. He often said to me, ‘Schellenberg, always remember the goodness of animals. You see, my dachshund is discreet and will never betray me – I cannot say that of any human being.’” – Walter Schellenberg

“[Adm. Caranis’] skill in acting a part, his cunning, his imagination, the ease with which he affected naive stupidity and then emerged into the most subtle reasoning disarmed the security agents who interrogated him.”

– Fabian von Schlabrendorff

“Canaris hated not only Hitler and Himmler, but the entire Nazi system as a political phenomenon .. He was everywhere and nowhere at once. Everywhere he traveled, at home and abroad and to the front, he always left a whirl of confusion behind him .. In reality this small, frail, and somewhat timid man was a vibrating bundle of nerves. Extremely well read, oversensitive, Canaris was an outsider in every respect. In bearing and manner of work, he was the most unmilitary of persons.” – Hans Bernd Gisevius

Destruction of the Abwehr: Participants should never dismiss the idea of ideological infighting and ineffectiveness as basis for game entropic effects or die roll failure; this especially seems to be true of intelligence services due to the secretive work they do and their prideful position.

The Abwehr was the German military intelligence service during WWII. It was not especially effective and some members were part of the Black Orchestra; the Abwehr provided British explosives and fuses for two attempts to assassinate Hitler in 1943 and 1944. Some members were connected to the Solf Circle as well and had allegedly compiled a huge dossier (the lost Zossen documents that the Gestapo allegedly burned at castle Schloss Mittersill, but some were allegedly buried) of German war crimes on the Eastern Front.

- ✓ “Hitler had long suspected that the Abwehr had been infiltrated by anti-Nazi defectors and Allied agents, and the defection of [Erich] Vemehren after the Solf Circle arrests all but confirmed it. It was also mistakenly believed in Berlin that the Vermehrens absconded with the secret codes of the Abwehr and turned them over to the British. That proved to be the last straw for Hitler. Despite the efforts of the Abwehr to shift the blame to the SS or even to the Foreign Ministry, Hitler had had enough of [Vice Adm. Wilhelm] Canaris and he told Himmler so twice. He summoned the chief of the Abwehr for a final interview and accused him of allowing the Abwehr to ‘fall to bits.’ Canaris quietly agreed that it was ‘not surprising,’ as Germany was losing the war.

Hitler fired Canaris on the spot, and on 18 February 1944, Hitler signed a decree that abolished the Abwehr. Its functions were taken over by the Reichssicherheit-

shauptamt or RSHA (Reich Main Security Office) and SS-Brigadeführer and Generalmajor [Brigadier General] of Police Walter Schellenberg replaced Canaris functionally within the RSHA. This action deprived the German Armed Forces (Wehrmacht) and the anti-Nazi conspirators of an intelligence service of its own and strengthened Himmler's control over the military. Canaris was cashiered and given the empty title of Chief of the Office of Commercial and Economic Warfare. He was arrested on 23 July 1944, in the aftermath of the July 20 Plot against Hitler and executed shortly before the end of the war, along with [Generalmajor Hans] Oster, his deputy. The functions of the Abwehr were then fully absorbed by Amt VI, SD-Ausland, a sub-office of the RSHA, which was part of the SS." – from Wikipedia article, "Abwehr," June 23, 2019.

The feud between the Gestapo and Abwehr has been referenced in movies such as *Bonhoeffer: Agent of Grace* (2000) where it was commented that "the Gestapo is taking Abwehr apart."

[Narrator] "[Col. Claus von] Stauffenberg increasingly became the core of the Valkyrie plan ... but one major problem remained: Neither [Maj. Gen. Henning] von Tresckow or other conspirators, such as [Col. Albrecht] Mertz von Quirnheim, had actual access to the Fuhrer. But then, in June of 1944, Stauffenberg was appointed as chief of staff to none other than General [Friedrich] Fromm, head of the home army. Hitler frequently wanted to be appraised of its combat readiness. So Stauffenberg suddenly found himself in a position where he himself would see Hitler on a regular basis. Of all of the conspirators, he was now best placed to become the assassin."

– *Operation Valkyrie: The Plot to Kill Hitler* (2008)

Opportunity: Opportunity is key and fleeting,¹⁵ without opportunity, all plans are just air. General Fromm was a passive observer of the plot (and he was aware that Col. Stauffenberg was involved in the Black Orchestra group), who quickly turned on the plotters before knowing whether Hitler had survived or not, but he was the catalyst of the opportunity nonetheless, sending his Chief of Staff to report to Hitler instead of going himself, or sending someone else he knew was not involved in plotting against Hitler. Very strange, isn't it? Was Fromm passive-aggressive against Hitler?

The key to Special Operations – especially given the operational conditions of the GGDM setting – is opportunity. First Contact, MegaCorporations, Balkanized Planets, alien trade, Diplomatic Space, any form of extended contact between positions in GGDM creates opportunity just as 'familiarity breeds contempt' (Chaucer, 1386 A.D.). When designing or judging Special Operations, participants should consider first the opportunity for the operation, how many steps are between the concept and the concrete target of the operations, how many opportunities for screw-ups and chance to intervene, what connects the originator to the target that provides the opportunity for the operation? Thus positions must choose: Isolation as protection or engagement with the story and the developing pan-galactic culture in the game?

- ✓ 'Opportunity' is a word frequently used for or substituting for 'offer or solicitation' (especially in anything relating to sales). This is not a bad question for GGDM special operations. What is being sold, solicited or offered? And to whom?

- Internal Disputes & Isolationism: The preceding opportunity discussion does not apply strictly to Thesis Statements, see Disputation, 2 Reformation, p. 1391, *infra*. However, there are possible game connections between Special Operations and Reformations.

Internal disputes are often the opening for foreign intervention. A succession dispute in Scotland was the opening for Edward I of England (aka “Edward Longshanks”) when the disputants appealed to him to mediate (as feudal custom, only a king could mediate a dispute for royal succession) in an attempt to avert another civil war. Edward insisted on being proclaimed Lord Paramount of Scotland on the argument that in order to mediate the dispute he had to have authority over the disputing parties, but it was a trap, and soon he was demanding allegiance and implementing laws in Scotland as its ruler and stormed towns, won battles defeating anyone who didn’t agree. You know the history already.

Similarly, Offa of Mercia in the 8th Century used disputes in the Kingdom of Kent to make himself overlord there, over Canterbury and the Channel port of Dover and over East Anglia (whose king he had beheaded for rebelling, ‘offa your head!’); then used a dispute with the Archbishop of Canterbury to convince the Pope to divide the Holy See into two Archbishops, halving the power of Canterbury and providing a new Archbishop at Lichfield loyal to him in 787 A.D.

‘Foreign’ in this case is *relative*, since the unification of England in the 10th Century and the gradual political, linguistic, economic and cultural unification and homogenization of the Isles is a celebrated thread of English history.¹⁶ But at the time, since the disputants were each considered sovereign – whether as Lords Temporal or Lords Spiritual – any meddling or affairs outside their sovereignty was foreign.

Space-opera settings with long-term ideas or detailed back histories tends to follow this pattern from sovereign or semi-independent colonies or regions in the early eras to some similar process of unification leading to galactic empires, etc. or just endless petty galactic warfare, e.g., Christopher Moeller’s Iron Empires stories:

- ✓ “Eight weary nations, spanning three million light years of the Milky Way Galaxy. They are the withering remains of a human civilization once immeasurably vast. Their dying has not been quiet.” *Id.*

Some Government Titles are based on and require isolation to pass their Conflict Checks. By choosing those titles from the pool, positions have chosen isolation. Government Titles serve as guides to the position’s conduct.

- ✓ [Interview] “It turns out that in 1944, there were seven and a half million foreign workers in Germany. And the Germans had this worry that there could be a civil disturbance.” – Professor James V. Koch (Old Dominion University, Norfolk, VA), *Operation Valkyrie: The Plot to Kill Hitler* (2008).
 - [Interview in German with English Subtitles] “The plan, under the motto ‘Valkyrie’ was a contingency plan in the event of an uprising of foreign workers forced to work in Germany. There were many such workers in almost all sectors. If a labor revolt did occur, it would be suppressed by Plan Valkyrie. Every corps had prepared for this eventuality.” – Baron Philipp von Boeselager, credited as the last survivor of the July 20 Plot. *Id.*

- The conspirators in the July 20 Plot to kill Hitler were high-level army officers who were desperate to rid Germany of its insanity and who cleverly planned to *subvert an existing continuity of government structure and plan already in place* to complete their *coup d'état* if Hitler was killed by the bomb in the Wolfsschanze.

- Earth Bygones: The period before and between, and even just after World War II is ripe with examples of special operations of all kinds – some wildly successful (e.g., the Norwegian heavy water sabotage operations 1940-1943, commando raids and air flak operations to blind radar, and the *entirely fictional* Guns of Navarone story of 1961 movie fame which would be equivalent to sabotaging an Orbital or System Defense Base) and some less so (e.g., Operation Canned Goods, 1939) or completely fanciful, questionable, or outlandish (e.g., Operation Long Jump and the plot to kidnap the Pope, both in 1943).

The entire 20th century, extending through the Cold War is fertile ground for imagination of GGDM Special Operations, in addition to a considerable body of spy-thriller fiction (even to the silliness of James Bond movies), science-fiction and fantasy-fiction stories they inspired.

I highly recommend reading the Wikipedia article (and any news articles or other reliable historical journalism) on the Red Orchestra to obtain ideas of what can be done under the most oppressive circumstances with the placement (seeding) of just a few agents working more or less independently of each other and often without knowledge of other groups. It is true that all involved on both sides were humans, within social and business relationships, which is not presumed to be the case in GGDM most of the time. So the Concierge and participants must judge the quality of contacts between the Special Operations aggressor and the target alien population – how common or rare is contact with aliens for the particular target group? How long and improbable is the string of contacts, circumstances, contrivances to get from operational concept to concrete objective?

- ✓ See discussion of Improbables, 4 Colleges, p. 506, *supra*.
- ✓ On the subject of Cold War espionage operations, I recommend reading the Wikipedia article on Mitrokhin Archive (and other reliable historical journalism) regarding actual operations that the KGB deemed and undertook as practicable.
- Harebrained Schemes: Some schemes are so harebrained as to constitute a dark comedy of sorts. Examples include the attack on Nancy Kerrigan by contract thugs plotted by Tonya Harding's ex-husband and ex-bodyguard, or by way of further example, the scene where Russian spy Anna Chapman (Anna Vasil'yevna Kushchyenko) was caught. In particular, the attack on Nancy Kerrigan was a dime-store-novel plot, schoolboy stunt that made most adults legitimately do a double-take when they heard the news, an authentic "Huh? What?" response.¹⁷

A game mechanic that resolves the result of a Special Operation by die rolls is not a judgment on the merits of the operation. It is thus that some truly harebrained operations (e.g., ST:OS "Journey to Babel") could succeed simply on die rolls and not on merits. Many years ago, I worked on a case about a modern Ponzi scheme that was so transparent and outlandish that it demonstrated that some people are both unbelievably greedy and gullible.¹⁸ So, it can never be said that a hare-brained Special Operation could never succeed. The Concierge is

free to exercise judgment on any Special Operation and may (especially considering the interstellar setting) block or alter the results of the patently harebrained species of Special Operation through Interventions (and an entertaining Special Bulletin New Event!).

- **Mission Impossible:** The Concierge and participants should distinguish between hairbrained operations and those which are just *very difficult* and are carried out by competent people, but have a low probability of success:

- ✓ [Interview] “Where the plot began to fall down was that Stauffenberg couldn’t be in two places at once. He was instrumental in organizing the operation of Valkyrie in Berlin, so he needed to be there. He’s a tremendously powerful, dynamic man, so he could pick up the phone and talk to all corners of Germany at once and convince everybody to act in the way that they should do. But at the same time, he realized that summer that he actually had to be the assassin as well. So he also had to be 300 miles to the east planting the bomb in the map room in Rastenburg.” – Roger Moorehouse (author of Killing Hitler (2007)), *Operation Valkyrie: The Plot to Kill Hitler* (2008).
 - [Narrator] “Since Stauffenberg had to remain alive and return to Berlin to orchestrate the coup, he had to use a timer in the form of a fuse.” *Id.*
 - But the one thing that absolutely had to happen was that Hitler must die – it was mission critical. Two men carried two bombs into the room (one was not armed, they didn’t have time) and two men left the room after placing one bomb under the table (and tossed the second unarmed one into the woods). One of them needed to insure the task by guarding the bomb, nothing else mattered. If Hitler doesn’t die – and he didn’t – the rest of the planned coup fails – and it did. Stark opportunity is a cruel thing, un-forgiving of self-preservation or ‘human failings.’

‘Mission critical’ is the function of and guiding principle to the use of Enlightenment when used for rerolls in GGDM. See *Mission Critical*, 2 Special Operations, p. 1300, *infra*.

- ✓ Contrast this with von Gersdorff’s failed attempt to assassinate Hitler in March 1943 by suicide bombing (he planned to embrace Hitler while the bomb went off, killing both of them); the preparations for which are shown in the movie *Bonhoeffer: Agent of Grace* (2000). Therefore, Bonhoeffer was an adjutant of the Black Orchestra because he knew of von Gersdorff’s plan. Von Gersdorff failed because Hitler rushed through the tour in less than ten minutes and took away the opportunity, as the bomb had a ten-minute fuse. Von Gersdorff was also part of General Tresckow’s group of conspirators and it was likely that von Stauffenberg was aware of his failed attempt and the altruistic idea behind it (which in the movie *Bonhoeffer* reluctantly blessed by quoting John 15:13). Von Gersdorff was also apparently involved in procuring the explosives and fuses used by von Stauffenberg in the July 20 Plot.
- ✓ Twice during WWII, the German Navy lodged agents inside the United States via U-Boats (Operation Pastorius, June 1942 and Operation Magpie, November 1944), both with no expectation of support within the U.S. and only a general sort of plan. Both failed entirely. Was this a hairbrained scheme or mission impossible? See further discussion of Lodging missions, 2 Special Operations, generally, *infra*.

“To subdue the enemy without fighting is the supreme excellence.” – Sun Tzu

“One need not destroy one’s enemy. One need only destroy his willingness to engage.” – Sun Tzu

“There are but two powers in the world, the sword and the mind. In the long run the sword is always beaten by the mind.” – Napoleon Bonaparte

“The first casualty of war is truth.” – Runyard Kipling

PsyOps: The following observations serve as guidelines for psychological warfare operations in the interstellar setting. First, it would seem rather difficult (but not impossible) to conduct tactical psychological warfare in a space combat, but they probably would be more effective in Pacification or Ground Combats. In order to conduct psychological warfare against another species, there would need to be a high level of familiarity between the species, translating to a fairly large Diplomatic Space.

Fear is the crudest tool of psychological warfare although other emotions can be used, such as false security, reckless triumph, religious awe, guilt, loss, and so forth, depending on the circumstances, and thus the target alien species must have the capability of experiencing the emotion that is to be evoked by the psyop in such a way as to be adversely affected. And finally, above all else, while alien psychologies multiply the difficulties of psychological warfare, it should never be considered impossible.

- ✓ Fear is the primary element of judgment; judgment comes from experiencing failure or loss, it is the shield against fear of future or continued failure or loss.
 - “The demon’s target is not the possessed; it is us the observers..everyone in this house. I think the point is to make us despair..to reject our humanity: to see ourselves as ultimately bestial, vile and putrescent; without dignity; ugly; unworthy.” – William Peter Blatty, *The Exorcist* (Mr. Blatty wrote both the novel (1971) and wrote the script for and produced the movie (1973)).
- ✓ **Head games:** **The Mahdi:** The message, I sent the message. There is no British army. **Gen. Gordon:** Why would you send me a false message? **The Mahdi:** Oh, it is sometimes wise, Gordon Pasha, to provide a man with a few sunny hours of fraudulent hope, so that when night comes, he will have a more perfect inward vision of the truth of his hopelessness. I sent the message, there is no British army. You are alone. Quite alone. – dialogue from *Khartoum* (1966).
 - At many points in the movie *Khartoum*, Gen. Gordon was urged to leave Khartoum. The British government ordered him to leave, and he refused. In other scenes (including the one above), the Mahdi is shown offering him safe passage and asking him to leave. As with most historical dramas, the dialogue is fictional – there was no stenographer present – and is intended to represent the sides and advance the drama and story. Fair

enough, but I don't doubt that the Mahdi wanted Gordon to leave (and would have granted safe passage) because it would have served his purposes: 1) It would then appear that the British abandoned Sudan to him, 2) He would have been able to present himself as a liberator and the Anglo-Egyptians as cowards, 3) Gordon's magnificent image in the Sudan would have been shamed, diminished, dismissed, and 4) It would have avoided the massacre. And of course, the death of Gen. Gordon provoked a backlash that was fatal to his future state.

- ✓ See previous discussion in 5 Combat, pp. 1006-1009, *supra*, regarding morale in GGDM.
- ✓ See also Pedagogy of Propaganda, 1 Kairotic Moments, p. 1425, *infra*.

President Muffley: *But, how is it possible for this thing to be triggered automatically, and at the same time impossible to untrigger?*

Dr. Strangelove: *Mr. President, it is not only possible, it is essential. That is the whole idea of this machine, you know. Deterrence is the art of producing in the mind of the enemy... the fear to attack. And so, because of the automated and irrevocable decision making process which rules out human meddling, the doomsday machine is terrifying. It's simple to understand. And completely credible, and convincing.*

President Muffley: *Yes, but the whole point of the doomsday machine is lost if you keep it a secret! Why didn't you tell the world?*

Russian Ambassador: *It was to be announced at the Party Congress on Monday. As you know, the Premier loves surprises.*

– Dr. Strangelove (1964) ¹⁹

Endnotes.

¹ Commentary: The universe tends to choose the last option when humanity asks questions.

² Citation: Wally on Buddha (Dilbert Comic): “A deep understanding of reality is exactly the same thing as laziness ... Have you ever seen a statue of Buddha jogging?”[©]

³ Citation: “There are naïve questions, tedious questions, ill-phrased questions, questions put after inadequate self-criticism. But every question is a cry to understand the world. There is no such thing as a dumb question.” – Carl Sagan, The Demon-Haunted World: Science as a Candle in the Dark (1995).

⁴ Commentary: I'll never forget the Master Sergeant's introductory comments: “Around here, I am called older than dirt. There are people who think I was with George Washington when he crossed the Delaware River. That's not true. I was however, Moses' Sgt. Major when he crossed the Red Sea!”[©]

⁵ Commentary: As will be discussed later, one of the points of the Reformation (in relation to humanism) was to reestablish individual worth in the West, bypassing the Church in the human relationship with God or the universe.

- ✓ This process is what I believe Eric Hoffer was addressing in the ‘craving for pride’ process in the West as contrasted with Asia in the 20th Century. See Wikipedia discussion of Eric Hoffer quoted in Onomatopoeia, 3 Commerce, pp. 1218-1219, *supra*.

It was thus that love became romanticized and an expected part of marital relationships, the marriage vision focused on individual satisfaction rather than family relationships, alliances, primogeniture, procreation. With the increasing expectation of romantic love and marital satisfaction, the prevalence of marriages with large age differentials slowly receded (e.g., *Oldest Living Confederate Widow Tells All* (miniseries, 1994), or Sir Francis Bacon's unproductive marriage to Alice Barnham in 1606) because compatibility is related also to stages in life, and not just social station.

- ✓ Perhaps an interesting case of the transition of expectations is the marriage of Philip of Hesse to Christine of Saxony in 1523. She was the daughter of the Duke of Saxony and undoubtedly, it was a *political marriage* to link two houses. She was, according to Martin Luther (repeating a letter from Philip of Hesse), unattractive, unlikeable, and a chronic drunk (Wikipedia article, "Philip of Hesse" linking to [The Life of Luther](#) – a translation of his autobiographical writings – available on Google Books). Nonetheless, they produced ten children in twenty years from 1527 to 1547. Philip of Hesse was lecherous and an adulterer (within weeks of his marriage), who could not be accepted in communion, and beginning in 1526, consulted with Luther and Melanchthon regarding bigamous marriage as an alternative to divorce; he considered divorcing Christine as sin and looked to the case of Henry VIII of England.

Eventually in 1540 he secretly married 17-year old Margarethe von der Saale (he was 14 years her senior) with whom he had nine more children from 1541-1557, this seemed to have been a morganatic *romantic marriage*. Bucer and Melanchthon performed the wedding services, Melanchthon had agreed to it, Luther reluctantly gave his permission as well, but later claimed to have had nothing to do with it when Philip's sister Elisabeth (to whom Margarethe von der Saale was daughter of one of her ladies-in-waiting) revealed the bigamous wedding and Protestant Germany was scandalized (despite Philip having obtained pre-permission from Christine and jealous rivals, her father the Duke, and John, the Elector of Saxony). This was a very costly decision by the Protestant leadership and crippled Philip's political and diplomatic power at a critical time. Christine of Saxony died in 1549, so the bigamy was nine years and her last child, George I, Landgrave of Hesse-Darmstadt was two years old. Philip died in 1567, Margarethe in 1566.

Epilogue: When Protestant forces commanded by John I, Elector of Saxony suffered ignominious defeat at the Battle of Mühlberg in 1547, the Schmalkaldic League collapsed due to the defeat, undoing Philip's life's work. Bucer and other Protestant reformers fled to England. Philip's father in law, the Duke of Saxony, fought on the Imperial side during the Battle of Mühlberg and was rewarded Elector of Saxony title after John I was captured and imprisoned. The Duke was killed in battle in 1553, John I died in 1554.

⁶ Commentary: Quantum Leap was passible sci-fi historical fantasy, it was formula-episodic 80s television, but it wasn't among the great science-fiction television shows. I didn't watch every episode, but I watched about half, and I specifically remember a few moments. I remember the time that Sam was inhabiting the body of a disabled vet, and he got up from the wheelchair and slugged an abusive young nursing home attendant. I also remember the time that Sam was with white supremacist during the Civil Rights movement and had to listen to their low-brow racist jokes all day – which would be like people from an enlightened utopian future listening to our self-centered, shallow, narcissistic prattle (sort of like the final scene in the Twilight Zone episode, "The Rip van Winkle Caper"). And near the end, when the producers were trying to resurrect the stale show – a problem with formula-episodic television, Forever Knight had the same issue – there was the episode with the youthful Stephen King and the devil. Because if you meet anyone during time travel, wouldn't it likely be the devil himself? Dr. Who did.

⁷ Citation: From *The History of Time Travel* (mockumentary, 2014):

- ✓ [Faux Interviews] [General] The Pentagon would be developing a new secret weapons system and somehow the Soviets would have one first. We would be developing a new aircraft and before we could even approve a prototype, the Soviets would be flying the damned thing.
- ✓ [Writer] It became quite clear what the Soviets were doing. They would wait for us to develop something, a new tank, missile system, whatever, and Soviet spies would smuggle the design back to Moscow. Then the Soviets would use the [time] machine to go back in time and 'invent' it before we did.
- ✓ [Professor] Sputnik was based entirely on an American design. The day that the blueprints were finalized was the day the Soviets launched it into orbit.

⁸ Citation: From Ray Bradbury's "A Sound of Thunder" (1952).

⁹ Citation: "Arendt's term, the expression 'banality of evil,' does not refer to a theory or a doctrine, but fits 'a phenomenon which stared one in the face at the trial' (Arendt, 1992: 287), the experience of an abyss: a lack of common measure between the gigantic scale on which the crimes (the evil) were committed and the insignificance (the

banality) of the persons who were among those most responsible. Confronted with Eichmann in the flesh, Arendt felt it impossible to ascribe the phenomenon she observed to ‘any particularity of wickedness, pathology, or ideological conviction of the doer.’ (Arendt, 1971: 417). As a concept created through contact with a specific situation the ‘banality of evil’ neither referred to Shoah nor Nazism’s evil as a whole. The banality did not concern all of the agents carrying out orders, but specifically the evil that was committed by Eichmann. His case was all the more exemplary because he had not been simply a subordinate. Rather, his part was decisive in implementing the crimes. Arendt neither doubted Eichmann’s guilt, nor did she doubt that he deserved the death sentence.” – from Sciences Po (aka Paris Institute of Political Studies), “Violence de masse et Résistance” (<https://www.sciencespo.fr/mass-violence-war-massacre-resistance>), no authorship attributed, April 29, 2019 (available free online).

- ✓ “If Hannah Arendt (1906-75) leaves no other intellectual legacy, her notion of ‘the banality of evil’ seems certain to ensure her a place in the history of Western thought. The idea, emblazoned in the subtitle of her controversial 1963 book, Eichmann in Jerusalem, impressed many people as a fundamental insight into a new and distinctly modern kind of evil. Adolf Eichmann had been a leading official in Nazi Germany’s SS, one of the key figures in the implementation of the Final Solution, and he had managed to remain in hiding in Argentina until Israeli agents captured him in 1960. In her critical account of his 1961 trial for crimes against the Jewish people and humanity, Arendt argued that Eichmann, far from being a ‘monster,’ as the Israeli prosecutor insisted, was nothing more than a thoughtless bureaucrat, passionate only in his desire to please his superiors. Eichmann, the unthinking functionary capable of enormous evil, revealed the dark potential of modern bureaucratic man. ... While the controversy over Arendt’s idea has continued, the phrase *banality of evil* has slipped easily into the language, becoming a commonplace, almost a banality itself. Journalists and others freely apply it as an all-purpose explanation – for the racist treatment of African Americans, the terror of Saddam Hussein’s rule in Iraq, and even, in the case of one theater critic, the betrayal of Sir Thomas More in *A Man for All Seasons*. In the intellectual world, it remains an idea of consequence. Bernard Williams, Britain’s pre-eminent moral philosopher, cites Arendt in declaring that ‘the modern world . . . has made evil, like other things, a collective enterprise.’” – Stephen Miller, “A Note on the Banality of Evil,” *Wilson Quarterly*, Autumn 1998 (available free online).
- ✓ “Can one do evil without being evil? This was the puzzling question that the philosopher Hannah Arendt grappled with when she reported for *The New Yorker* in 1961 on the war crimes trial of Adolph Eichmann, the Nazi operative responsible for organising the transportation of millions of Jews and others to various concentration camps in support of the Nazi’s Final Solution. Arendt found Eichmann an ordinary, rather bland, bureaucrat, who in her words, was ‘neither perverted nor sadistic,’ but ‘terrifyingly normal.’ He acted without any motive other than to diligently advance his career in the Nazi bureaucracy. Eichmann was not an amoral monster, she concluded in her study of the case, Eichmann in Jerusalem: A Report on the Banality of Evil (1963). Instead, he performed evil deeds without evil intentions, a fact connected to his ‘thoughtlessness,’ a disengagement from the reality of his evil acts. Eichmann ‘never realised what he was doing’ due to an ‘inability . . . to think from the standpoint of somebody else.’ Lacking this particular cognitive ability, he ‘commit[ted] crimes under circumstances that made it well-nigh impossible for him to know or to feel that he [was] doing wrong.’ Arendt dubbed these collective characteristics of Eichmann ‘the banality of evil’: he was not inherently evil, but merely shallow and clueless, a ‘joiner,’ in the words of one contemporary interpreter of Arendt’s thesis: he was a man who drifted into the Nazi Party, in search of purpose and direction, not out of deep ideological belief.” – Thomas White (ed. by Sam Dresser), “What did Hannah Arendt really mean by the banality of evil?” *Aeon* (pub. in association with the American Philosophical Association), April 23, 2018 (available free online).
- ✓ “We shall begin with factual errors. Arendt never considered the Nazi evil or the Holocaust as an expression of ‘an undiagnosed but latent disease of regular, ordinary human beings,’ as [Eva] Illouz wrote [in “Rethinking the Banality of Evil,” *Haaretz*, August 5, 2016]. She definitely did not see Adolf Eichmann only as a cog in the monstrous Nazi machine, and she was at pains to emphasize unequivocally, in a 1964 radio interview with the German journalist and historian Joachim Fest that she never meant that within each of us is hidden a small Nazi (nor is that notion found in her writings). From her mistaken presumption, Illouz then immediately concludes that ‘if within each of us there is a dormant Nazi, then evil, according to Arendt, is necessarily banal.’ That is arrant nonsense, which even many of Arendt’s regular denigrators no longer dare repeat once they have been confronted with her writings. Nor did Arendt ever claim that Eichmann was not an anti-Semite or was not a Nazi idealist in every fiber of his being. It is precisely his absolute and thoughtless symbiosis with the Nazi world, its ideologies and racist norms – despicable and flagrantly immoral but nevertheless legitimate and lawful within the Nazi world, and enjoying the assent of its

‘moral majority’ – that is the embodiment of the banality of evil.” – Ada Ushpiz, “The Grossly Misunderstood ‘Banality of Evil’ Theory,” Haaretz, October 12, 2016 (available free online).

¹⁰ Commentary: The story that Philip II of Macedon’s assassin tried to flee but tripped over a vine and was killed by the King’s bodyguards may be metaphorical: The assassin may have been slightly inebriated (the assassination occurred at a wedding) – bottle courage – and unable to run effectively, instead stumbling away in his escape attempt.

- ✓ It’s also a post-mortem attempt to retrieve honor: We didn’t stop the assassin but we caught and killed him instantly afterwards. The assassin was allegedly one of his bodyguards or the captain of the bodyguards.

¹¹ Commentary: A favorite discussion of military historians is a what-if scenario asking whether Alexander’s Macedonian phalanx would have fared well against late Republic of Rome legions of two centuries later. The conquest of Macedon by the Romans (148 B.C.) offers no clue, as the phalanx (and non-Roman leadership) was considered degraded by that time and the legion (and Roman leadership) was ascendant. The technology had not really changed.

¹² Commentary: The Solf Circle destruction was also the trigger event for the Gestapo to destroy Abwehr.

¹³ Commentary: The original job of the Secret Service was catching currency counterfeiters.

¹⁴ Commentary & Citation: On this issue, JMS commented in response to the question, *Wouldn’t the ship’s quartermaster notice a frozen telepath arriving?*:

- ✓ “In something like this, you don’t move unless you have the main quartermaster at the Mars base ON YOUR SIDE. You stuff it all into cargo loaders and crates, and ship it up. Have you ever seen military shipments? I looked into this, and security for big crates like this is done *at the point of shipping*.” – from The Lurker’s Guide to Babylon 5 for the “Endgame” episode (<http://www.midwin-ter.com/lurk/guide/086.html>), captured July 22, 2019 (emphasis in original).
 - Still this seems like a stretch to me, you need security at both ends. Especially when no one is to be trusted, when the organization has been infiltrated, when there is an active resistance, when paranoia reigns, as in the last days of President Clark. Further, the crates in which the Shadow ‘teeps’ were wheeled in looked very conspicuous, there is a scene of them being moved past security!

¹⁵ Commentary: On May 7, 1861 Virginia Militia occupied Arlington House, the home of Robert E. Lee and Mary Lee (great granddaughter of Martha Washington), overlooking Washington, D.C. As such, they were a direct threat to the Capital and could have, if they had been organized, fortified the hill and brought up heavy artillery to bombard the Capital. They departed the position after Mary Lee evacuated on May 14th to her sister’s estate in Virginia. The hill was retaken unopposed by Federal troops on May 24th and later became Arlington National Cemetery.

¹⁶ Citation: “Offa’s reign has sometimes been regarded as a key stage in the transition to a unified England, but this is no longer the general view among historians in the field. In the words of Simon Keynes, ‘Offa was driven by a lust for power, not a vision of English unity; and what he left was a reputation, not a legacy.’” – from Wikipedia article, “Offa of Mercia,” captured May 3, 2020.

- ✓ See legacy discussion, The Insistence of Memory, 3 Temporal Technologies, p. 830, *supra*.

¹⁷ Commentary: I, like millions of others, witnessed the unwatchable-but-can’t-look-away travesty that was Tonya Harding’s performance at the 1994 Olympics. Surely, she should never have been allowed back onto the U.S. Olympic Team after pleading guilty to *conspiracy to hinder prosecution* (a low-grade felony, meaning she could have spent more than a year in jail) in relation to the attack on Nancy Kerrigan.

¹⁸ Commentary: The perp in the Ponzi scheme was sentenced to a very long jail term; I had no issue with him serving significant jail time, but the sentence seemed disproportionate when I realized that he would spend more time in jail than many people convicted of killing a human. Indeed, about 15 years later, the drunk driving perp who killed an on-duty police officer and injured his K-9 companion (discussed in 2 Diplomacy, EN 6, pp. 1122-1123, *supra*) was sentenced (on a charge of Third Degree Murder) to less jail time than the perp in the Ponzi scheme. Consistency and proportionality have always bedeviled criminal sentencing.

¹⁹ Commentary: In perhaps an echo of Dr. Strangelove (and completely unintended, I am sure), Putin announced the Russian ‘nuclear powered cruise missile’ known as Burevestnik and designated by NATO as SSC-X-9 Skyfall, in his annual ‘state of the union’ speech on March 1, 2018. The press has dubbed it Putin’s ‘doomsday weapon’ and Putin is known to be unrepentant about the Soviet Union and the Cold War. He is 66 years old in 2019.

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*See Appendix AGE – Aging Out
See Appendix SO & IO – Special Operation & Information Operation Example*

“No one had given Muhammad Ali a chance against George Foreman in the World Heavyweight Championship fight of October 30, 1974. Foreman, none of whose opponents had lasted more than three rounds in the ring, was the strongest, hardest hitting boxer of his generation. Ali, although not as powerful as Foreman, had a slightly faster punch and was lighter on his feet. ...

But when the bell rang just after 4:00 a.m. in Kinshasa, something completely unexpected happened. In round two, instead of moving into the ring to meet Foreman, Ali appeared to cower against the ropes. Foreman, now confident of victory, pounded him again and again, while Ali whispered hoarse taunts... Foreman lost his temper, and his punches became a furious blur. To spectators, unaware that the elastic ring ropes were absorbing much of the force of Foreman’s blows, it looked as if Ali would surely fall. By the fifth round, however, Foreman was worn out. And in round eight, as stunned commentators and a delirious crowd looked on, Muhammad Ali knocked George Foreman to the canvas, and the fight was over.

The outcome of that now-famous ‘rumble in the jungle’ was completely unexpected. Yet in the end, a fight that should have been over in three rounds went eight, and Foreman’s prodigious punches proved useless against Ali’s rope-a-dope strategy.

This fight illustrates an important yet relatively unexplored feature of inter-state conflict: how a weak actor’s strategy can make a strong actor’s power irrelevant...”

– Ivan Arreguin-Toft (U. of Oxford), “How the Weak Win Wars: A Theory of Asymmetric Conflict,” *International Security*, Vol. 26, No. 1 (Summer 2001), p. 93 ¹

Offset Strategies: Black-ops in both GGDM and in fiction often operate as an offset strategy, heroic character operations in science-fiction adventure, whether in books or on film, amount to offset strategies for the weaker side – because it is necessary for the characters to be part of, allied with the weaker side of the conflict in order to be heroic; i.e., the ‘heroes’ on the stronger side are necessarily evil bullies, traitors, and so forth, greedy servants of the evil enterprise.

- ✓ “An offset is some means of asymmetrically compensating for a disadvantage, particularly in a military competition. Rather than match an opponent in an unfavorable competition, changing the competition to more favorable footing enables the application of strengths to a problem that is otherwise either unwinnable or winnable only at unacceptable cost. An offset strategy consequently seeks to deliberately change an unattractive competition to one more advantageous for the implementer. In this way, an offset strategy is a type of competitive strategy that seeks to maintain advantage over potential adversaries over long periods of time while preserving peace where possible.” – from Wikipedia article, “Offset Strategy,” June 26, 2019.

Once you understand an offset strategy, a lot becomes clear. The alleged Russian interference in the 2016 Presidential Election – which would be a Black-op in GGDM as it was in the real world – is an offset strategy. Implicit in an offset strategy is the admission that the acting side is considered to be in a weaker position and feels threatened enough to act, to take the risk or the cost.

- ✓ “Despite the technological advantage of the U.S. military, insurgents in Iraq and Afghanistan have proven their resilience in the face of large-scale campaigns. Groups like these are constantly innovating on the tactical and strategic levels because they

are constantly at war, and defeat, for them, has existential consequences. Their military innovation curve is much faster by necessity. Insurgents tend to use new combinations of available commercial technologies to great military effect. Insurgents in Iraq combined cheap, commercially available cell phones and service with rudimentary explosives to create improvised explosive devices, and with the aid of Iranian designs, also produced explosively formed penetrators, which proved costly for U.S. forces. In the future, insurgents armed with commercially available drones or state-provided technology, could deny the U.S. military the staples of low-intensity conflict such as MQ-9 Reapers or Blackhawks in a strategically meaningful manner. Hezbollah has already demonstrated its ability to use anti-ship missiles against Israeli ships, and Hamas is trying to develop ‘suicide’ drones.” – Benjamin Locks, “Bad Guys Know What Works: Asymmetric Warfare and the Third Offset,” War on the Rocks (Texas National Security Review), June 23, 2015 (available free online).

In GGDM terms, the best use of Black-ops activations is as an offset strategy (especially in combination with insurgencies), though, when combined with conventional strength, they can make a side seem nearly unstoppable as well (e.g., Prussia under Otto von Bismarck), so they cut both ways equally. But it is more likely that the ‘weaker side’ will resort to Black-ops because it is very expensive (especially in Power Activations) to maintain both conventional superiority and operate asymmetrically at the same time. The response of the other ‘superior’ side to offset Black-ops must either be use of conventional power or to resort to Counter-operations on defense and their own Black-ops activations thus shifting the contest into a Special Operations arms race-kirmish and detracting from the disparity in conventional power.

- ✓ Otto von Bismarck was the master of the offset. Prussia had a legendary, potent military but was always vastly outnumbered and surrounded by potential foes. Bismarck prudently used diplomacy, spies, and intimidation (with a few orchestrated demonstrations such as the Second Schleswig War (1864)) and a web of protocols, secret agreements and treaties in what is referred to as the Balance of Power. His heirs, however, mystically convinced of Prussian conventional military superiority and their own manifest destiny, abandoned his subtle offset strategy in August 1914.
- Historical Offsets: The classic offset strategy is diplomacy, forming alliances with others against a stronger opponent (e.g., the Battle of Qarqar aka “The Battle of the Twelve Kings,” in 853 B.C.). Offset is at the core of surprise and ambush (see In Open Space, 7 Combat, p. 1036, *supra*); the Japanese attacked at Pearl Harbor to offset the conventional power of the U.S. Navy’s Pacific Fleet whose forward deployment to Hawaii very much concerned them.
 - ✓ The decline of the surface capital warship in the mid-20th Century was due to the offset ability of aircraft, submarines, and torpedoes; *the offset became the new norm*.

Trade and economics have also served as offset strategies, making others dependent upon the weaker position for something that is very important to them, which works as a precarious balancing act as long as no one can conquer the weaker position; this explains the existence of countries such as Kuwait and Qatar.

- ✓ “Nor are non-state actors the only ones who will be likely to use commercially available technology and asymmetric tactics to achieve their military ends. China has used swarming fishing boats to bolster its territorial claims in the East and South China

Seas and could use them for intelligence, surveillance and reconnaissance, or offensive operations in a time of war. Russia has shown its willingness to use unconventional tactics to occupy Crimea and eastern Ukraine. With new unmanned, communication, and remote sensing commercial and military technology, asymmetric warfare will cut across all military domains by actors small and large. If the third offset does not account for the diversity of enemies, asymmetric tactics and strategies, and their potential for military innovations, the military will run needless risks in the most common types of future conflicts.” – Benjamin Locks, “Bad Guys Know What Works: Asymmetric Warfare and the Third Offset,” War on the Rocks (Texas National Security Review), June 23, 2015 (available free online).

Technology in GGDM, in science-fiction literature, and in the real world of the 20th century during the Cold War served as an offset strategy, to wit:

- ✓ “In the 1950s, President Eisenhower emphasized nuclear deterrence to avoid the larger expenditures necessary to conventionally deter the Warsaw Pact. In a second period from about 1975 to 1989 the term ‘Offset Strategy’ returned, again referring to technological superiority to offset quantitative inferiority in conventional forces.” – from Wikipedia article, “Offset Strategy,” June 26, 2019.²

It remains a continuing part of the new ‘Third Offset Strategy,’ to wit:

- ✓ “The Defense Department’s Third Offset Strategy, which seeks to outmaneuver advantages made by top adversaries primarily through technology, is at heart based on the time-honored military concepts of being able to win a war if necessary but also having enough capability to deter one. ... A core component of the initiative is the formation of a Long-Range Research and Development Planning Program that will purportedly target several promising technology areas, including robotics and system autonomy, miniaturization, big data, and advanced manufacturing, while also seeking to improve the U.S. military’s collaboration with innovative private sector enterprises. The Center for Strategic and Budgetary Assessments released a report ... emphasizes the development of next-generation power projection platforms like unmanned autonomous strike aircraft, the acceleration of the LRS-B, additional investments in under-sea warfare systems like Unmanned Underwater Vehicles, and steps to reduce U.S. and partner vulnerability to the loss of space-based communications.” *Id.*³
 - ✓ “During my month-long preparation for my Senate confirmation hearings, I read many excellent intelligence briefings. I was struck by the degree to which our competitive military edge was eroding, including our technological advantage. We would have to focus on regaining the edge.” – Gen. Jim Mattis (USMC Ret.) op-ed, “Jim Mattis: Duty, Democracy and the Threat of Tribalism,” Wall Street Journal, August 28, 2019.
- Nizarism: Assassination of opposing leaders is an offset strategy made famous by the Nizari Ismailis in the late 11th century.
- ✓ “The Nizaris posed a strategic threat to Sunni Seljuq authority by capturing and inhabiting several mountain fortresses throughout Persia and later Syria, under the leadership of Hassan-i Sabbah. Asymmetric warfare, psychological warfare, and surgical strikes were often a tactic of the assassins, drawing their opponents into submission

rather than risk killing them.” – from Wikipedia article, “Order of Assassins,” captured October 25, 2019.

The Order of Assassins tried to stop the Mongol Invasion of 1258 by assassinating the Mongol leaders; all of the multiple assassination attempts failed, and as a result, the Mongols captured their castle at Alamut, and executed the Grand Master of the Order. Deprived of sovereign territory, the Order of Assassins (Nizaris) passed into distorted legend and folklore.

- ✓ Though it is often clouded by other issues and factors, such as vengeance, punishment or retaliation (e.g., the OAS assassination of Gen. Ginestet) or attacks to prevent the other side from gaining an advantage, assassination remains mainly the tool of the side which is perceived to be weaker in any conventional conflict. In the alternative, it is used when two sides are about equal and neither side can find a way to gain the upper hand. However, increasingly in modern contexts, it has been used as a police action, e.g., drone and helicopter strikes, in an asymmetrical conflict;⁴ this is the issue that has arisen with modern capabilities that has made Westerners uncomfortable.
- Sign of Weakness?: There is a psychological barrier to using asymmetric tactics or even strategies: Doing so has classically been regarded as an admission that a side is weaker (or perceives themselves to be weaker) than their opponent in the conflict.
 - ✓ Failure of Nizari Ismailis’ assassination attempts confirmed that they were the weaker party; the Mongol invaders probably already thought so: Justified True Belief (JTB).

In the West, this in part, derives from chivalric notions of warfare inherited from the Middle Ages; chivalric warfare was almost devoid of battlefield tactics, flank charges and ambushes, even missile weapons (e.g., Cumans, Mongols, Byzantines), were considered cowardly. In 1278 at the Battle of Marchfield, the leader of 200 German knights hidden in the woods apologized in advance for what they were about to do: They were stationed in the woods to surprise charge the flank of the Bohemian knights once they were fully engaged in a frontal charge. The Bohemians, for their part, never imagining that the Habsburg Holy Roman Emperor would do such a thing, did not have anyone guarding the woods. They lost.

- ✓ Asymmetric warfare is relative – at the Battle of Marchfield, it was simply a tactic that had been discarded by chivalric warfare codes which regarded ‘proper combat’ as between two armed, trained men, face to face, on an open field. Within centuries, it was just a normal battlefield maneuver. Asymmetric tactics are often similar to an ambush hidden behind an idea (see *In Open Space, 7 Combat*, p. 1036, *supra*).

A very slow trend over the last five or six centuries has been the slow widening of tactics and very slow integration of asymmetric options into regular warfare (not just rebellions and insurgencies). Missile weapons slowly came to dominate warfare (as did technology generally), ambushes and raids returned, shock and attrition warfare gave way to maneuver warfare. Navies used fireships, commandos and special forces, snipers developed, the Italian Navy attacked with explosive motorboats, civilian populations and industry became targets, counterfeiting currency and assassination of enemy leaders, WWII ended with suicide attacks by regular national air forces. Also rising in the last two centuries was the notion of formalized psychological warfare operations and disinformation campaigns (and now cyber-warfare), which still make some people in the West uncomfortable (see *Pedagogy of Propaganda, 1 Kairotic Moments*, p. 1425, *infra*). The line between conventional and asymmetric

conflict and tactics blurred significantly in the late 20th century, leading to helicopter gunships being used against non-combatants, and the controversial use of armed drones.

- ✓ Asymmetric tactics, strategy, warfare, rests in opposition to what is considered ‘conventional’ conflict or combat in a time and place. Conventional warfare is what the regular forces are trained, equipped and willing to do operationally, and what is socio-politically tolerable. As the notions and tactics of ‘conventional conflict’ widen – leaders like to have ready options, forces trained and equipped to do different tasks in different environments – will there come a time when nothing is really asymmetrical?

“I think they were doing very basic intelligence work: Who’s out there? Who’s willing to play ball? And how can we use them?”

– Stephen L. Hall (CIA Ret.), as quoted in the Washington Post, August 15, 2017

Playing Ball: Who’s willing to play ball can be answered in GGDM by a combination of Insurgency levels (see Fabrication of Order, 6 Combat, p. 1022, *supra*), colony political status (e.g., Conquered, Converted, etc., see 2 Order, p. 538 *et seq.*, *supra*), Thesis Statements (see Disputation, 2 Reformation, p. 1391, *infra*), and inactive Constructural Elements (see Presence, 2 Constructural Elements, p. 189, *supra*), with possible emphasis in these cases on the Ideological Constructural Element (see 1 Constructural Elements, p. 179, *supra*).

SOM-COMS: The basic unit of Special Operations (both Black-ops and Counter-operations) is the Mission (but is not a game unit, see The Fine Print, 1 Construction, p. 660, *supra*).⁵ The Mission is whatever is needed, that package of people, opportunities, placement, and resources needed to carry out the operation for which the Mission is eventually used. Missions must be first “recruited” and then “lodged” in a specific location or corporation. Missions are only designated as Special Operations Missions (SOMs) or Counter Operations Missions (COMs, see CIT, 3 Special Operations, p. 1320, *infra*). Other than that designation, it is irrelevant what Special Operation or Counter Operation the Mission is eventually used for; it is assumed that at the time of Recruitment and Lodging of the Mission the powers that be have an idea of what the Mission (or cell, CIT, or whatever you want to call it) will be used for, but those are details that do not need to be specified for game purposes until the Mission is actually used.

- ✓ Black-ops can be an adjunct to normal conflict, or war by another name, or the mainstay of asymmetrical conflict that includes News Events and Thesis Statements.
- **Special Operations Missions (SOMs):** Special Operations Missions (SOMs) are the ‘offense’ of Special Operations, they are the ones who go out and do the dirty deeds (but not dirt cheap). *It should not in most cases, be assumed that those who are carrying out the Special Operations are of the controlling Native Population Type of the position which recruited and lodged them; foreigners (especially **aliens**) stick out, Special Operations are usually carried out by locals, people you know.*⁶

Before a Mission can be used for Black-ops, it must be first Recruited and then Lodged (the Who, Who and How?). A SOM *may not be* both on the same Regular Turn, therefore, it is at least a two-turn process to put Missions in place. Missions should be expended with care.

- ✓ Studies have shown that most murder victims are killed by someone they know, someone close. Fear of being killed by total strangers is largely overblown.

- Sneakers on the Ground: “Hackers working for Dutch intelligence officials obtained the document and provided it to the F.B.I., and both its existence and the collection of it were highly classified secrets, the people said.” – Adam Goldman, “Justice Dept. Investigating Years-Old Leaks and Appears Focused on Comey,” The New York Times, January 16, 2020.

- ✓ In January 2020, it was reported that Jeff Bezos phone had been hacked by Saudis, see Stephanie Kirchgaessner, “Amazon boss’s phone ‘hacked by Saudi crown prince’” The Guardian, January 22, 2020.

Missions, Recruiting and Lodging do not always have to be thought of as sneakers on the ground, there are many other less literal possibilities, for example, designing a computer virus could be recruiting a mission, and Lodging it would involve some person or means to introduce it to the target. You know, like the movie Independence Day (1996).☺ A sophisticated or AI virus can be devastating as a ‘mission’ in Black-ops – the United States used one to damage or destroy 1,500 of Iran’s centrifuges (Stuxnet, 2010) being used to purify uranium – and increasingly, cyber-attack is the real Special Operation of the 21st Century, e.g., the Chinese have been accused of attacking or trying to infiltrate the computers that control the U.S. power grid, and the U.S. has done the same to Russia.

- ✓ Consider this 1993 – yes, 1993 – article: “Lucan’s scientists had deliberately programmed the virus to instinctively navigate through the intricacies of the standard Imperial Data Packages; the virus knew these computers better than their own operators, and were able to defeat them at every turn. Crews who were trained to run their ships through computer interfaces were no match for an enemy that turned those computer interfaces against them. There was no contest.” – Dave Nilsen, “When Empires Fall II,” Challenge Magazine, Issue 69, February 1993.

- Combat Recruiting: As implied in the foregoing, Missions are only *recruited* during Regular Turns and not during Combat Rounds. Whether or not Missions can be recruited (during the Regular Turn) in units in an ongoing combat is an interesting question for careful consideration, depending on what type of unit (ship, Ground Unit, Defense Base) and what type of combat and who is involved. For example, during WWI on the Eastern Front, entire Czech units of the Austro-Hungarian army left their trenches and walked across no-man’s land to join the Russians; this would be much more difficult in ship combat. But, GGDM is science-fiction. The Czech Legion played a legendary role in the following Russian Civil War.

- ✓ The Germans in WWI also transported Lenin and Trotsky across the frontier in April 1917 in sealed railway carriages to reinsert them into Russia (a sort of Lodging...).

- Jobs for Jackals: When the Special Operations Power is activated for the purpose of Recruit Missions, the position may attempt to recruit as many Missions as desired. For each activation for Recruiting Missions, an amount of RPs *must be* committed (call it a ‘recruiting bonus’: bribery, payoffs, smuggling, fake identification, operations to change appearance or genetic structure, supply drops, infiltration, support for dissident elements, etc.) per Recruiting attempt and the number of Missions desired to be recruited must be specified.

- ✓ The base chance of recruiting a Mission is 35% plus 2% per RP committed.

Only one roll will be made per Mission attempted to be Recruited, and there is only a 50% chance that Enlightenment can be used in case of failure, if committed to the Recruiting actions. Positions cannot use Enlightenment to reroll a failure to be able to use Enlightenment

(like wishing for more wishes)! Unused Enlightenment, unlike Combat, is not lost in relation to *any* Special Operation Power activation.

Again, note that because Special Operations Power activations cost either one Act *or* one Scene and never more, their actions will process early in the Regular Turn order (see Clockwork Universe, 3 The Streams of Time, p. 90, *supra*), in particular, before Taxation, etc.

- ✓ Missions just represent potentials, so Missions are very ‘vanilla’ and are not tied to a specific place or event, are not affected by other considerations, such as corporations, colony status, diplomatic relations, and such. Missions are not Recruited ‘against’ any particular opposing position, rather, that is the function of Lodging (p. 1293, *ut infra*). Missions just hang out by the hyperspace pool until either Lodged or not.

Only Special Operations Power activations (for any purpose) using or requiring a Scene (see Making a Scene, 1 Special Operations, p. 1274, *supra*) are subject to Power activation failure checks at the location where they occur. Thus, Special Operations will fail less often overall than most other Power Activations, and *Recruit Mission will never fail*, and *Lodge Mission and Special Operations activations can only fail if the target is a friendly unit*. Special Operations offense in this regard has a slight advantage over Counter-Operations, the defense. When the Lodging attempt involves both friendly and non-friendly target units, only the friendly units are checked (Back ye foul beast! No unhandled exceptions in GGDM!).

- ✓ The Day of the Jackal is a *fictional* 1973 film about an attempt to assassinate Charles de Gaulle in 1963, which is based on an *actual* assassination attempt on August 22, 1963 (so how fictional is it?). The title might also refer to Carlos the Jackal, the Venezuelan leftist terrorist whom Hugo Chavez publically declared a friend and compatriot, who killed two French police officers, was arrested in Khartoum in 1994 and handed over to the French; he is now serving a life prison sentence.

“The bizarre saga of Anna Chapman, the smoking hot Russian spy arrested in New York in 2010, just got a lot weirder. In a new interview with the BBC, the FBI’s counterintelligence chief Frank Figliuzzi revealed that the real reason the feds arrested Chapman was because top officials believed she was getting ‘closer and closer’ to seducing a sitting U.S. Cabinet member. Figliuzzi told the BBC that Chapman got ‘closer and closer to higher and higher ranking leadership ... she got close enough to disturb us.’ ‘We were becoming very concerned,’ he said, according to The Independent. ‘They were getting close enough to a sitting US cabinet member that we thought we could no longer allow this to continue.’”

– Grace Wyler, “FBI: Russian Honey Trap Anna Chapman Was ‘Close’ To Seducing An Obama Cabinet Official,” Business Insider, April 3, 2012

Assets: If this is true, Anna Chapman was much more successful than Jack Barsky (*ahem*, I know what you are thinking: She had more *assets*).

And as such, she was more exposed; Jack Barsky’s lack of success meant that he was never noticed and was not arrested until 1997, nine years after he quit spying, having been outed after the end of the Cold War by a defector, KGB archivist Vasili Mitrokhin, who provided the United

Kingdom with 25,000 pages (compiled over 30 years) of *hand-copied* and annotated KGB materials which he hid in the floor of his dacha.

Bees, Bears & Sci-Fi: Think about the classic ‘honey trap’ espionage. Obviously this is not going to work between alien species – but then again, GGDM is a space-opera setting. Likely, it would require recruiting members of the target native population type and the assumption that sexuality exists in the target species.

- ✓ Imagine the drama potential ... a woman recruited for a honey-trap operation to infiltrate the top echelons of a pesticide manufacturer by insectoid extraterrestrials... ☺

Honey-trap operations go hand in hand with sleeper agents; Anna Chapman is an example of the classic ‘honey trap’ sleeper (or maybe ‘sleep with her’☺) agent.

GGDM makes no explicit assumption of either sexual or asexual reproduction in species unless specified by Fundamental Realities or developed as an in-game detail. See What Is, Is, 5 Taxation & Census, p. 338, *supra*.

- ✓ I personally did not find Anna Chapman “smoking hot” (*ut supra*). She, of course, can be ‘glammed-up’ (horrible phrase) like anyone else – such that it is hard to believe the girl in the media pics is the same one in the police mugshot (compare her pictures) – but there is more to appeal than looks. Bluestocking George Eliot knew that. And honey-trap agents, like Virginia Oldoini, must know that.

[Interview] “He [Claus von Stauffenberg] said in response to one attempt to motivate him to overthrow Hitler in November 1939, ‘I’m not ready yet.’ What does that mean? He was a captain at the time, a captain in the general staff. How many opportunities to oppose a dictator and a commander in chief are open to a captain?”

– Professor Peter Hoffmann, biographer of Claus von Stauffenberg, Operation Valkyrie: The Plot to Kill Hitler (documentary, 2008)

French Vanilla: Activating the Special Operations Power for the purpose of Lodging Missions allows the position to attempt to Lodge as many Missions as desired in any number of locations.

Whenever a Mission is successfully recruited, it should be Lodged on the following Regular Turn. Missions which fail to Lodge *are lost*; additionally if the position fails to issue Actions to Lodge the Recruited Missions (and that’s a strategic risk choice of the position players), they *may be lost* at the end of subsequent Regular Turns due to ‘aging out’ (p. 1296, *ut infra*). Lodging is the process of putting a Mission in a specific place; that is, translating the potential to the real (i.e. collapsed wave function).

- ✓ Recruiting Missions is a commitment to Lodging them on the subsequent turn.

Players should note that a Special Operations Power activation for the purpose of Recruiting Missions should be followed on the next Regular Turn by a Special Operations Power Activation to Lodge the Missions and plan accordingly or the opportunity is wasted. Both of these notes suggest that GGDM Black-ops should be selectively targeted with a well-considered plan.

It thus takes two Regular Turns to develop a Special Operations Mission – one to Recruit and one the Lodge, Missions cannot be Lodged until the position that Recruited them knows the potential exists to Lodge them. On the third Regular Turn, the position may attempt a Black-op (p. 1297, *ut infra*) against a target at the location where the recruited missions were Lodged.

- ✓ Missions may only be Lodged in a game unit (see View from a Height, 1 Construction, p. 660, *supra*), that is they are either Lodged on ships, colonies or in Ground Units.⁷ The target game unit for the Lodging may either be a friendly or non-friendly unit. Lodging on *friendly units* should be considered nearly automatic, unless the Concierge chooses to use an Intervention Potential (representing incompetence, etc.).
- ✓ Missions may not be Lodged on empty planets – in anticipation of aliens arriving later – but then again, GGDM is science-fiction! Isaac Asimov’s robot detective R. Daneel Olivaw lived for about 20,000 years, manipulating the galaxy for humanity, and is discovered lodging on Earth’s moon in Foundation and Earth (1986). But that is something that goes beyond the basic mechanics of GGDM; within GGDM, the only way a Mission could be on an empty planet is if it were Lodged in a Ground Unit that was placed there (see Beans, Bullets & Bandages, 4 Combat, p. 988, *supra*).
- ✓ The Actions to Lodge Missions do not need to specify which Mission is being Lodged (they are vanilla) but do need to specify where each Mission is being Lodged.
- ✓ The chance of Lodging each Mission in a unit or location owned by another position (i.e. non-friendly unit) is 3% for each Monad in the Diplomatic Space between the positions, plus a percentage equal to the Insurgency Level of the target colony (see Fabrication of Order, 6 Combat, p. 1022, *supra*), and 6% may be added also if the target colony has the same Native Population type as the position attempting to Lodge the Mission. A maximum of 1 RP may be added to each Lodging attempt increasing the chances by 15% (money talks, BS walks); participants may decide to adjust this bonus up or down in their game or based on Concierge judgment. Enlightenment – in this case, recognizing opportunity and manipulating others – may be applied to each Lodging attempt using the same rules for Recruiting Missions (p. 1291, *ut supra*).
 - There is no way within the GGDM game mechanics – similar to opposing combat rolls – for a defender to apply their own Enlightenment against enemy attempts to Recruit or Lodge Missions or conduct Black-ops as the defender or target has no Power Activation. However, clever players may find ways to activate Writs whose effect relates to defending against enemy attempts. And of course, technology is the asymmetric response to the asymmetric offset. And ever onward...
 - MegaCorporations create Diplomatic Spaces and thus contribute that way. A colony Hosting a MegaCorporation of which both positions are members adds 10% to the chance of Lodging.
- ✓ When a Special Operations Mission is successfully Lodged, it is in place, ready to use in an activation of the Special Operations Power for the purpose of Black-ops, and will be recorded as such on the position’s game information.
 - One of the most interesting chapters in Cold War espionage was the Trinity College Five, who were recruited as Soviet spies and infiltrated the British counterintelligence agency; a senior member – Kim Philby, who had previously been cleared of suspicion – of British counterintelligence

was a Soviet spy! It was revealed a couple of years ago that he even made training videos for the KGB that were shown in East Germany. The consensus seems to have developed that while the West ‘won’ the Cold War, the Soviets won the espionage war. Food for thought in GGDM.

- “While *The Sword and the Shield* contains new information ... none of it has much significance for broader interpretations of the Cold War. The main message the reader comes away with after plowing through almost a thousand pages is the same one gleaned from the earlier books: the Soviets were incredibly successful, albeit evil, spymasters, and none of the Western services could come close to matching their expertise. Bravo the KGB.” – Amy Knight, “The Selling of the KGB,” *Wilson Quarterly*, Winter, 2000, available free on webarchive.org (aka The Wayback Machine).

- Diplomatic Impunity: In the real world, intelligence agents are often ‘lodged’ under cover in diplomatic embassies and consulates due to the protection afforded by their status as diplomatic staff. Rarely is anyone actually fooled, and it becomes a cat and mouse game between counterintelligence and the undercover operatives from the embassy or consulate. Frequently, they are expelled *en masse* in tit-for-tat diplomatic spats. GGDM does not inherently contain embassies and consulates on Capital Colonies (though players could certainly create such through, e.g., Institutes), the Diplomatic Space serves as a representation of such generally. This is also the place where MegaCorporations may play out.

The minimum Diplomatic Space between two positions that have had First Contact are the two First Spaces, they do not need to be connected for Lodging. This provides an automatic base 6% chance. When two positions are very entangled (i.e. have a large Diplomatic Space), Lodging may be nearly automatic, but I recommend capping the chances at 90%.

The decision of whether or not to add 1 RP is a cost-benefit analysis in the larger picture of the Power Activations used, cost in Acts, critical necessity, or how much is in the Treasury against other demands.

- Walking to the Moon: Recruited SOMs exist as a pool of potentials with no location until Lodged (*ut supra*, p. 1291), but they aren’t just going to walk there. A means, a plot device or mover, is necessary (for which the Lodging activation and/or Scene serves a purpose) to have them appear there; there must be some connect between the position, potential, and actuality of a Lodged mission. First Contact is important in this regard, as is proximity of colonies, ships, business transactions, etc. Participants should give some thought to the means and opportunity to Lodge SOMs and the Concierge should adjust the percentages as necessary to reflect the circumstances and conditions, and stage of the game. No pre-rulings will be issued, but players may pitch a means or meaning of the Lodged SOMs to the Concierge.
- Furnishing Alcohol to Minors: It is also minimally possible to Lodge Missions, by expending 1 RP, against a position with which the attacker has not yet had First Contact. The Concierge may forbid this, but the idea does accord generally with surreptitious alien invasion scenarios in science-fiction stories (e.g., *Invaders from Mars* (1953), *First Wave* (1998-2001), where the humans are a Minor Race in GGDM terms and the invaders took human form) – they know we are here, but we don’t know they are here. Does it fit the game story?

- ✓ Secret, pre-First Contact alien invasion scenarios in fiction where humans have advanced stardrive capabilities is usually in the form of intelligent viruses, parasites or paranormal creatures. Participants will need to decide if this is something they want in their GGDM game story.
- Shipping & Freight: Missions may not be Lodged on ships that are *en-route* between stars. Missions attempted to be Lodged on moving starships are not lost, rather, the Lodging Actions simply are not executed (but the Power Activation is still used). This is game mechanical concession to the fact that, due to Turn Cycling, ships may move away (or be destroyed) before such is known by the players whose position is attempting to Lodge on the ship.
 - ✓ A Lodged Mission may be moved by re-Lodging it in another location by activation of the Special Operations Power for the purpose of Lodging Missions, as long as it is physically possible (the Concierge may block attempts that are not physically possible), an unlimited number of times until it is lost either by failure or by aging out (i.e. ‘migration of missions’). Missions Lodged on colonized planets may be moved to ships by “re-Lodging” them on a ship while it is in the system, and vice versa, for movements from ships to planets. This means there is a chance of failing to Lodge the Mission and losing it each time the Mission is Lodged in a new place, not to mention the use of numerous Special Power activations, but it does provide a means of deep infiltration through starships when there is no other way (with considerable risk of loss or aging). Each re-Lodging attempt is treated individually between the Lodger and the target unit and position, as described above.
 - ✓ Missions Lodged on Colony Ships that Land are automatically transferred (Lodged) to the new colony, Missions in Ground Units move with the Ground Unit if loaded, unloaded or landed from Transports. These are not considered ‘re-Lodging’ of the Mission and there is no risk of loss other than by aging out.
 - ✓ Special Operations Missions may not – for game sanity – be Lodged inside other Special Operations or Counter Operations Missions (despite the Cambridge Five and Kim Philby) – that would be just too weird in game terms. As noted previously, Special Operations Missions and Counter-operations Missions are not considered ‘game units’ per The Fine Print, 1 Construction, p. 660, *supra*.
 - ✓ Finally, starships that are *en-route* between stars cannot be targeted for Lodging of Special Operations Missions or Counter-operations Missions, and Missions may not move from ship to ship while *en-route*.
- Unclaimed Freight: Black-ops are the main weapon of and against terrorism. In the vein of the preceding discussion, many of the Islamic extremist attackers in Europe in the last decade have posed as refugees or lived in refugee camps. This then has been used as argument by extreme right and ultra nationalist groups against accepting refugees; such arguments may be playing into militant radical Islam’s hands, creating the conflict they (and both sides, in a radical feedback loop) want to foster. Such are the many interactive factors at work.

In GGDM terms, this means that Missions may be moved involuntarily by the action of Loading and Unloading Colony Ships, trade ships, and Troop Transports, without the knowledge of the position that Lodged them. There is much room for play and surprises in this by the Concierge and opportunity for diligent, clever operatives.

- ✓ [Narrator] “At that moment, Woss tried to open the door to tell Stauffenberg of a phone call. Von Haefen had just finished activating the first bomb but the second fuse hadn’t been crushed. [Woss went away, not admitted to the room] ... [Gen. Wilhelm] Keitel [waiting outside] was impatient and told Stauffenberg to hurry. [Woss was sent back in to get Stauffenberg to hurry up allegedly changing his shirt in the bedroom] They’d run out of time. One bomb would have to do.” – Operation Valyrie: The Plot to Kill Hitler (documentary, 2008).
- **Ralph Wolf & Sam Sheepdog:** At the end of each Regular Turn (or Turn Cycle if Regular Turn Actions are not submitted or processed) *after* a Mission (of either type) is either *first Recruited or initially Lodged* (i.e., not on the initial turn it is Recruited or Lodged), at the end of the Regular Turn there is a 30% chance that each Mission (whether Lodged or not) will be lost as circumstances change, opportunities pass, loyalties change, places change, security upgrades, and agents quit, defect, die or are compromised. This *aging process* is independent of any losses caused by successful Counter-Operations (see Spy vs. Spy, 3 Special Operations, p. 1323, *infra*), failure to Lodge, or use of Missions in Black-ops at the location where the Mission is Lodged.
 - ✓ “With my sunglasses on, I’m Jack Nicholson. Without them, I’m fat and 60.” (un-sourced quote though it doesn’t seem out of character for Jack Nicholson).
 - ✓ “I’ve often thought that the process of aging could be slowed down if it had to go through Congress.” – President George W. Bush.
- **Punching Time Cards:** This is a matter of game-mechanical timing. A Mission that is Recruited cannot be Lodged on the same Regular Turn; the position must wait until the next Regular Turn to attempt to Lodge the Mission. Thus, Recruited Missions should not ‘age-out’ before an attempt can be made to Lodge them. And a Lodged Mission should not ‘age-out’ before the position has at least one opportunity to use it (however, see Treason, 3 Special Operations, p. 1310, *infra*).
 - ✓ Missions that fail to Lodge are lost (p. 1293, *ut supra*), so Recruited Missions will generally disappear rather quickly by one cause or the other.
 - ✓ Positions that have successfully Lodged Missions (of either type) should be cognizant that the clock is running (just like the biological clock of your life).
 - ✓ **If** participants believe or interpret in the game that time does not pass for passengers and crew of starships during FTL movement (which may take several Regular Turns) and the concept of ‘aging’ is taken very literally, the Concierge could suspend ‘aging’ of SOMs and COMs during interstellar flight. This would greatly extend the range of Black-ops and Counter-operation Target Protection of ships.

Consider that KGB sleeper agent, Jack Barsky, was contacted and trained by the KGB in East Berlin then in Moscow for approximately nine years before being inserted (i.e. Lodged) into the United States. He was able to operate in the United States for ten years, but found that what the KGB taught him about Western interpersonal manners and beliefs wasn’t quite accurate, and he had to adapt. Overall, he does not appear to have been very effective and *never got close to his main goal* of President Jimmy Carter’s foreign policy advisor (his mission was apparently similar to Anna Chapman’s, see Grace Wylder feature quote, p. 1292, *ut supra*). He has stated that when he arrived in the U.S. he had no real idea of how to reach his

intended target, he was inserted with a goal or target but without a plan or any help, but performed other missions instead, such as stealing computer code from an insurance company (hmmm... this would never happen in GGDM, right?).

- ✓ “Each year you get older is a smaller and smaller percentage of your age.” – Joe Block (Pittsburgh Pirates Broadcaster), September 12, 2019.

Col. Rodin: *We are not terrorists, you understand. We are patriots. Our duty is to the soldiers who've died fighting in Algeria, and to the three million French citizens who have always lived there.*

The Jackal: *And so you want to get rid of him.*

Col. Rodin: *[after a pause] Speaking as a professional, do you think it's possible?*

The Jackal: *It's possible. The point is getting away with it. And speaking as a professional, that's a very important consideration.*

The Jackal: *Half a million. In cash. Half in advance, and half on completion.*

Montclair: *Half a million francs?*

The Jackal: *Dollars.*

Montclair: *Are you mad?*

The Jackal: *Considering you expect to get France in return, I'd have thought it a reasonable price.*

– From *The Day of the Jackal* (1973)

Life on Edge: The execution of Black-ops and Counter-operations works on details and variables. The players provide the details, attention to the smallest details is very important when living on the edge. The Concierge provides the variables. The Special Operations Power is possibly the part of the game where the Concierge has the most difficult tasks and the greatest influence on the game.

- ✓ The Special Operations rules, like the other rules of GGDM, are designed to provide a framework for the story part of the game, and a set of procedures to resolve Black-ops and Counter-operations in a way that keeps the game flowing smoothly along.
- **Black Ops:** Google Dictionary at *black operations*: covert military or political operations that may employ measures not generally authorized – “the plan involved wiretapping, burglary, mail-opening, and other black operations.”
 - ✓ Merriam-Webster online dictionary at *black*: **14:** of or relating to covert intelligence operations
 - ✓ Dictionary.com at *black-ops*: a secret mission or campaign carried out by a military, governmental, or other organization, typically one in which the organization conceals or denies its involvement: [examples] Some national intelligence agencies use black ops to undermine enemy governments. The company even resorted to an industrial black op to steal secrets from its competitor.
 - ✓ Cambridge Dictionary online at *black ops*: secret military activities, especially illegal ones, that are ordered by a government or organization but that they will not admit to having ordered: a black ops agent/team.

- ✓ “A black operation (or black op) is a covert or clandestine operation by a government agency, a military unit or a paramilitary organization; it can include activities by private companies or groups. Key features of a black operation are that it is secret and it is not attributable to the organization carrying it out. A single such activity may be called a black bag operation; that term is primarily used for covert or clandestine surreptitious entries into structures to obtain information for human intelligence operations. ... The main difference between a black operation and one that is merely secret is that a black operation involves a significant degree of deception, to conceal who is behind it or to make it appear that some other entity is responsible (‘false flag’ operations).” – from Wikipedia article, “Black Operations,” captured June 29, 2019.

The degree of deception is what separates Special Operations Power Activations for the purpose of Black-ops from Special Operations activations for the purpose of Reconnaissance (see One-Way Mirror, 2 Information, p. 1340, *infra*).

“Based on the anti-tank missile tube found in Ramadi and other examples of weapons purchased by U.S. suppliers from European manufacturers, CAR (Conflict Armament Research) says there is evidence that many weapons obtained by various Syrian rebel groups supported by the U.S. were diverted to ISIS.... Pieter Wezeman, a senior researcher at the Stockholm International Peace Research Institute, said CAR’s work ‘shows the enormous risks’ that come with handing weapons ‘to unprepared, not very well-trained armed groups, or even so-called organized militaries..’. James Bevan, CAR’s director, found a Mauser rifle manufactured in Nazi Germany in 1941 in an ISIS cache in Baghdad alongside 150 other weapons and improvised explosive devices. [Damien] Spleeters said the fact that ISIS used older weapons ‘shows the extent of how long such a weapon can live and go through different owners and keep shooting and keep killing.’”

– Gabe Joselow, “ISIS weapons arsenal included some purchased by U.S. government,” NBC News, December 14, 2017

On the Border: This is not a new game. In the 1949 *fictional* movie *Outpost in Morocco*, the local Emir who dreamed of revolting against the French obtained modern long-range rifles presumably from a weapons smuggler since they were delivered in a night caravan. He also had heavier ordinance *en route* but was killed along with his daughter and his revolt crushed before it arrived. There is no suggestion directly in the movie that foreign governments were involved in stoking the revolt, but the weapons were obviously foreign made... Just because the movie is fictional doesn’t mean it is entirely absent of truth (e.g., a *hospital janitor* Chan Han Choi, arrested by Australian police in 2017 for brokering smuggled coal and arms deals for North Korea).

- ✓ It is well known now that governments routinely provide weapons to other countries and groups whom they support; M-16s made in South Korea were found in Cambodia, Chinese-made Silkworm missiles were launched at U.S. ships by Iran during various naval clashes in the 1980s. And of course, the U.S. and Russia have sold billions worth of weapons to prop up regional allies in proxy conflicts; e.g., Congress recently ineffectually (as in weak, impotent, incompetent) passed a bill disallowing the proposed sale of weapons to Saudi Arabia which was vetoed by the President.

- ✓ On July 16, 2013, a North Korean ship was seized in the Panama Canal by Panamanian authorities on suspicion of carrying illegal drugs, but was found to be carrying undeclared military weapons from Cuba hidden under bags of sugar; the crew of 35 resisted and were interned, the ship captain suffered a heart attack and attempted to commit suicide shortly afterward.
 - “Hugh Griffiths, an arms trafficking expert at the Stockholm International Peace Research Institute, said the seized ship is called Chong Chon Gang and has been on the institute’s suspect list for some time, having previously been caught trafficking drugs and small arms ammunition. He said that earlier this year the institute reported to the UN a discovery it made of a flight from Cuba to North Korea that travelled via central Africa.” – Haroon Siddique, “Panama seizes North Korean ship carrying weapons,” *The Guardian*, July 16, 2013.

Arms smugglers exist and operate with semi-impunity (even though they also supply weapons to drug cartels, terrorists) *because governments need them* for backchannel supply.

- ✓ Notably, the Babylon 5 television series featured quite a bit of unofficial ‘official’ smuggling; in one episode Commander Susan Ivanova recruits smugglers for back-door supply of the station by saying she will turn a blind eye to their other activities if they don’t step out of bounds.
 - “The fishing boats go out across the evening water, Smuggling guns and arms across the Spanish border. The wind whips up the waves so loud, The ghost moon sails among the clouds, And turns the rifles into silver, On the border.” – Al Stewart, “On the Border” (1976).

True Little Lies: Black-ops activities include media manipulation, stealing plans and artifacts, blowing things up, smuggling arms to insurgencies, treasonous acts of the moment, extractions (e.g., Adolf Eichmann), economic warfare, political stagecraft, false flag operations, etc. Black-ops in GGDM can be used for anything that is not covered within the Reconnaissance, Information Operations (see 2 Information, p. 1349, *infra*) or Counter-Operations (see Spy vs. Spy, 3 Special Operations, p. 1323, *infra*) activations of the Special Operations Power.

- ✓ Boldness of Black-ops (or similar small military actions, and probably in life as well) is often related to ideological drive, e.g., the capture of Adolf Eichmann in Argentina in 1960 or the Entebbe Raid in 1976. Such boldness of action occurs when ideological considerations outweigh practical and political risk considerations should the operation go badly; Israel was not going to allow a Nazi fugitive like Eichmann to escape in 1960 nor were they going to allow terrorist hostage-takers to cow Israel (especially after the Munich Olympics Massacre in 1972). *Alternatively*, the potentially disastrous political consequences of not making an attempt when the opportunity and knowledge were within the grasp of the leadership was at least equal to or greater than the consequences of failure of the actions taken by Israel in 1960 and 1976. If players are playing their positions immersively, this links – in GGDM terms – strong active Ideological Constructural Elements to Black-ops.
 - “When a man asks himself what is meant by action he proves that he isn’t a man of action. Action is a lack of balance. In order to act you must be

somewhat insane. A reasonably sensible man is satisfied with thinking.” – James A. Baldwin.

Black Ops may only occur in places where Special Operations Missions (not Counter-operations Missions) have been successfully Lodged previously (and have not ‘aged out’ – ghosts don’t do you any good, you need the collapsed wave function), the Black-op Special Operation Power activation cannot be used in any place where no Missions are Lodged.

- ✓ Thus the Black-op activation of the Special Operations Power should not be used to simply harass other positions and attach Intervention Potentials (see Vortex Manipulator, 1 Special Operations, p. 1271, *supra*) and expect the Concierge to do the dirty work for you, without going to the expense of Recruiting and Lodging Missions (e.g., Steely Dan, “Dirty Work” (1972)). You have to ‘pay to play’ in that game.

A Lodged Mission is considered to have the ability to affect its entire game unit location, thus a SOM Lodged on a colony may act against anything at the colony, including enhancements such as industry, Orbital Cities, Defense Bases, and against anything Hosted on the colony, such as Institutes, but may not act against ships at that location or Ground Units. A Mission Lodged on a ship or in a Ground Unit may only affect those units and anything attached to or on them. As Missions must be Lodged in a game unit, they can only indirectly affect Government Titles and Corporations (the Host Colony) by their actions against the game unit in which they are Lodged.

- Profile in Perfidy: The Special Operations Power may be activated multiple times per Regular Turn in the same or as many locations as necessary; however, Lodged Missions at one location cannot participate in more than one Black-op or Information Operation (see 2 Information, p. 1349, *infra*) per Regular Turn. When the Special Operations Power is activated for the purpose of Black-ops, the position executing the Black-op must send a Profile to the Concierge with the Actions. The Profile must contain at the minimum a concise detailed description of the proposed Black-op, with a concrete result if the operation is successful, and the list of Lodged Missions to be expended during the operation. *Lodged Missions are expended – lost, eliminated, removed from the game – regardless of the success of the operation.* The Profile may also, but is not required to add up to 5 RPs to enhance the success of the Black-op, and may also indicate other outside support for the operations, such as ships that are in place or arriving, and so forth. Possible Profiles are limited only by the imagination and circumstances – but should be short, concise, not a treatise.
- Mission Critical: When conceptualizing Special Operations ‘campaigns’ against a target or target position, positions and the Concierge should be cognizant of the ‘mission critical’ (especially in conjunction with Combat Orders) elements of the plan whose failure can cause chain failures of other parts of the operation or render other successes ineffective.
 - ✓ “A mission critical factor of a system is any factor (component, equipment, personnel, process, procedure, software, etc.) that is essential to business operation or to an organization. Failure or disruption of mission critical factors will result in serious impact on business operations or upon an organization, and even can cause social turmoil and catastrophes.” – from Wikipedia article, “Mission Critical,” June 10, 2019.

For example, it is mission critical to the internet to be ‘always on,’ which is why it cannot be shut down in response to DDoS attacks. Killing Hitler (of which several attempts were made) was mission critical to the Black Orchestra group, as discussed in Mission Impossible,

1 Special Operations, p. 1279, *supra*, failure to do so doomed Operation Valkyrie. Mission critical to the GGDM conspiracy of undermining ignorance and stupidity is preservation, dissemination, and hopefully being read widely (and a computer assistant to ease game management) in the same way that Plutarch’s comparative biographies were loved, read, and copied thousands of times by hand by Roman scribes and (mostly) preserved for posterity.⁸

- ✓ The cost of a successful or unsuccessful Black-op could equal the cost of a warship, or small combat. Can a thief in the night be worth so much asked Conan?⁹
- ✓ “It was so obvious the whole German uranium set up was on a ludicrously small scale. Here was the central group of laboratories, and all it amounted to was a little cave, a wing of a small textile factory, a few rooms in an old brewery. To be sure, the laboratories were well equipped, but compared to what we were doing in the United States it was still small-time stuff. Sometimes we wondered if our government had not spent more money on our intelligence mission than the Germans had spent on their whole project.” – Samuel A. Goudsmit, Alsos (1947), cited in Wikipedia article, “Alsos Mission,” captured March 5, 2020.
 - Goudsmit was a member of Alsos Mission sent to scoop the German nuclear weapon program in 1944-1945 and deny the Soviets and the French access.
- In the Morning Papers: Players will note that there are some actions that may be done by Black-ops that could easily be done or duplicated by News Events. In other words, why would a position go to the expense of blowing up a ship by a Black-op when a News Event could be used to do the same? There are three reasons to offer:
 - ✓ First, despite the statement that News Events are neutral (representing entropy, the natural force of the universe), and not the responsibility of the position issuing them, it is in the human nature to blame News Events on the news maker and retaliate. A successful Black-op may not identify the (evil) doer and hence there is an opportunity to truly avoid being blamed for dirty deeds (but you could also be blamed for someone else’s dirty deeds, see Plausible Deniability, 3 Special Operations, p. 1314, *infra*).
 - ✓ Second, News Events can be modified, by later, follow up News Events, whereas the results of a Black-op, good or bad, are absolutely true and not capable of modification by other positions (but are capable of ‘retaliation’ unlike a News Event). The reported results of Black-ops may be somewhat less than absolutely true, however, see Plausible Deniability, 3 Special Operations, p. 1314, *infra*.
 - ✓ Finally, certain acts when done in-game by a Black-op (much effort) are less offensive than when done by a (cheesy) News Event, especially those that might violate the Keep the Sand in the Sandbox prohibitions in 2 Dreamtime, p. 147, *supra*.
- A Heartless Woman’s .38: The base chance of successfully executing a Black-op is 30% plus 5% for each additional Mission used (that are not soaked off by Counter-Operations Missions on Target Protection, see Quartering Act and Secret Services, 3 Special Operations, pp. 1321, 1323 respectively, *infra*) and 2% per RP committed. The Concierge may increase or decrease the percentage based on the superior knowledge and judgment of the Concierge. The adjustments are not complicated, and are based on common sense.

- ✓ For example, the sympathy level of the colony where the operation is taking place, the nature of the operation, the results of the operation, security considerations and other factors known only to the Concierge (and/or the target position).

One key factor that the Concierge should consider is the active or inactive state of Constructural Elements at the target location or unit. Pursuant to the previous discussion of the ‘meaning’ of inactive Constructural Elements in GGDM (see Artifice, 2 Constructural Elements, p. 191, *supra*), the inactive Constructural Elements should weigh in favor of success of the Black-op resolution at that location or unit, whether a colony planet or a ship. Thus target ships that have retreated from combat or traded at **alien colonies** (see 3 Disruption, generally, *supra*), or target colonies that have suffered Disruption Events (see 2 Disruption generally, *supra*), or newly Converted Colonies, or positions that have not Cohered or are affected by an ongoing Kairotic Moment or **apostasy** (see Aliency Apostasy, 3 Disruption, p. 283, *supra* and Wave Motion, 2 Kairotic Moment, p. 1432 and Ship of Fools, 3 Kairotic Moment, p. 1444, *infra*) are most vulnerable to Black-ops.

It should not automatically be considered easy just because the planet where the operation is being executed is unfriendly to or resentful of its current owners; few people, no matter how much they dislike the current owners/conqueror of the planet would (except for a few radicals) agree that having an atomic bomb go off in the center of their city (i.e. the ‘nature of the operation,’ previous page, *ut supra*) is a desirable event. They also would not like Orbital Bombardment by the conquerors and it is doubtful that they would cooperate in something equivalent (i.e. exploding an atomic bomb in the center of their own city) – in the name of revolution against the conquerors – unless pushed to that point where sacrificial extremism seems the only alternative to extermination.

- ✓ For example, the most galling fallacy of the original Battlestar Galactica: Why would Count Baltar cooperate with and assist the Cylons who were intent on exterminating humanity (including presumably, Count Baltar)? In fact, at the end of the pilot episode, it is implied that the Cylons murdered Count Baltar after destroying the human colonies; but he somehow appears later in the series.
 - The reimagined Battlestar Galactica series danced lightly around the problem by introducing the sultry No. 6 and remaking Baltar as a vain, genius, playboy scientist who worked for the ministry of defense – the classic honey-trap operation 6½ years (airdate December 2003) before Anna Chapman’s arrest in June 2010. He granted her illegal access to the defense mainframe, inadvertently betraying his people. Although GGDM is a game without heroic individual characters (as discussed in Character Assassin, 1 Special Operations, p. 1269, *supra*), the reason for the change in the story is the same reason that the Concierge might outright block Count Baltar-type scenarios.
- ✓ Another example, conflicts of interest and operational rules may exist within resistance elements. In the Babylon 5 television series, Earthers who came to Mars to help the Mars resistance exploded a bomb in the lobby of a hotel that was being used by EarthForce personnel, causing damage and civilian casualties. The leader of the Mars resistance was furious and threatened the Earthers because she and her group would be blamed for the attack, and the Earthers would simply go home unscathed.

➤ Murder By Numbers: Resolution of a Black-op requires two rolls.

- ✓ The first roll, described above, determines whether the Black-op was successful.

The first roll is a yes or no answer, and thus may be the subject of Enlightenment rerolls if such have been dedicated to the Power Activations. Application of Enlightenment is the *same* in resolving Black-ops as in Recruiting and Lodging Missions (p. 1291, *ut supra*).

- ✓ Regardless of the result of the first roll, a second roll is made to determine the ‘degree of success.’ This should be on a scale of 1-10 (1d10).

The Concierge will then merge the results of the two, on a sliding scale, based on his best judgment and the Profile submitted, to determine the actual outcome of the operation.

- ✓ For example, if the operation was deemed unsuccessful on the first roll, but had a high degree of success on the second roll, then the operation was ‘almost successful,’ whereas, if the operation was deemed successful on the first roll, but had a low degree of success on the second roll, the actual result would be marginally successful.
- ✓ The *actual results* will be tailored to the scale of success of the operation and may include unintended consequences or degrees of lesser or greater success.
 - One review of an epic old space-opera board game that I read praised the game, but noted that the insurgency (equivalent to Black-ops in GGDM terms) part of the rules were difficult and rarely worked. This may be true also of GGDM Black-ops. However, I think it is true of real world black-ops as well.
- ✓ The *reported results* may not be entirely accurate however, as the situation dictates; if you are shooting in the dark, it is not always possible to know if you hit anything. Using large numbers of Missions may not enhance either die roll.

“Let’s suppose you are an American baseball legend being divorced by your beautiful Hollywood actress wife. Let’s further suppose that you see her car parked outside a small apartment house near Melrose and Crescent Heights late one night in 1954. Naturally, you decide to break down the door and catch her in the act with another man, even though you have a less than 50-50 chance of breaking into the right apartment. Of course, you call some private detectives. And being an American baseball legend, an Italian American baseball legend, your chums include a well-known Italian American singer. Out comes the ax and down goes the door at 8122 Waring Ave. Uh-oh. Instead of catching Marilyn Monroe, Joe DiMaggio and various companions (including Frank Sinatra) terrified Florence Kotz Ross. Who was asleep. By herself.”

– L. M. Harnisch, “Chasing Marilyn Monroe,” Los Angeles Times (the Daily Mirror), June 2, 2007

Wrong Door Raids: An operation can change suddenly in mid-stream. In the 1949 *entirely fictional* movie *Outpost in Morocco* (p. 1298, *ut supra*), the French garrison decides to stage a raid on the arsenal of the rebellious Emir.

They sneak a detachment into town, then fight their way into the palace area, only to discover that the arsenal has been moved (a lot of anonymous extras died in the movie for no reason).

The Cossack officer in command of the raid then decides to capture the Emir while they are there, only to find he has left several days ago.

They end up kidnapping the Emir's daughter and taking her back to the fort as a hostage, which holds off the attackers for several weeks until she is freed voluntarily. Of course, this was a plot device to place her with the French captain who was her budding love interest, creating the dramatic conflict that led to her death ... but you get the idea. 😊

- ✓ Sometimes, things just go horribly wrong. In the famous “Wrong Door Raid,” Frank Sinatra and Joe DiMaggio broke down the door of what they thought was Marilyn Monroe's girlfriend's apartment, *after* Monroe divorced DiMaggio, in an attempt to catch her sleeping with another man. They entered the wrong apartment – they didn't just surreptitiously break into the apartment, they battered down and destroyed the door with an axe – and the lady whose apartment they broke into while she was sleeping (and woke her up in terror) sued both of them, which then made headlines, leaving the culprits with egg on their public faces, having to testify before a Grand Jury (criminal liable suit against Confidential magazine). The whole affair involved lots of lying, contradictory stories and political grandstanding, and political use of police authority against private investigators at the behest of Hollywood studios trying to destroy Confidential magazine in 1957. “We didn't start the fire...” (Billy Joel, (1989)).
 - See, L. M. Harnisch, “Chasing Marilyn Monroe,” Los Angeles Times (the Daily Mirror), June 2, 2007 (50th Anniversary of the Wrong Door Raid), and Jon Ponder, “Wrong Door Raid: The Celebrity Scandal That Irued Sinatra, Made a Fool of DiMaggio – All at Marilyn Monroe's Expense,” Playground to the Stars, December 7, 2010.

“The paper's front-page story revealed the identity of a Soviet atom spy who had not been prosecuted by the authorities, Mrs. Melita Norwood, code-named HOLA. She had actively spied for the Soviets in the post war period and continued even after the organisation that employed her stopped doing classified work for the UK Government and her security clearances were not renewed. She had remained in contact with the KGB until her retirement. The article also identified John Symonds, code-named SCOT, as another KGB agent who had never been prosecuted by the UK for espionage.”

– The Mitrokhin Inquiry Report, Introduction, Paragraph 3, (Report into the Security and Intelligence Agencies' handling of the information provided by Mr. Mitrokhin, June 2000, British SIS to the House of Commons) ¹⁰

Endnotes.

¹ Commentary: Available free at <https://web.stanford.edu/class/polisci211z/2.2/Arreguin-Toft%20IS%202001.pdf>.

² Commentary: This concept is very much reflected in Tom Clancy's Red Storm Rising (1983).

³ Citation: “The reason our technological advantage in Iraq and Afghanistan did not translate into a strategic advantage is because the technology we were using was not designed for that type of war. For example, precision-guided munitions, a staple of counter-insurgent/terrorist operations, were initially designed in the second offset to destroy massed Soviet armor in a war on the plains of central Europe. These munitions showed their effectiveness in accomplishing that objective by destroying Iraq's Soviet-modeled army in the First Persian Gulf War. However,

precision-guided munitions have not produced the same strategic advantage in Iraq and Afghanistan because that enemy did not rely on massed armor. The insurgents’ strategy was to use small-scale attacks, predominantly with improvised explosive devices and suicide bombers, against allied forces in order to slowly bleed us until we packed up and left. Our most advanced technology could not change this basic strategic fact. As commercial and military technology develops and proliferates, insurgents and hybrid forces will have yet more resources to execute an asymmetric strategy unless we develop counter-measures.” – Benjamin Locks, “Bad Guys Know What Works: Asymmetric Warfare and the Third Offset,” War on the Rocks (Texas National Security Review), June 23, 2015.

- ✓ This is what struck me as so absurd when the United States used a MOAB (GBU-43/B Massive Ordnance Air Blast aka “Mother of All Bombs”) against ISIL insurgents in Afghanistan in April 2017. The MOAB was not made for that use, it is not particularly effective against widely dispersed individual targets such as insurgents (though we were targeting a tunnel complex, but we have other better bunker-buster bombs for that). I was reminded of the incident where U.S. C-130 aircraft dropped 15,000 lb. BLU-82 ‘daisy cutter’ bombs on the tiny island of Koh Tang during an infantry battle with forces of the Khmer Rouge in May 1975 during the *Mayaguez* incident – the fact that they were even dispatched is idiotic overkill – the bombs were of no use in the battle, and their detonation at the far south end of the island simply stunned everyone on both sides with the shockwave and contributed nothing to the various ongoing engagements.

⁴ Commentary: It seems that the Israelis originated this modern practice; my first recollections of it were news reports that Israeli helicopter gunships had attacked vehicles in the Gaza Strip to kill Palestinian leaders. I think that was in the early 1990s, I remember thinking at that time that the Israelis had become arrogant. The advent of missile-firing drones and the conflicts with Islamic extremist groups have forced the further development of this form of asymmetric ‘police action.’ There are certainly those in the United States who think we have become arrogant.

⁵ Commentary & Citation: It is possible due to the recent history of our world, as discussed in Institutionalized, 3 Colleges, pp. 487-488, *supra*, for proselytizing positions to have Institutes named Missions, similarly, Colleges have Missions (1 Colleges, p. 458, *supra*); hopefully, no confusion will arise and participants will be careful in usage.

⁶ Commentary: Star Trek OS featured some of the most cringe-worthy examples of alien infiltration attempts, for example, when Captain Kirk’s ears were surgically altered to look like a Romulan (ST:OS “The Enterprise Incident”) or the fake Andorian, a surgically-altered Orion Pirate, at the conference in “Journey to Babel” (ST:OS). Unless the alien population is dumb as cows – primitive hunters allegedly wore bison hides and mimicked their movements while sneaking up on the herd – putting on a costume or surgical alteration won’t fool anyone but a child.

- ✓ Andromeda TV series also had some of this, but not as depressingly obvious, for example, the Nietzschean who had his lower arm bone blades removed to pass as a normal human. The most clever alien infiltration attempt was the movie Avatar, but even then, it was a human mind in an alien body who went native.

⁷ Commentary & Citation: Thus, the concept of a ‘game unit’ or units in the game which I wrote long ago (View from a Height, 1 Construction, p. 660, *supra*) has come back around to define location of Missions in Special Operations, both of which I may have written before I specifically defined game units. The process of development tends (at least in GGDM) to have followed that circular pattern as changes and new ideas propagate through dozens of rewrites and thousands of edits, weaving the system together holistically and providing internal consistency.

⁸ Commentary & Citation: Or perhaps in the same way that the monks in *A Canticle for Leibowitz* (1959) preserved his hand-written grocery list which they could not understand (they thought it was sacred somehow) lacking context.

⁹ Citation: This is a reference to a story I read in *Savage Sword of Conan* long ago about a peasant revolt that takes over a castle, a pampered, spoiled, arrogant, weakling prince sent in command of an army to recapture the castle, and Conan’s involvement on both sides. The desperate prince offers Conan his gold crown to open the gates to the castle at night, and Conan asks, can a thief in the night be worth that much? Can a thief in the night be worth an army? I believe from online searches that it may have been *Savage Sword of Conan* #213 (September 1974).

¹⁰ Citation: The entire report is available for free on The Wayback Machine: <https://web.archive.org/web/20071031103835/http://www.archive.official-documents.co.uk/document/cm47/4764/4764-int.htm>.

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*See Appendix AGE – Aging Out
See Appendix SO & IO – Special Operation & Information Operation Example*

“However, you are just as dead if you buy the farm in an ‘incident’ as you are if you buy it in a ‘declared war.’” – Robert Heinlein, Starship Troopers (1959)

Political Cant: The likely underpinning of this statement by Robert Heinlein was the recent Korean War which was not a war declared by Congress, but instead was a United Nations Security Council action. Enough people died on both sides in the Korean War to make it a war *de facto* by any standard, even if not a war *de jure* in the United States. As the U.S. Supreme Court opined in the Obamacare case, Justices (and historians) are not bound by what other people call something out of political convenience or ideological cant. *And neither is the Concierge in GGDM.*

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- ✓ If the Justices determined that Obamacare was a Congressional Taxation Power Activation, the Justices could treat it in that way, with all of the legal precedents and reasoning applied, and calling it an ‘individual mandate’ was just political cant.

Korea was the first of a proliferation of modern ‘military actions’ and ‘incidents’ (sometimes contrived) in which the U.S. Congress never exercised its Constitutional authority to declare war.

[Interview] “Parties at the lab during the war were very segregated... You didn’t talk to the people who came to the parties about what they did because you just didn’t do that so you had to have some other way of having a conversation with them which was certainly more about family and hobbies and what did you read lately rather than what do you do for a living. You didn’t ask that question.”

– Sara Schreiber (daughter of Raemer Schreiber), *The Half-Life of Genius: Physicist Raemer Schreiber* (2018)

Fuzzy Ops: Colleges present an ‘in-between’ Black-ops problem in GGDM, and to some extent so do Corporations and MegaCorporations (see Corporations generally, *infra*): On one hand they are hosted at a specific location, a physical unit within the GGDM universe, and can be affected by Black-ops potentially, but in another sense, they also exist across the position and hence are not considered to be in one location only, but simultaneously exist through the Public Space in every Friendly or Naturalized population factor and ship controlled by the position.

- ✓ It is because Ground Units contain population factors that they can be affected by Colleges and Black-ops and Counter-Operations. It is also assumed that ships are crewed from population at the colony at which they were built and replacements from colonies where they have stopped. This then, comes back around to the issue of drones and artificial intelligence (see Web of Night, 2 Colleges, p. 477, *supra*); the Concierge will need to make a ruling when or if armies and ships consist entirely of drones, AI war droids, the stuff of science-fiction trope (noting the example of the Battle of Naboo in Star Wars, which was a Ground Combat in conjunction with an Orbital Combat and palace penetration Black-op).¹

The Host location provides a place where Colleges and Corporations can be ‘targeted,’ but the effects must depend heavily on the Profile of the Mission (e.g., the Russians have long sought to infiltrate ‘think tanks’ and political campaigns), circumstances of the target, and the judgment of the Concierge. Conversely, Institutes (see Institutionalized 3 Colleges, p. 487, *supra*) are single location specific extensions of Colleges and should be treated slightly differently.

- ✓ Constructural Elements at the target game unit where the Black-op is executed could certainly be affected by the ‘right’ kind of operation; the devil is in the details. The Concierge can also take into account political status of the population, size of the colony, frequency of contacts with the central interstellar government, strength of Insurgencies (see Fabrication of Order, 6 Combat, p. 1022, *supra*), prior Orbital Bombardment, alterity of the population, Native Population Type, etc. ‘Invisibility’ in the Galactic Space of the game does not make a target immune to attack or effect, intentional or as a side consequence (e.g., ‘psyops’). Note that some Black-ops can trigger disruption checks at a colony.
- ✓ Perhaps the most effective use of Black-ops is against anything that might disrupt the target position’s Government Titles, especially any Conflict Checks whose failure is permanent (and many of the Conflict Checks are difficult and precarious), though purely local effects might sometimes be useful, just one planet disobeying a Power activation could be quite consequential as a result, in addition to all of the other problems the target position might be experiencing. Government Titles may also be affected purely as a side consequence of a successful Black-op when operating blindly (see Player Generated Entropy, 1 Special Operations, p. 1270, *supra*) especially if it is perceived that sovereignty has been violated (see Sovereignty & Legitimacy, 3 Government Titles, p. 609, *supra*).
- ✓ Technology is an even more elusive issue because it is considered to exist through the Matrix and Patents, through and over the entire position. Common technologies (e.g., toasters, lamps) that are ubiquitous could be ‘stolen’ easily, just go to the store and buy one, put it in a box and ship it out. And the basic science behind those items is also readily available in primary school books, etc., but that’s not what anyone is trying to ‘steal.’ Rather, the issue is the cutting-edge industrial and military research and technology that is the target (and the romance of) black-ops in science fiction adventure. The Concierge and participants will need to judge the locations at which such technologies can be pilfered – ships, the Capital Colony, Specialized Colonies devoted to research, recently Captured or Converted Colonies that hosted sufficiently-related Colleges, are possible examples. It’s also a matter of scale, stealing a Patent would be huge (but since everything has specs and blueprints, it is possible), stealing an Application less, and the most accessible (and most location specific) and common ‘technology’ to be stolen are Research Pieces located adjacent to a colony on the Public Space. Technology operations also raise the issue of relative cost-benefit of multiple Special Operations Power vs. Technology Power activations.

Though everyone is probably well familiar with the nature of information by now, it must be stated explicitly here that ‘stealing’ a Patent, Application, or Research Piece does not mean that the target has physically ‘lost’ it (i.e. it is not removed from the Public Space or Matrix), but that the attacker has gained it illicitly (like plagiarizing, or surreptitiously copying the whiz kid’s test answers at school). See Thomas Jefferson feature quote, top of 3 Patents, p. 746, *supra*.

*“Remember gentlemen, it’s not just France we are fighting for,
it’s Champagne!” – Winston Churchill in WWI*

“Dinner would have been splendid...if the wine had been as cold as the soup, the beef as rare as the service, the brandy as old as the fish, and the maid as willing as the Duchess.” – Winston Churchill

Une Affaire Francaise: Special Operations could be thought of as sort of connected to Interventions, they share some of the same traits, much of what can be said about and offered as justification for Special Operations results also applies to story-creating Interventions by the Concierge. Many very strange things happened in the 16th to 19th Century Europe that might serve as examples for Special Operations (possibly of the unintended consequences kind) or Interventions by the Concierge in GGDM, depending on what participants think is going on in the game.

- **The Affair of the Poisons:** One of the strangest chains of causality run from an astrologer, fortune-teller, black magic practitioner in 17th Century Paris, Catherine Monvoisin (known as “La Voisin,” burned at the stake in 1680 for witchcraft) to Prince Eugene of Savoy, a French noble exile who became one of the greatest generals in European history and together with the Duke of Marlborough, checked Louis XIV’s ambitions for hegemony over Europe. La Voisin was connected to Prince Eugene’s mother, the Countess of Soissons, a lover of Louis XIV who aspired (and failed) to be Queen of France, through the Affair of the Poisons (*L’affaire des poisons*); the Countess abandoned Eugene and her other children and fled France, was then expelled from the Spanish court, and died in exile in Brussels in 1708 at age 70.

When Eugene came of age at 19 years old, he personally requested of King Louis XIV and was denied command of a company in the French army; he left Paris in July 1683 to join a branch of his family in the service of the Holy Roman Empire and received a commendation for his service at the Battle of Vienna in 1683. His abilities gave rise through the army ranks and he repeatedly distinguished himself defeating the Ottoman Turks and campaigned against his former countrymen, ending the Turkish threat to Europe and becoming the major Imperial commander checking French ambitions at the end of the 17th Century.

- ✓ There are so many elements of this story that are hard to comprehend in modern terms. That an unproven, palace-spoiled 19-year-old boy with little or no military training (and slated to join the clergy and probably denied due to homosexuality) should think that he is entitled – by birth – to petition the King of France personally and receive command of a company of French soldiers – is astonishing in the modern sense of military command.² Yet his subsequent career and his display of military ability from an early age (he was a Major General at age 22, whereas Napoleon made Brigadier General at age 24, but of course, there is a great disparity in their family ranks), makes the King’s personal denial (and Eugene’s personal hatred of Louis XIV) based on his mother’s (and former King’s lover) status as an exile at least regrettable in hindsight to 17th Century French ambitions. Prince Eugene arguably extended the existence of the Austro-Hungarian Empire – being crushed then between Prussia, France, and the Ottomans – for several generations to WWI and his partnership with the Duke of Marlborough aided England’s efforts to contain the Continental Powers to Europe and check their ambitions.
- ✓ And the incomprehensible Affair of the Poisons (you have to read about it), like the Affair of the Placards (1534)³ and the Dreyfus Affair (1894), speaks volumes about

the paranoia, politics, sensitivities, social channels, and sociopolitical and cultural milieu of the time and provides background for much of what was to come.

- The Dreyfus Affair: Sometimes special operations can have unintended effects, even though the operation may have failed or been only partially successful. A historical example is the Dreyfus Affair during the Third Republic Period of France. This affair has been mentioned previously in *The Taxil Hoax*, 2 *Dreamtime*, p. 145, and *Deutsche Physik*, 2 *Patents*, pp. 737-738, *supra*. French intelligence learned that artillery parts were being passed to the Germans (what passed for TechInt back then) and an investigation was launched. Quickly, they zeroed in on Lt. Dreyfus, an artillery officer in the French Army. He was convicted in a secret courts-martial of treason and publically humiliated by having his sword broken and uniform torn off at the Paris Military School. He was sentenced to incarceration at the infamous Devil’s Island and spent about five years total imprisonment, most of it on Devil’s Island.

Many people were convinced that he was falsely convicted and had been singled out because he was Jewish and that anti-Semitism had colored the whole affair from the beginning. Eventually, he was returned to France and given a new trial in 1899. *They had discovered the real culprit, but Dreyfus was again convicted of treason regardless.* About that time, the whole matter became a huge divisive public debate, coinciding with radicalization of French politics, division of French society, rampant anti-Semitism in the press, spinning out of control. Army morale was low, and the public was furious for or against. What began as an operation for filching artillery parts turned into a sociopolitical fracas, the Germans had to be most pleased! The affair went on and on until 1906 when Dreyfus was reinstated and promoted to Major, and awarded the Legion of Honor. In 1908, a reporter attempted to publicly assassinate Maj. Dreyfus. Maj. Dreyfus served as a reserve officer in WWI, along with his son and two nephews, all in artillery, and ended his career as a Colonel.

- ✓ Thus, a somewhat successful Special Intelligence operation by the Germans against the French Army emerged into a spiraling affair that lasted more than ten years prior to the First World War that lowered Army morale, destroyed the credibility of the military tribunals and investigative services (see also the 1957 movie, *Paths of Glory*), divided, embittered, and radicalized the French Republic, affected the life of Marie Curie (see 2 *Patents*, *Id.*), and set the stage for official French anti-Semitic activities during the German Occupation May 1940 to December 1944 (e.g., *Opération Vent printanier*, rounding up Jews in Paris, July 1942).
- Petites Affaires: One of the most successful diplomatic ‘special operations’ was completely ‘above board’ so to speak. In 1855, Count Cavour, the Prime Minister of Piedmont-Sardinia, brought to Paris his beautiful and sophisticated 18-year-old cousin, Virginia Oldoini, Countess of Castiglione, and introduced her to 47-year-old Emperor Napoleon III, a philanderer of international fame. She became his mistress (like Greta Garbo as Napoleon I’s Polish mistress in *Conquest* (1937)) for at least two years operating as a diplomatic spy and to plead the Italian cause, leading to France’s involvement in the War in Italy in 1859 and the later Italian unification in 1861.

Napoleon III knew why she was there, there wasn’t a person in Europe who didn’t know why she was in Paris. He was personally sympathetic to the Italian cause and allowed her to stay. The proto-tabloid newspapers were fascinated by his *petites affaires* while at the same time

castigating him as a philanderer and adulterer (as France is largely Catholic) and for their distraction from his ability to govern.

- ✓ The Countess was later personally involved in persuading Bismarck to avoid occupation of Paris by Prussian troops in 1871 and in-between, became a famous early photographic artist and later, a vain, crazy old woman who lived in a funeral-decorated apartment with black walls, no uncovered windows, no mirrors.
- ✓ Tabloid journalism began in the late 19th Century, shortly after the fall of Napoleon III.
- ✓ French attitudes on the subject of affaires has famously shifted slightly with the final victory of secularization in the 20th Century, e.g., *Un cinq à sept*.

“What do you think would be my fate if my misguided countrymen were to take me prisoner?”

– Benedict Arnold, as quoted in Clifton Johnson, [The Picturesque Hudson](#) (1915)

Treason: To which the captured Colonial Army captain reportedly replied, “They would cut off the leg that was wounded at Saratoga and bury it with the honors of war, and the rest of you they would hang on a gibbet.” *Id.*

- ✓ Merriam-Webster online dictionary at *treason*: **1:** the offense of attempting by overt acts to overthrow the government of the state to which the offender owes allegiance or to kill or personally injure the sovereign or the sovereign’s family, **2:** the betrayal of a trust: treachery.

Treason, as most people assume, usually implies foreign assistance (e.g., bribery, offers) and/or assurances (though the dictionary definition is silent on this point), especially in wartime or in combat. This perception is reinforced by the narrower definition of treason in the U.S. Constitution at Art. III, § 3, which was written less than a decade after the War of Independence:

- ✓ “Treason against the United States, shall consist only in levying War against them, or in adhering to their Enemies, giving them Aid and Comfort.”

Activation of the Special Operations Power for the purpose of Treason allows a position to attempt one Black-op between the activating position’s Regular Turns similar to Combat Alert, Treason is a Black-ops Alert. The Treason activation of the Special Operations Power expires at the beginning of the position’s next Regular Turn if not used; additionally the Lodged Missions reserved for the Black-op may age out (see Ralph Wolf & Sam Sheepdog, 2 Special Operations, p. 1296, *supra*) at the end of the same Regular Turn as the Treason activation (and that sucks!).

- ✓ Treason implies that the agent is in a position to act, usually a position of authority or trust. This becomes problematic in a setting with aliens, one must assume that the Lodged agent is a *secretly* dissident part of the alien population, which implies deception and personal dishonesty. This circles back to the issue of the two-step difficulty of recruiting and lodging SOMs on Native **alien colonies**.

Each time that a position does not use Lodged Missions during a Regular Turn (*whether SOMs or COMs*), those Missions may ‘age-out,’ *except* on the Turn in which they are initially Lodged (see Punching Time Cards, 2 Special Operations, p. 1296, *supra*).

- ✓ The activation must include all that is necessary for a normal Black-op activation, that is, a Profile, Missions at the target location, how many Missions to be used, etc. See True Little Lies, *et seq.*, 2 Special Operations, p. 1299, *supra*.
- ✓ Missions designated/reserved for the Treason activation cannot be used for any other Special Power Activation (including re-Lodging) during the same Regular Turn as the Treason activation.
 - In the original *movie* adaptation of The Handmaid’s Tale (1990), the assassination of Commander Fred by his “handmaid” (concubine) Offred was key to the rebel attack plan.⁴ Having lost everything – her husband, her daughter, her job, her life as a librarian – and enslaved for her ovaries, made a non-person object, and appalled by the hypocrisy of the privileged ruling elite of the Republic of Gilead, she is surreptitiously recruited and provided a knife to stab the Commander on the night of the rebel attack.

Thus, the position activating the Special Operation Power for the purpose of Treason must have a very specific anticipation of need which requires timing and circumstances or events precedent to taking the decision to act. The Treason activation of the Special Operations Power thus acts similar to the Combat Alert activation of the Combat Power (see DefCon 1, 1 Combat, p. 946 *supra*) – both require forces to be in position waiting – but due to the nature of Black-ops, have more specific requirements, and additionally, can be negated by loss of opportunity due to aging of Lodged Missions!

- ✓ The Treason activation of the Special Operations Power only applies to Black-ops and not to Counter-Operations. There is no reason – game mechanically – why Counter-Operations would be carried out between Regular Turns; Counter-Operations should be used to purge opposing Special Operations Missions from a target location *before* the Black-ops. The timing of Recruiting, Lodging, and using SOMs for Black-ops requires at least three Regular Turns and thus, there are plenty of opportunities for Counter-Operations to attempt a purge of SOMs at a location or game unit.
- The Gibbet: The Black-op profiled and/or used in a Treason activation of the Special Operations Power does not require that actual treasonous acts occur. Rather it is a ‘sexy’ term for a Special Operations *interrupt* that likely may (but not necessarily) involve an ongoing Combat (i.e. not passing artillery parts during peacetime, Dreyfus Affair, p. 1309, *ut supra*) – which is the main reason for the existence of this action in the game, e.g.:
 - ✓ “On the second day of the chaotic [Ship Combat] battle ... the virus was released. One of Dulinor’s strike teams was able to seize control of the research station’s data center. In their hurry to get the goods and get out, they infected their data retrieval systems with the virus, believing they were only collecting raw research data. However, the team had run out of time. To ensure that the data would get to Dulinor’s fleet even though they were not unable to escape, they began spewing high-speed data transmissions which were picked up by several of Dulinor’s ships as well as Lucan’s.” – Dave Nilsen, “When Empires Fall II,” Challenge Magazine, Issue 69, February 1993.

In GGDM terms roughly, the purpose of initiating the Ship Combat was to capture intact or *raid* via a Black-op (not the same as Raid Combat with Fighters) Research Station Omicron. Special Operations Missions had been Lodged in the attack fleet (in the form of a commando

strike team) to raid the station during the Ship Combat, while Counter-Operations Missions had been lodged on the colony, target protecting the Research Station. Plausible Deniability would be rather pointless in this case...

- ✓ *Treasonous Example:* I remember reading a story in a comic book, I think it must have been a Conan (probably Savage Sword of Conan, which usually featured betrayals), where a defending army consisting of infantry and cavalry met an invading army that had only infantry. The two infantry masses engaged, while the defender's cavalry remained hidden behind a hill to charge the flank at the opportune moment, a sure victory for the defenders. The cavalry didn't charge, the leader of the cavalry had been compromised and betrayed his ruler at the crucial point in the battle. The defenders became nervous when they saw the cavalry's hesitation and the defender's infantry started to lose will, eventually, it turned into a rout and the land was overrun by the invaders. The cavalry quietly rode away.
- ✓ In a tabletop board game of Battlestar Galactica, I was Lee Adama, the CAG and a human. When the Vipers were pulled in for a jump, I was assassinated on the flight deck by Cali who was a Cylon. Starbuck then became the CAG. When it came time to launch the Vipers again, the Vipers were not launched. Starbuck was a Cylon and fled to the Cylon Base Ship. I came back into the game as Kat, a human Viper Pilot (you remember Kat, right?) and resumed as the CAG. We managed to have Cali executed, but it didn't matter because we lost the game on the next turn. The third *unrevealed* Cylon was Commander Adama!

Treason is one of three crimes specifically mentioned in the U.S. Constitution (the others being piracy and counterfeiting) and the only one defined. Understandably, all three of these issues were sensitive matters for the Framers and treason in particular touched a sore spot because of the acts of Benedict Arnold. The Framers did not want treason to be used as a political weapon leading to totalitarianism, so they required sworn written statements from two witnesses, but they also wanted to define it as one of the highest crimes against the United States. They could not convict Aaron Burr of treason, however.

- ✓ See discussion of the Ft. Griswold Massacre, Massacres, 5 Combat, p. 1012, *supra*.
- ✓ Many countries have their traitor, in Norway, his name was Vidkun Quisling, while Col. Konrad Sundlo was considered either a traitor or traitorously negligent.

“The evening of 10 July saw a lively atmosphere aboard the Rainbow Warrior as the crew and guests celebrated Steve Sawyer’s birthday. Margaret Mills, another crew member, had baked a birthday cake decorated with a jelly bean rainbow. People mingled and enjoyed drinks and slices of cake.

Little did they know that one of the guests was a French spy, observing all that was taking place to feed back to his colleagues. The spy departed just after 8pm, and at about 8.15pm, the skippers of all the protest yachts going to Moruroa descended into the hold of the Rainbow Warrior for a planning meeting.

Outside, French combat divers were attaching two bombs to the ship's hull below the water line. The divers had motored across the harbour in an inflatable zodiac dinghy from a secluded launching ramp at Stanley Point, Devonport."

– from Greenpeace New Zealand website, November 22, 2019 (no author)

Rainbow Warrior: Overt acts of foreign intelligence operatives may be considered *terrorism* by the government. For example, the Greenpeace vessel *Rainbow Warrior* was sunk while docked (i.e. opportunity) in the port of Auckland, New Zealand on July 10, 1985 by two bombs that exploded outside the ship. One person was killed. The government of New Zealand declared it a terrorist act, the first terrorist act in New Zealand. Two French intelligence agents were arrested in New Zealand and pled guilty to planting the bombs; the French Minister of Defense resigned.

- ✓ “The French government saw its nuclear testing programme as essential for France’s security (even though a nuclear armed world is hardly a secure one). But negative publicity about the testing would put pressure on the French government to stop its programme. It was for this reason that the French government wanted to stop the Rainbow Warrior’s upcoming anti-nuclear protest.

The Rainbow Warrior was a large vessel which could act as a flagship for the smaller protest yachts. French naval vessels would not be able to intimidate it as easily as the other, more fragile yachts. The Rainbow Warrior could carry large amounts of supplies, which meant that it could protest for a long period of time. The communications equipment on board would allow the crew to maintain radio contact with the outside world and send up-to-the-minute reports and photos to international news organisations.

The French navy would find it extremely difficult to deal with the non-violent tactics of the protest vessels. To avoid this, the French secret service DGSE was ordered to launch ‘Operation Satanique,’ where French secret service agents were sent to New Zealand to sink the Rainbow Warrior before it could lead the protest flotilla.” *Id.*

The *Rainbow Warrior* was sunk in retaliation for Green Peace’s protests against French nuclear bomb testing in the South Pacific. In 2005, nine years after President Mitterrand died, his intelligence chief Admiral Pierre Lacoste admitted that the President had personally authorized the operation. Despite being left leaning, he disliked Greenpeace’s global initiative.⁵ Information from Wikipedia articles, “François Mitterrand,” (citing to archived Times article) and “Sinking of the Rainbow Warrior,” July 5, 2019.⁶

- ✓ The Partial Test Ban Treaty was signed in 1963 and the United States discontinued testing at that time in the Pacific Proving Grounds. The French obviously continued testing into the early 1980s. The Treaty of Rarotonga in 1986 formalized the Nuclear Weapons Free Zone, and in 1996, coinciding in the year with the death of Mitterrand (a year after he left office), France ratified the three protocols of the Treaty.

“On multiple occasions, QAnon has dismissed his false claims and incorrect predictions as willful misinformation, claiming that ‘disinformation is necessary.’ This has led Australian psychologist Stephan Lewandowsky to emphasize the ‘self-sealing’ quality of the conspiracy theory, highlighting its anonymous purveyor’s use of plausible deniability and noting that evidence against the theory ‘can become evidence of [its] validity in the minds of believers.’”

– from Wikipedia article, “QAnon,” captured November 1, 2018

“Non-attribution to the United States for covert operations was the original and principal purpose of the so-called doctrine of ‘plausible denial.’ Evidence before the Committee clearly demonstrates that this concept, designed to protect the United States and its operatives from the consequences of disclosures, has been expanded to mask decisions of the president and his senior staff members.” – Church Committee II Reports, U.S. Senate, November 20, 1975 ⁷

Plausible Deniability: Regardless of the outcome of any Black-op or Information Operation, a die is rolled to determine if anyone ‘noticed.’ The Concierge may determine that the operation was noticed automatically, for example, when a ship blows up when it shouldn’t (e.g., the Rainbow Warrior, *ut supra*) or there is an **alien** plague on the colony, it’s hard not to notice.

- ✓ “It was naïve for policymakers to assume that sponsorship of actions as big as the [Bay of Pigs] invasion could be concealed. The Committee’s investigation of assassination and the public disclosures which preceded the inquiry demonstrate that when the United States resorted to cloak-and-dagger tactics, its hand was ultimately exposed.” – Church Committee IV Reports, U.S. Senate.

It is somewhat more difficult to determine when the Black-op was unsuccessful or less than successful (Information Operations are automatically successful if not blocked, see 2 Information, p. 1349, *infra*). The base chance of anyone noticing the Black-op, if it is not determined to be automatic, is ... 50%! The Concierge may again, adjust the base percentage depending on the result of the previous rolls, the nature of exactly what happened, and where it happened, and other knowledge within the ken of the Concierge, mainly, whether anyone is ‘looking.’ The position executing the Black-op may not be informed of whether their operation was noticed by anyone, if the Concierge determines that they have no realistic way of knowing whether anyone noticed.

- ✓ “Operational phenomenology” if you will – the appearance of the operation: “By an ‘appearance’ is meant any existent which impinges on consciousness, anything cognized, irrespective of any judgment as to whether it be ‘real’ or ‘illusory.’ The evaluation of a particular appearance as a reality or an illusion is a complex process, involving inductive and deductive logical principles and activities.” – Avi Sion, from abstract for his book Phenomenology (2005).
- Alibi, Adlib, and Abscond: The difference between an alibi and plausible deniability? An alibi has to be factual, credibly provable (I was with him at the bar at the time of his wife’s

home-invasion murder) whereas plausible deniability is just that, *plausible* as in: “superficially fair, reasonable, or valuable but often specious,” “superficially pleasing or persuasive” and “appearing worthy of belief.” (Merriam-Webster online dictionary at *plausible*).

- ✓ [Narrator] “But there is a bigger barrier. Spies may have good causes, but few things they do could be called good. They want to know our secrets, but don’t want us to know theirs, ever.” – *The Spy Who Went into the Cold: Kim Philby, Soviet Super Spy* (documentary, 2013).

The problem with espionage agents is the same as for nuclear-armed submarines or fighter pilots – once they leave port, you can only hope they follow orders and do as they should do, as they were trained to do, and that their loyalty remains committed to the homeland. Once out there, they may harbor unpatriotic intentions, may encounter situations that change their minds, might have to alter plans due to unforeseen difficulties, or may just decide to not follow orders any longer unless it suits them. This is the issue of *The Hunt for Red October* (novel, 1984), Viktor Belenko and hundreds of other combat jet defections, and of course, an unknown number of secret agents who quit or go rogue while in foreign lands on missions (or in the case of ships, while at sea or in foreign ports). There is, of course, always the threat of retaliation against family back home, but this doesn’t always work; I recall from reading Viktor Belenko’s book back in the 1980s that he was married to a woman chosen by the Communist Party for whom he did not have romantic affections or children, while Soviet spy Jack Barsky avoided repercussions against his family in East Germany by cleverly telling the KGB he had contracted AIDS while in the United States and had to stay here.

- ✓ Everyone in *The Man in the High Castle* series lies about something every episode; it’s rather appalling, everyone is a walking living lie or omission, but it’s also adventurous and exciting. The art of their lying is plausibility; and plausibility lasts until new facts are presented, which is what churns the plot: Lies, plausibility, revelations.
- *The Blame Game*: If the Special Operation has been ‘noticed’ by the target, then it’s a question of whodunit? As law enforcement knows, even if the crime is discovered soon after it was committed, it is oftentimes difficult to discover whodunit. The basic chance of being able to officially blame anyone is 50% and half of those times the actual perpetrator of the operation will be discovered (e.g., French intelligence agents in New Zealand, p. 1313, *ut supra*), and the other half, that it will be blamed on someone else. Somebody will be blamed, if possible, it’s our nature. But that still leaves a 50% chance that no blame can be attached.
 - ✓ “Fake news doesn’t get retracted or corrected because it’s specifically designed to deceive; detachment from fact is a feature, not a bug, as the saying goes.” – Robert Schlesinger, “The Maestros of Fake News,” *U.S. News & World Report*, July 7, 2017.
 - ✓ Blame sits at the corner of Morality Boulevard and Causality Way. It costs just a nickel to play.

The victim of the Special Operation will be informed who appears to have committed the ‘crime’ against them.

- ✓ “The use of Wagner for operations such as the one in early February shows how integral private mercenary groups are to the Russian military effort in Syria and else-

where, while giving the Kremlin ‘a thin patina of deniability,’ said Michael Carpenter, a former Pentagon and White House official who worked on Russia policy in the Obama administration. ‘More importantly,’ he said, ‘it allows Russian forces to take on the U.S.-backed SDF in a way that regular Russian forces wouldn’t dare do for fear of escalation.’” – Ellen Nakashima, Karen DeYoung, and Liz Sly, “Putin ally said to be in touch with Kremlin, Assad before his mercenaries attacked U.S. troops,” Washington Post, February 22, 2018.

It is up to the victim to determine the accuracy of the report. As before, the Concierge may adjust percentages based on the entire situation and upon their superior knowledge and divine wisdom. The chances of not being blamed may improve somewhat if the position executing the operation provides the Concierge with some kind of plausible deniability (see Merriam-Webster definition, previous page, *ut supra*) as to why the victim cannot blame them.

- ✓ “And a man who tells lies, like me, merely hides the truth. But a man who tells half-lies has forgotten where he put it.” – Mr. Dryden, in *Lawrence of Arabia* (1962).
 - [Narrator] “It’s not surprising we can’t be sure. Spies of all stripes shield the truth with lies.” – *The Spy Who Went into the Cold: Kim Philby, Soviet Super Spy* (documentary, 2013).
- ✓ “Already mourning her lost family and her lost position in the UMCP [United Mining Corporation Police], she also loses her faith in the institution when she learns that Nick [an infamous pirate] is actually a secret UMCP agent, whose thefts and murders are overlooked in exchange for deniable operations in alien space.” – from Wikipedia article, “The Gap Cycle,” (series of books by Stephen R. Donaldson).
- Liar’s Dice: The second roll is only necessary if the Special Operation – whether successful or not – was noticed. It is thus that players may later discover some little thing changed in their position data with no explanation. It is not an error.
 - ✓ Although the Black-ops rules are presented as position vs. position, requiring a significant number of steps for one position to act surreptitiously against another and possibly escape blame and detection; there is an alternate view (see *Player Generated Entropy and Resistance*, 1 Special Operations, pp. 1270-1271, *supra*) that much of what happens in Black-ops is as much a result of social entropy, stupid crap happens, and local political actors as it is the efforts of one position against another in strict game terms. The game is kind of fuzzy that way. Thus the ability to go undetected or to shift the blame for the acts to someone else, or some of the seeming impossibility of the missions could be viewed as a consequence of these forces, or general confusion.
 - ✓ The underlying message of the sandbox simulation, throughout GGDM and especially in *Plausible Deniability* is don’t be silly, don’t let the rules dictate and force upon the game absurdities, and don’t stick your head in the sand either in the game or in the real world. Focus on the ‘plausibility’ of the deniability.
 - Eve was not the first to sample the forbidden fruit, Adam was, then blamed it on Eve, who successfully transferred blame to the serpent who happened by just then. But suspicions lingered and Eve has been eternally tarnished while Adam has lorded over the Earth and the beasts.

- Truer Lies: If the position has any remaining unused Enlightenment from the Black-op, there is a 50% chance that it can be applied to failed Plausible Deniability rolls at the discretion of the Concierge on what constitutes failure (see *Harsh Mistress*, 2 Colleges, p. 478, *supra*). Positions may in the Profile of the Black-op specifically elect that no Enlightenment will be used for the Black-op but that Enlightenment will be applied if possible to Plausible Deniability regardless of the results. This they might do if it is important to not be discovered.
 - ✓ Whether the defender can use Enlightenment to force a reroll is an open question for the Concierge to determine and apply consistently. It depends on whether the Plausible Deniability roll is considered an ‘opposing die roll’ (see *Army of Light*, 2 Colleges, p. 479, *supra*) or whether they are considered neutral game processes.
 - ✓ “You know, the very powerful and the very stupid have one thing in common. They don’t alter their views to fit the facts. They alter the facts to fit their views.” – Dr. Who, “The Face of Evil Part 4” (1977).
 - ✓ “As the late senator Daniel Patrick Moynihan famously said, everybody’s entitled to their own opinions, but they’re not entitled to their own facts. Even if they are called ‘alternative facts.’” – Editorial Board, “Credibility Gap: Our View,” *USA Today*, January 23, 2017.

- Soft White Bulbs: Though it may seem silly to be able to use Enlightenment in Black-ops on **alien colonies** and especially, in Plausible Deniability, it’s a fuzzy mechanism to cover a number of situations, including an equal lack of enlightenment in the leadership of the other side. For example, the Dreyfus Affair: Do you think the Germans did anything at all to dissuade the French from blaming Maj. Dreyfus? Do you think they would have actually – if they had the foresight – provided false evidence or assisted the French in persecuting Maj. Dreyfus? Or maybe they did. I have never seen a discussion of this aspect of the Dreyfus Affair, whether or not German intelligence did anything to push it along (but maybe they did), but there are always internal elements that have reasons to push back against or try to suppress certain facts or try to misdirect conclusions (for political, ideological or commercial reasons), and this provides a way to ‘account’ for it in GGDM, e.g.:
 - ✓ “US Central Intelligence Agency (CIA) documents declassified in 2006 show that the [May 1960] capture of [Aldolf] Eichmann caused alarm at the CIA and West German *Bundesnachrichtendienst* (BND). Both organisations had known for at least two years that Eichmann was hiding in Argentina, but they did not act because it did not serve their interests in the Cold War to do so. Both were concerned about what Eichmann might say in his testimony about West German national security advisor Hans Globke, who had coauthored several antisemitic Nazi laws, including the Nuremberg Laws. The documents also revealed that both agencies had used some of Eichmann’s former Nazi colleagues to spy on European Communist countries.” – from Wikipedia article, “Adolf Eichmann,” citing to Julian Borger, “Why Israel’s capture of Eichmann caused panic at the CIA,” *The Guardian*, June 7, 2006 (available free online).⁸

The Israelis were, of course, not bound by such delicate considerations. They were thus the rogue actors who upset the system of hush-hush.

- Muddy Waters: The game mechanics of the blame game and plausible deniability exist only within the game; the Concierge will interpret that the result is what is believed by the *people on the ground* to be true or most likely and players must accept that within the game and act

accordingly – in good faith – within the game. It is of course possible for positions to contact each other outside the game, where the position that was blamed in the game will deny, player to player, that they did it (will they be believed?), or for a group to figure out who actually did it. The game cannot account for these communications, of course. Perhaps players could decide not to discuss Black-ops outside the game, accepting the game’s results of Black-ops without outside communication? A communication blackout of Black-ops?

- ✓ Alternatively: “Don’t ask questions when you fear the answers. Don’t make the water muddy by stirring it up. Be patient.” – Paulo Coelho (Paulo Coelho de Souza), Facebook posting, November 16, 2014.
- ✓ ““They believe that the U.S. and its allies in the region are fueling and exploiting internal discontent in Iran,’ [Ali Vaez] said. ‘The game will return to Iran’s comfort zone: indirect attacks against the United States and its allies in ways that would allow plausible deniability and minimal risks of reprisal.’” – Farnaz Fassihi and David D. Kirkpatrick, “Iran Cracks Down as Protests Over Downing of Airliner Grow,” New York Times, January 13, 2020.
- ✓ At the end of the movie *Anti Matter* (2017), Liv says that they need to find someone with a motive on which to blame the computer worm attack they used to steal server processing power from across the globe. The British government is investigating and someone could go to jail if convicted of the cyber-terrorism attack. She can hack the blame onto someone else if she has an email address. Ana (“Ana-matter,” as the blog *This is Berry* dubbed her⁹) coolly reaches into her pocket and produces an animal rights group handout on which the leader of the protestors had written his name and email address for contact. She hands the paper to Liv, who authored the worm attack without the slightest remorse, knowing full well that the man’s life will be ruined and he will go to jail for a crime he did not commit. The investigators are looking for a culprit and will look no further once they find someone to charge. The two women, and their boyfriend who has blood all over his shirt and coat from being grazed in the neck by a bullet (from “Ana-light,” *Id.*), then leave the lab to get dinner.

“Until then, everyone was convinced it must have been one of the laborers working on the barracks, but the sudden disappearance of Stauffenberg put things in an entirely different light. By that evening, Hitler knew that a clique of army officers had been responsible.”

– Operation Valkyrie: The Plot to Kill Hitler (documentary, 2008), young female voice reading from Gertraud Junge’s memoirs, Until the Final Hour (2002)¹⁰

Grasping at Straws: The conspirators in the July 20 Plot used ‘captured’ British plastic explosives and fuses, which they found to be the best after experimenting with various explosive devices. *Id.*, Philipp von Boeselager interview, see also his obituary in the Guardian, May 6, 2008.¹¹ Does that mean that he was an intelligence agent for the British or that the British were involved in the July 20 Plot?

According to Wikipedia article “July 20 Plot” – citing to a 1976 book by Princess Tatiana von Metternich-Winneburg, British radio broadcast names of possible conspirators *who were then arrested* by the Gestapo in addition to everyone else the Gestapo didn’t like (the Gestapo cast a

wide net, 99% of those arrested and executed had no involvement in or knowledge of the Plot). Clearly the Gestapo thought that the British might be involved or at least took the radio broadcasts as enough pretext to arrest more people in Germany; because the British cruelly broadcast their names over the radio, those people might have been considered British spies.

I am sure that there are and have been attempts to link British spies to the July 20 Plot, I am sure that if there were enough interest, the conspiracy theories would resurface on the internet. In the frantic, fanatical hysteria following the failed July 20 Plot, the Kaltenbrunner Report, November 29, 1944, also implicated the Pope in the 20 July Plot – remember that the next time you see an internet conspiracy theory. There are layers and people grasp at straws in the wind.¹²

- ✓ Not saying that the Germans wouldn't try the same thing: Allegedly, the German intelligence planned to kill Churchill, Stalin, and Roosevelt at the Tehran Conference in November 1943 (“Operation Long Jump”) and also they allegedly planned to kidnap the Pope in September 1943. Both stories are met with significant skepticism and are not entirely substantiated by evidence, whatever the case, neither seems to have progressed beyond being a fanciful, desperate idea for a single intelligence operation to turn the tide; the kidnapping plot doesn't even have an operational name.

However, these all have likely been inspiration for some fiction – because suspension of disbelief allows fiction to take some small liberties with logic and fact – and might be useful in GGDM: I have never understood why the matter transporters in Star Trek were not used much more creatively; what can be done with Tribbles can be done with people, bombs or bacteria, and it would “be no tribble at all!” (Scotty, ST:OS “Trouble with Tribbles” (1967)).

- ✓ An attempt to kidnap Prime Minister Winston Churchill in Norfolk village and deception about his departure for the Tehran Conference is the subject of the fictional movie *The Eagle Has Landed* (1976). Sort of a combination of the two ideas, above, and just as harebrained because it's not clear what expected effect it would have on the war. It was possibly also inspired by the actual Operation Pastorius (an Abwehr operation) in which the Germans landed two four-man teams of saboteurs from submarines off the coast of New York and Florida in 1942.¹³ They were betrayed, tried and six of them were executed in the nervous aftermath of the Duquesne Spy Ring (another Abwehr operation) arrests and convictions of 1941.¹⁴

“Counterterrorism intelligence is different. It requires identifying and thwarting threats before they happen. Analysis and operations go together in preventing an attack or neutralizing a threat. The United States cannot do this by itself – this effort relies heavily on intelligence cooperation from other countries....”

The information the United States collects via technical means can be frustratingly inconclusive and is often much more useful if paired with human intelligence. Partner nations are often better positioned to collect intelligence on their own soil and to act on that intelligence when necessary.... Partner intelligence services also often know the local language, including various dialects; share the ethnic and historical ties to intelligence targets, and understand the cultural terrain in ways most U.S. intelligence officers never could.... Local intelligence services are often the first line of defense when it comes to disrupting attacks...”

– Stephen Tankel, *The Washington Post*, May 16, 2017

CIT: Counter-Operations Missions (COMs) are different from Special Operations Missions (SOMs) in that they are recruited and operate only in friendly territory; they contain a mixture of police, intelligence, and other elements that constitute the security and law enforcement forces of the civilization they are protecting (e.g., SMERSH). Counter-Operations Missions, like Special Operations Missions, must be placed at or in a specific game unit, i.e. ship, colony, Ground Unit.

- ✓ On December 22, 2019, the New York Times reported that the popular ToTok chat app was a spying tool of the United Arab Emirates (Mark Mazzetti, Nicole Perlroth and Ronen Bergman, “It Seemed Like a Popular Chat App. It’s Secretly a Spy Tool”).
- **Black ICE:** Although framed in terms of operatives, Counter-Operations Missions can be more than just sneakers on the ground (e.g., agents protecting vital computer hubs from physical compromise or staff infiltration, e.g., p. 1321, *ut supra*), they can include virus protection and active security programs (e.g., the ‘black ICE’ popular in cyberpunk stories):
 - ✓ “As with all security programs of any type, they can only be designed to counter known or anticipated threats. In the realm of measure, counter-measure, counter-countermeasure, counter-counter-countermeasure, there is always a small window of opportunity for the latest system. ... Like any living creature, the virus only wanted to be fruitful and multiply.” – Dave Nilsen, “When Empires Fall II,” Challenge Magazine, Issue 69, February 1993 [referencing the Genesis Mandate].
 - ✓ “As the [AI] viruses preyed on each other, they developed ever more sophisticated self-defense security systems and sub-viruses, many times more effective than the man-made security systems they had defeated during the Collapse.” *Id.*
 - Though I do not know the inside details, it is fair to speculate that the Eurisko experience at the 1981 and 1982 Traveller Trillion Credit Squadron Tournaments (see Imperial Admiral Eurisko, 4 Colleges, p. 512, *supra*) hovers in the background leading to the creation of the Virus and of Traveller RPG: The New Era setting.
- **Training Day:** An activation of the Special Operations Power for the purpose of Train Counter Operations Missions allows the Recruiting and Lodging of Counter-Operations Missions on a sovereign colony and friendly ships currently at a sovereign colony by the owner, *in one step*: ‘Train’ in this sense is used as a one-word substitute for two actions, like a cutter pitch in baseball.
 - ✓ Train Counter Operations Missions activation on a sovereign colony requires a Scene at the colony and is thus subject to possible Power Activation failure (see Making a Scene, 1 Special Operations, p. 1274, *supra*); whereas, as mentioned in Acting Lessons, 1 Special Operations, p. 1274, *supra*, training Counter-Operations Missions (COMs) on a friendly ship at a sovereign colony may use either an Act or a Scene at that colony.
 - ✓ Training Counter-Operations Missions is automatically successful (in the sense of Recruiting and Lodging), it is just a matter of cost and time. Each Counter-Operations Mission trained will cost 1 to 3 RPs, and the position submitting Actions to train Counter-Operations Missions must specify either a number of Counter-Operations Missions (at variable cost) or a max budget for new Counter-Operations Missions (however many you can get) *at each location*.

- ✓ Newly trained Counter-Operations Missions do *count against* the GDP of the target colony on that Regular Turn.

Thus, the structure of GGDM Special Operations gives the speed advantage to the defense: Black-ops require three Power Activations to Recruit, Lodge, and use Missions, whereas, Counter-Operations require just one step to Recruit and Lodge Counter-Operations Missions (through the police power of the State). The difference between one step Recruiting and Lodging of COMs and two-step Recruiting and Lodging of SOMs represents the difficulty of projecting Special Operations Power into *alien cultures* and across interstellar distances.

- Quartermaster Act: Unlike Special Operations Missions, Counter-Operations Missions may only be Lodged in a sovereign unit that is or is at the location where they were Recruited on the Regular Turn in which they were Recruited. This includes sovereign ships and Ground Units that *begin* the Regular Turn at the colony where the Counter-Operations Missions were Recruited, e.g., in the movie *Cargo: Space is Cold* (2009) an intelligence operative was added to the crew just before departure to protect them from Neo-Luddite ‘terrorists.’ New ships that are finished in the same Regular Turn do not ‘begin’ the turn at the colony. On the same turn that Counter Operations are ‘trained’ *they must also be assigned to* either Target Protection (the defense) or Counter-Operations (the offense of the defense) at that location.
 - ✓ Though not entirely realistic, GGDM makes no distinction between being on a surface colony or on Orbital Cities over the colony, unless it is necessary for play (for example, different Native Population Types). Thus a Mission Lodged on a Colony is also possibly on any Orbital Cities, Defense Bases or Shipyard, as necessary, because those are not ‘game units’ but rather, ‘colony enhancements’ in GGDM.

Counter-Operations Missions assigned to Target Protection must stay with their target, wherever it goes, and cannot be ‘re-Lodged.’ If the target is moved to a ship, the missions assigned to Target Protection move with it (this does not count as re-Lodging); if their target protection assignment is a ship or a colony, they stay there ‘til retirement. Only COMs assigned to Counter-Operations may need to be re-Lodged occasionally.

- ✓ It is of questionable value in most cases to recruit COMs assigned to Counter Operations on ships using an Act to avoid the possibility of a Power Activation failure, then on subsequent turns, re-Lodging those COMs to a colony, which requires a Scene.
- ✓ “[Ned] Price and others say [Gordon] Sondland’s July 26 [cell phone] call [from a restaurant in Kiev] with Trump raises red flags for another reason: It was likely a highly compromising security breach, and illustrates how lax Sondland was about following State Department protocols to protect sensitive information. ‘The president is the most lucrative intelligence target throughout the world,’ Price said. ‘When the Russians presumably heard that he [Sondland] was connected to the president of the United States, they knew they had hit the jackpot.’ ... Conducting a cellphone call with the president in a public place in Ukraine’s capital, ‘it just doesn’t get any worse than that,’ said Clint Watts, a research fellow at the Foreign Policy Research Institute... Watts said Ukraine is ‘ground zero’ for Russian espionage campaigns, and Moscow almost certainly intercepted Sondland’s conversation with Trump on a major foreign policy issue of keen interest to Russian President Vladimir Putin.” – Bart Jansen and Deirdre Shesgreen, “Gordon Sondland, who flaunted Trump access, may offer first-hand account of Trump’s Ukraine aims,” USA Today, November 17, 2019.

- **Police Pensions:** Like Special Operations Missions, Counter Operations Missions ‘age-out’ at the end of each Regular Turn (or Turn Cycle if Regular Turn Actions are not submitted or processed); there is a 50% chance that each Counter Operations Mission will be lost at the end of each Regular Turn. Unlike Special Operations Missions, Counter Operations Missions are not ‘expended’ or lost during the defense against *any* operation.
 - ✓ Old policemen never die, they just cop out!¹⁵ (boos, hisses, eye rolls)☺
- **The COM-ing of The Virus:** It was said in Mubarak’s Egypt that if five men sat down to a café table to plan something, the fifth person wrote a report to Mubarak afterwards, so thoroughly had the police and counterintelligence infiltrated the opposition groups. Still, it didn’t save him from a spontaneous uprising facilitated by the ultras sports fan social networking.
 - ✓ **In science fiction:** “After a number of furtive and urgent meetings, they decided that they would try to carry warning of this project to the heads of the other factions, one to Margaret’s faction, one to Ilelish, one to Deneb, one to Gushemege, one to Vland, and one to Daibei. They planned their departures to coincide with a conference they could all arrange to attend without attracting undue attention to themselves. Unfortunately, one of their number was a plant loyal to Lucan, one of many assigned undercover to Imperial Research Stations to ensure their reliability. This plant arranged for them all to be followed and murdered, but the emissary to Iklisk, Jean Milakhad, was able to turn the tables on his assassin and escape.

However, he did not know that he had been betrayed from within, and continued his mission as planned, although now aboard a patrol cruiser, commandeered with the help of his Imperial Navy reserve status. But as the plant knew of the scientist’s ultimate destination, he was able to position naval units to intercept the craft, and even insert an assassin at the destination, should the patrol cruiser get through. ... As a result of ‘tomb-tapping’ (the psionic probing of the residual brainwaves of a dying brain) tests conducted on Mibkhad, Dulinor learned that the man was bringing warning of one of Lucan’s superweapons, a virus that was being perfected at a research station in Core sector.” – Dave Nilsen, “When Empires Fall II,” Challenge Magazine, Issue 69, February 1993 (this story would be a great fan-made short video subject).

In the case of Emperor Lucan’s Imperial Research Station Omicron, it was seven people who sat down to plan the escape, and the seventh one was a spy for the Emperor....

“Having been involved in many counterintelligence cases in the past, I know what the(y) try to do. They try to suborn individuals, and they try to get individuals, including [citizens], to try to act on their behalf, either wittingly or unwittingly.”

– John Brennan, former CIA Director, testimony before Congress

Counter Operations: Counter-Operations Missions must be assigned to either Target Protection or to a Counter Operation on the Regular Turn they are either Trained or Lodged (previous page, *ut supra*). This occurs automatically as a step of Recruiting Counter-Operations Missions.

- Secret Services: Counter-Operations Missions assigned to Target Protection will attempt to block or ‘soak off’ Special Operations Missions which are committed to a Black-op against their target. The base chance of each Counter-Operations Mission intercepting a Special Operations Mission is (surprise!) 50%. The Concierge will adjust the base chance based on several factors, including comparing the *loci* of the Special Operation and the Target Protection.
 - ✓ For example, if Counter Operations Missions were assigned to Target Protect the colony, and a Black-op targeted the Ground Bases at the colony, the *loci* overlap, but are not exactly the same; that is, the Black-op is aimed at a specific target installation, whereas, the Counter-Operations Missions assigned to Target Protection must defend the entire colony. As a result, the Counter-Operations Missions assigned to Target Protection must have a slightly lesser chance of blocking the Special Operations Missions targeting the Ground Bases. Conversely, if the Target Protection assignment was Ground Bases, then it would be a head-on collision between Special Operations Missions and Counter Operations Missions doing Target Protection during the Black-op, with Counter Operations having the legitimate authority/police power advantage in blocking in their home territory.
 - Note that there is no provision within the GGDM system for learning whether there are **alien** Special Operations Missions Lodged at any specific location. The system provides for only passive Target Protection and active Counter Operations to purge a location.¹⁶ It is possible that players may learn (or be fooled) about the existence of Special Operations Missions through informal player diplomacy which is, as noted previously, beyond the GGDM system. A little paranoia goes a long way...
- Spy vs. Spy: Activation of the Special Operations Power for the purpose of Counter-Operations is the counter-offensive, the attempt to purge (discover and eliminate, sweeping up the garbage) enemy Special Operations Missions Lodged at their location (presumably to disrupt a future Black-op). For inspiration, see the MAD comic series.☺

Consistent with the previous rules, each Counter-Operations Mission will have a 50% chance of eliminating a Special Operations Mission, if any exist at that location. And the Concierge may adjust the base percentage based on factors known only to the Concierge (on the advice of a 6’ 3½” tall invisible rabbit named Harvey). The owner of the Special Operations Missions, whether or not any are eliminated, *may or may not be informed* of the Counter Operation (that is, may think they simply ‘aged out’); likewise, the position conducting the Counter Operation *may or may not be informed* of any Special Operations Missions eliminated, in fact, may receive false positive results (by use of a Concierge Intervention). Only your hair stylist knows the true color of your hair, and he won’t tell anyone ... really.

- ✓ Despite the brilliant stroke of propaganda attributed to his famous last words, the adult table version of the story of Nathan Hale’s misadventure in 1776 showed that he was a very poor spy, an inept operative. Like John Brown and Sara Jane Moore, he was idealistically deluded, he expected to find immediately in British-occupied New York City an organized, receptive and active network of Revolutionary underground resistance and was open and careless in his attempts to locate contacts. He had no realistic plan or understanding. He was easily outed by the British counterintelligence and hanged. Though many statues of Nathan Hale may exist (I do not know), the

only one I have personally seen (I was a bit surprised even) was located for a short time in the entryway to the Duquesne Club in Pittsburgh. Any statue of Nathan Hale is thus a statue to ideological bravery and uncommon stupidity.

- The Great Pretender: The possibility of ‘flipping’ opposition SOMs and COMs to work as ‘double agents’ is, as always, intriguing but also difficult in the interstellar environment of GGDM. If we assume that SOMs are most likely from the native population of wherever they are Lodged or at the least, of a ubiquitous alien species resident at that location, then flipping them to COMs is possible. In other words, a human on Earth who is a SOM for aliens who are spying on us, might be taken to Area 51 and made into a double agent.

- ✓ [Interview] “No agent can be trusted completely. He had to be checked all the time...” – Col. Mikhail Lyubimov, former KGB officer, *The Spy Who Went into the Cold*: Kim Philby, Soviet Super Spy (documentary, 2013).

In flipping COMs to SOMs as double agents, one has to ask why the COM would prefer an **alien master**. There are, of course, many possible answers mostly relating to be dissident or having dissident sympathies, based on hopes and promises of what will happen when the **aliens** conquer the colony. And never underestimate greed and promises of power...

- ✓ [Interview] “He was just like two different people in one body.” – Richard Beeston *The Spy Who Went into the Cold*: Kim Philby, Soviet Super Spy (documentary, 2013).
- ✓ Within sci-fi tropes, there are many other possible answers. You know, the usual: mind control, intelligent alien parasites, alien religion and revelation, the desire to get off the colony planet, two people occupying one body at the same time, time travel ... *is Louise Banks in Arrival (2016) a Lodged SOM for the heptapods?* You know...

Flipped COMs and SOMs would still ‘age out’ naturally, and that likely puts a wet towel on the effectiveness of flipping Missions. If COMs can be flipped to SOMs at a location, then a sort of chaining effect may happen, without the necessity for Recruiting and Lodging. Game mechanically, since Black-ops and Information Operations (see 2 Special Operations, p. 1297, *supra*, and 2 Information p. 1349, *infra*, respectively) require Mission Profiles, flipping could be attempted via the Profile. On the Counter-Operations side, there is no profile, but it is possible that other means may be developed in game, such as technologies or Writ activations, that would target flipping SOMs instead of eliminating them during Counter-Operations or even when blocking during Target Protection.

- ✓ It is not necessary that a position know that there are enemy COMs or SOMs at a location to attempt to flip them. This is a game of double blind; Lodged COMs and SOMs were generally only ‘discovered’ or ‘appear’ at the moment of execution of a Special Operations Power activation. Sort of like ‘wave function collapse’....
- ✓ It is also possible that flipping may sometimes occur randomly ... err, by Concierge Intervention. Just for the fun of it. Or maybe the COMs and SOMs just revolt against their current masters and cause an incident.

“So what? The time for covert operations and secret maneuvers is gone. If we strike, the government will know what’s going on anyway. We may as well strike right now.” – Col. Gallagher, Nydenion (2010)

Endnotes.

¹ Commentary & Citation: The special mission or desperate black-op in the middle of a conventional battle is the staple of adventure fiction. The battle scene over Antarctica in Stargate SG-1 “Lost City, Pt. 2” (2004) is essentially the same as the Battle of Naboo (assault on Theed) in Star Wars: The entire balance of the battle depends on a small team action (the good guys), under pressure, to master the situation before disastrous defeat by the bad guys.

² Commentary: Consider that company commanders are now usually Captains (or a 1st Lt. in line for promotion), which requires a four-year college degree, completion of OCS, commissioning as a 2nd Lt. and two promotions within about 6 or so years afterward. Thus, most Captains in the Army and Marines (not to be confused with the naval Captain) are in their late 20s with about four years of college and six or more successful years’ experience as an officer. Thus, most company commanders now are about 10 years older than Eugene was when he asked Louis XIV to grant him command of a company in the French army, and all have actual military training and experience.

³ Commentary: The Affair of the Placards (1534) – nailing Zwinglian Protestant, anti-Catholic placards to the door of King Francis’ bedchamber while he was sleeping – was a schoolboy prank (if ever there was one) that changed the course of French and European history in a single night. People were arrested, tortured, tried and executed (some burned at the stake as witches for being Protestant) as a result of the investigation and France abandoned conciliation and tolerance of Protestants, culminating in the Edict of Fontainebleau in 1540 (Protestants were again granted rights by the Edict of Nantes in 1598, but they were rescinded again by a second Edict of Fontainebleau (1685)) and France became a continental Catholic bastion in natural geopolitical opposition to England and Germany. From this boundary arises much of the next 500 years of European conflict.

- ✓ The same cannot be said, for example, of *Kristallnacht* (November, 1938) four hundred years later, as the German government was both complicit and involved, and because the course of history was not arguably changed, rather, it sped forward to the conclusion we all know. *Kristallnacht* publically confirmed what many people already suspected and outraged and alienated public opinion of Nazi Germany in other countries, especially the United States and England.

⁴ Commentary: For the record, the screenplay writers changed the story a bit, especially the ending. The novel was difficult material to translate into a screenplay. As usual, there were angry comments and recriminations on this among the actors, writers, directors and producers as to who did or said what during the process.

⁵ Commentary: The bombing of the Greenpeace vessel *Rainbow Warrior* was a particularly petty jerkass act by the French government, more so because it was authorized at the very top. This is sort of like setting the neighbor’s backyard doghouse on fire because their dog barks too much. But governments do those things, they are exactly like the people who populate them.

- ✓ “A Jerkass is a character who is so completely obnoxious that it is unbelievable anyone would willingly interact with them. ... What makes them entertaining is the fact that you don’t have to deal with them yourself in real life. ... The single factor that pushes a merely annoying character over the line into full-time Jerkass status is their absolute obliviousness to other people’s perceptions of them. Nothing they do ever strikes them as out of proportion; they never realize that anything they are doing might ever be considered inappropriate, excessive, or cruel; in fact, they believe they are actually right and everyone around them is in the wrong. If anyone ever does call them out on their Jerkassery, expect them to just rationalize it or shrug the accusation off.” – from TVTropes.org, “Jerkass,” captured July 6, 2019.
- ✓ The trope above almost perfectly describes Adolf Eichmann, see 1 Special Operations, EN 9, pp. 1282-1283, *supra*. Hence, Jerkass behavior might relate, in a literary sense, to Banality of Evil.

⁶ Commentary: I was on the island of Okinawa, Japan on July 10, 1985, preparing for a FSMAO (pronounced “phase-mo”) Inspection which amounts to an official Marine Corps terrorist act (as Reddit user WellDweller said in response to a 2018 FSMAO question, “Prepare your anus for early days and long nights.”) in conjunction with an admin paperwork inspection and a series of command inspections in three consecutive months. So I had nothing to do with the sinking of the *Rainbow Warrior*! **Plausible. Deniability.** I have never been south of the equator.

- ✓ In preparation for the FSMAO inspection, it was discovered that our Motor T shop had too many parts, more than was allowed by the supply spec sheets. There is a sort of horse trading that goes on between various units and sections for parts and small tools so that the stuff eventually goes where needed; but this would not have been any consequence to the hard-nosed inspectors. So a Staff NCO loaded the extra stuff in his car trunk and took it back to his room at the Staff NCO barracks, some of it, he had to bring up to the room to empty his trunk for more stuff that had to be hidden. Then he had to hurry to bring it all back the night after the inspection because they were having a Staff NCO barracks room inspection the next day.

⁷ Citation: “This is what is known as plausible deniability. As in, senior leadership in any campaign never get too close to the truly explosive (or potentially explosive) material that is peddled in the dark channels of opposition research so that – if ever it actually blows up – they can honestly say they never knew about it.” – Chris Cillizza, “Steve Bannon is 100% right about Russia and the Trump campaign,” CNN Politics, January 3, 2018.

⁸ Commentary & Citation: Waffen SS soldiers were used as guards at the Nuremberg Trials. They were from the Estonian and Latvian Legion Waffen SS divisions (15th and 20th Waffen SS Grenadier Divisions) and considered ideologically neutral (though Dr. Felton disputes this somewhat) and displaced persons after the war. See “Waffen-SS Soldiers Guarded the Nuremberg Trials,” Mark Felton Productions YouTube Channel, April 29, 2020.

⁹ Citation: “Worm /Anti Matter (2017): Movie Plot Ending Explained,” This is Berry (thisisberry.com), September 22, 2017.

¹⁰ Commentary: Frau Junge was Hitler’s last personal secretary and had died in 2002 at 81 years old.

¹¹ Citation: Obituary: <https://www.theguardian.com/world/2008/may/06/secondworldwar.germany>.

¹² Citation: “Every president for whom I have worked has wished that intelligence can say things that it can’t. Right, you wish that some piece of truth existed that would allow you to justify.” – Susan Gordon, CNN interview, December 3, 2019 (video available on YouTube).

¹³ Citation: See, Harvey Ardman, “World War II: German Saboteurs Invade America in 1942,” World War II Magazine, February 1997, available free on historynet.com.

¹⁴ Commentary: The Duquesne Spy Ring was a technical intelligence operation that delivered huge amounts of blueprints and technical documentation to Germany *before* WWII, which appears to have been adapted by the Germans and appeared in later German military equipment designs. Some members also distributed propaganda, reported ship movements, defenses of the Panama Canal, stole government contracts, coastal sea charts, and acted as couriers of money, platinum, instructions, photographs – they even had a honey-trap agent in New York’s social circles named Lilly Stein – remarkably, she was a Jewish woman, but I guess that was the perfect cover for a Nazi spy.

- ✓ The fact that the entire ring was rounded up (‘busted’) by the FBI in 1941 does not make it a failed operation. The date of the ‘bust’ – April 1941, before the Pearl Harbor attack and formal declaration of war on Germany – by the FBI and the fact that the FBI had double agents in the ring who controlled one of the Ring’s short-wave radios also does not make it a failure of counterintelligence in the United States. This is a situation example where both sides might be considered successful to a degree in a GGDM Black Op.

¹⁵ Commentary: The origin of the word ‘cop’ in reference to police is filled with many imaginative, but incorrect, folk etymologies; when I was young, I used to see “Community Oriented Policing” on patrol cars and thought that was what ‘cop’ meant (a backronym, false etymology?). Centuries ago, to cop (v.) meant to seize or grab, and is still present in the current misogynic phrase, ‘cop a feel’ (as in former President George H.W. Bush’s joke about his favorite magician) or by a more twisted meaning, ‘copping out’ as in taking yourself out of some commitment, while to ‘cop to’ something is to confess or admit. By the mid-19th century, cop had become slang for a policeman in the sense of one of who seizes and arrests, takes into police custody (i.e. a person who was arrested has been copped by the police, otherwise, it is *kidnapping or abduction* if not legitimate). This is typical of English where verbs become nouns denoting the doer of the action, e.g., a person who regularly cops out is labeled a cop-out.

¹⁶ Commentary: Game design process: I asked myself, well how would you know if there were an enemy Special Operations Mission lodged in one of your locations. Answer: There is no way to know within the current game rules. Question: Is that bad for the game? Answer: No, an attempt to execute a Black-op requires at least three Regular Turns, and a little paranoia isn’t a bad thing.

- ✓ Oddly, the Special Operations rules in GGDM inadvertently reflect the nature of crime and policing in the real world.

First Question and Last Answer

“The Pythagoreans concluded that the one universal quality of all things in the universe, the one thing that everything had in common, was that it was numerable and could be counted. We could perhaps imagine a universe without smell or taste. However, the idea of creating a hypothetical universe without numbers is very much impossible. And here we see the basis of the Pythagorean philosophy. They believed that numbers were the underlying substance of reality much in the way that Thales believed water to be origin of being in the universe. However, not all numbers were treated equally. Some were considered more holy than others. For instance, the Pythagoreans attributed great importance to the number one. This is probably due to their ideas on the formation of the universe. It was proposed that there once existed chaos and disorder within an unstructured, infinite universe. Then, limitations were set upon the universe and the world as we know it fell into order; objects became numerable, the cosmos became perceivable. In this way the universe came from a sort of chaos and took on a oneness that was previously unknown. This idea of a harmonious, single universe would be echoed by the likes of Parmenides and Zeno of Elea.”

– by user Socrates, <http://classicalwisdom.com/cult-of-pythagoras/>, April 10, 2017

The Voice said, “You have promise. You answer my paradox with a paradox – except that mine is not a paradox. Consider. I have existed eternally, but what does that mean? It means I cannot remember having come into existence. If I could, I would not have existed eternally. If I cannot remember having come into existence, then there is at least one thing – the nature of my coming into existence – that I do not know.”

“Then, too, although what I know is infinite, it is also true that what there is to know is infinite, and how can I be sure that both infinities are equal? The infinity of potential knowledge may be infinitely greater than the infinity of my actual knowledge. Here is a simple example: If I knew every one of the even integers, I would know an infinite number of items, and yet I would still not know a single odd integer.”

Murray said thoughtfully, “You cannot know your beginning. You have said so. Therefore you cannot know your end. Very well, then. That will be my purpose and that will be the last answer. I will not destroy myself. I will destroy you – if you do not destroy me first.”

The Voice said, “Ah! You come to that in rather less than average time. I would have thought it would have taken you longer. There is not one of those I have with me in this existence of perfect and eternal thought that does not have the ambition of destroying me. It cannot be done.”

Murray said, “I have all eternity to think of a way of destroying you.”

The Voice said, equably, “Then try to think of it.” And it was gone.

But Murray had his purpose now and was content.

For what could any Entity, conscious of eternal existence, want – but an end?

For what else had the Voice been searching for countless billions of years? And for what other reason had intelligence been created and certain specimens salvaged and put to work, but to aid in that great search? And Murray intended that it would be he, and he alone, who would succeed.

– From “The Last Answer” (1980) by Isaac Asimov ¹

¹ The “Last Question” may describe a Boltzmann Brain, or suggest that God is a Boltzmann Brain.

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“It from bit. Otherwise put, every it – every particle, every field of force, even the space-time continuum itself – derives its function, its meaning, its very existence entirely – even if in some contexts indirectly – from the apparatus-elicited answers to yes-or-no questions, binary choices, bits. It from bit symbolizes the idea that every item of the physical world has at bottom – a very deep bottom, in most instances – an immaterial source and explanation; that which we call reality arises in the last analysis from the posing of yes-no questions and the registering of equipment-evoked responses; in short, that all things physical are information-theoretic in origin and that this is a participatory universe.”

– John Archibald Wheeler, *A Journey Into Gravity and Spacetime* (1990)
(emphasis in original)

Hologram Universe: Although John Archibald Wheeler was a theoretical physicist, and thus was probing the *first order of natural phenomena*, his “it from bit” idea might also be applicable to psychogenesis and noogenesis thought, see Order of Genesis, 1 Order, p. 522 and Scaling Eras, 1 Eras, pp. 755-756, *supra*.

The *it from bit* argument seems to have morphed into the idea that we are living in a hologram or computer simulation; that is, the universe is acting in holographic ways or that our current knowledge of the universe allows it to be reasonably interpreted as a hologram or computer game. It all started with *Tron*... The media pronouncements of Elon Musk aside, there seems to be some serious intellectual engagement with the developing idea that the universe is a hologram, to wit:

- ✓ “This paper argues that *at least one* of the following propositions is true: (1) the human species is very likely to go extinct before reaching a ‘posthuman’ stage; (2) any posthuman civilization is extremely unlikely to run a significant number of simulations of their evolutionary history (or variations thereof); (3) we are almost certainly living in a computer simulation. It follows that the belief that there is a significant chance that we will one day become posthumans who run ancestor-simulations is false, unless we are currently living in a simulation. A number of other consequences of this result are also discussed.” – Nick Bostrom, “Are You Living in a Computer Simulation,” *Philosophical Quarterly* (2003), Vol. 53, No. 211, pp. 243-255.
- ✓ “Do we live in a 2D hologram? There’s no short answer, but physicists believe it may be possible. The holographic principle – a property of particle physics’ string theory – proposes that information about a region of space can be ascertained by the information on the surface that surrounds it – much like you can determine, say, currents in water by the eddies on the surface. But does this actually mean that our universe is an optical illusion created by light diffraction?

Fermilab has just switched on a machine that may help a team of researchers figure it out: the Holometer, the most sensitive instrument ever built to measure the quantum jitter of space. They liken the idea to a television, where pixels become less cohesive the closer you get to the screen. Those tiny pieces of data, however, holistically form a recognisable image when you move away from the screen; the researchers believe the universe may be contained in the same way, with the ‘pixel’ size of space roughly

10 trillion times smaller than an atom – the smallest distance possible in the universe, called the Planck length.

The Holometer uses a pair of interferometers – devices used to superimpose waves to compare them – placed close together to each send a one-kilowatt laser (equivalent to 200,000 laser pointers) at a beam splitter and down two 40-metre arms arranged in a perpendicular L-shape. The light is reflected back to the beam splitter, and, if there is motion, this will cause fluctuations in brightness. It is these fluctuations that the researchers will analyse, looking for holographic noise.” – Michelle Starr, “Is the universe a 2D hologram? Fermilab intends to find out,” August 26, 2014, CNET.

Participatory Universe: GGDM is a participatory universe defined by many yes-no questions; sandbox games and ‘discard to play a card’ tabletop games, such as Race for the Galaxy, where making something a fact (eigenstate) in the game eliminates other possible futures – seem to reflect an evolving modern understanding of reality. At least in GGDM, the *Bits* in your brain become the *Its* in the game. The modern duality is that we live in a world where facts are facts, things that are unknown currently can be derived or guessed at based on facts, math, and experience, some things are unknowable in any case; but at the same moment, there are scientifically-based understandings that reality is not what it has always seemed; that it is based on probabilities, the universe, solid matter, is mostly filled with – nothingness – and that consciousness may have some part to play in determining what is real: Making us responsible for our reality.

- ✓ See previous looking and wave collapse discussion, Peek-a-Boo, 2 Expansion, p. 893, *supra*.

Crop Circles: Information is that which tends to inform the receiver of the surrounding environment, events, memories, impressions, facts that cannot be directly sensed, the thoughts of others, or of what came before or is expected in the future. Information is then, dependent on the receiver (and sender, if any) for context, and is transmitted by energy or matter and received by sensors, senses. When information is transmitted from a sender to a receiver, the sender and receiver must be intelligent and must share a set of common meanings (and sensory range) for the information to be communicated successfully.

I am quite certain, however, that the use of the word ‘information’ is much different now than it was fifty years ago, and most certainly, in the last five hundred years; the Merriam-Webster definition (feature quote, p. 1330, *ut infra*) is very broad, overlapping and confused – a sign of undirected, unrestricted, rapid development and changing of word meaning as it filters through many similarly rapidly developing, unbounded avenues of thought. It seems that our sense of information has changed almost imperceptibly by small degrees even as its volume has increased exponentially by generations. Some of the change is most assuredly tied to the modern time sense. In so many instances of common, daily speech, I now hear ‘information’ being used in a context where it appears to be a thing onto itself, objective – independent of the sender and receiver, and co-existent with the matter and energy used to transform, store, and transmit the information.

- ✓ “Thought has a sound, and a sound has a form...” – Dune (1965).
- ✓ “The Traveller used his thoughts to alter warp fields. Thoughts became reality. Now I’m in a warp field. Could my thoughts have changed this reality?” – Dr. Beverly Crusher, Star Trek TNG episode, “Remember Me” (1990).

Information is not ‘intelligence’ in any sense. Intelligence, at the very least, implies and requires the ability to process information, and in so doing, make it mean or reveal more than the sum of the individual pieces and bits. Intelligence looks for information when it matters. ‘Raw’ information, as any member of the intelligence community would state, is not ‘intelligence’ in any military sense. Raw information needs context. Even the dictionary entries for intelligence and information, seems to confuse news, information, and intelligence as if they were interchangeable.

- ✓ It is important to understand that dictionaries are a sort of journalism, they do not ‘create’ word meanings, but rather, they try to form a definition of a word from current and past usage, both technical and common. There is, of course, a feedback loop; reference to dictionary definitions tend to ‘stiffen’ or set meanings of words that are in flux or loose otherwise in a way similar to how the printing press in part ‘locked down’ the ‘correct’ spelling of words.

Military, political, and law enforcement ‘intelligence’ requires the application of human cognition – processing, organizing, deep learning (like AI Deep Learning, see The AI Problem excerpts in Corporations, *supra*) – to information collected by various means. Informants provide just that, information. Someone has to put the pieces of the puzzle together into a useful picture, extract patterns, meanings, facts, interpretations, and implications. One of the main errors of intelligence agencies is that they have often forgotten that intelligence requires application of intelligence, and does not solely consist of satellite images. Intelligence requires the collection, arrangement, collaboration and interpretation of information, it is not the information itself, but the creative, analytical thought applied to information.

Information is what the Concierge provides, intelligence is what the players make of it, what they bring to the game.

- ✓ “Intelligence is massively inconvenient. It actually typically steals some of the decision space of the president. So you are walking in there making things difficult because of what you are presenting. And you are limiting the choices because once it’s heard it is heard and it exists.” – Susan Gordon, CNN interview, December 3, 2019.

“Information is the resolution of uncertainty; it is that which answers the question of ‘what an entity is’ and thus defines both its essence and nature of its characteristics. Information relates to both data and knowledge, as data represents values attributed to parameters, and knowledge signifies understanding of a concept. Information is uncoupled from an observer, which is an entity that can access information and thus discern what it specifies; information may exist beyond an event horizon, for example. In the case of knowledge, the information itself requires a cognitive observer to be obtained.

In terms of communication, information is expressed either as the content of a message or through direct or indirect observation. That which is perceived can be construed as a message in its own right, and in that sense, information is always conveyed as the content of a message. ... The uncertainty of an event is measured by its probability of occurrence and is inversely proportional to that. The more uncertain an event, the more information is required to resolve uncertainty of that event. The bit is a typical unit of information, but other units such as the nat may be used. ... The concept of information has different meanings in different contexts. Thus the concept becomes related to notions of constraint, communication, control, data, form, education, knowledge, meaning, understanding, mental stimuli, pattern, perception, representation, and entropy.”

– from Wikipedia article, “Information,” July 26, 2019 (emphasis added)

Processing... Please Wait: Solving algebra problems in high school (you remember doing that right?) is an act of information creation – the algebraic process is a resolution of uncertainty (i.e. what is the value of X?). Framing information as the answer to “what an entity is” (*ut supra*) or what an ‘appearance’ is links information to both phenomenology and ontology. That is, something must appear first (i.e. the area of concern of phenomenology) before we can ask the question and the ‘is-ness’ is a term of being, existence (i.e. the area of concern of ontology). Thus:

- ✓ “In computer science and information science, an ontology encompasses a representation, formal naming and definition of the categories, properties and relations between the concepts, data and entities that substantiate one, many or all domains of discourse. Every field creates ontologies to limit complexity and organize information into data and knowledge. As new ontologies are made, their use hopefully improves problem solving within that domain. Translating research papers within every field is a problem made easier when experts from different countries maintain a controlled vocabulary of jargon between each of their languages.” – from Wikipedia article, “Ontology (information science),” July 26, 2019.

With this description of ontology in information science, the discussion has now reached back around to the outer edges of epistemology. Duplicate information resolves only veracity.

The primary barrier to humanity is the individual organic and the super-organic processing of information. Electronic computing has aided us somewhat, but we must know the correct questions to ask to shortcut the process, and it is knowing those questions that lead to cognitive understanding and not the speed of computers. However, computers are a far step from organic information processing evolution, they are the training wheels on your first bike.

Definition of information

1: the communication or reception of knowledge or intelligence

2a

(1): knowledge obtained from investigation, study, or instruction

(2): intelligence, news

(3): facts, data

2b: *the attribute inherent in and communicated by one of two or more alternative sequences or arrangements of something (such as nucleotides in DNA or binary digits in a computer program) that produce specific effects*

2c

(1): a signal or character (as in a communication system or computer) representing data

(2): something (such as a message, experimental data, or a picture) which justifies change in a construct (such as a plan or theory) that represents physical or mental experience or another construct

2d: *a quantitative measure of the content of information, specifically: a numerical quantity that measures the uncertainty in the outcome of an experiment to be performed*

3: *the act of informing against a person*

4: *a formal accusation of a crime made by a prosecuting officer as distinguished from an indictment presented by a grand jury*

– Merriam-Webster online dictionary, July 26, 2019

Media Overkill: The ‘information game’ overlaps, but is not entirely congruent with the ‘special operations game.’ The Special Operations part of the game occurs mainly later in the game rather than early in the game. The ‘information game’ however, plays constantly throughout the game as positions continually attempt to gather information on other positions and the local Galactic Space. It is not limited to activation of the Special Operations Power for the purpose of Reconnaissance, rather, the information game also involves Scouting by activation of the Expansion and possibly Combat Powers, as well as email diplomacy and communications between positions, and postings on the forums.

- **Poking and Pinging:** Reconnaissance in GGDM refers specifically to activities that would be called passive ‘listening’ or ‘observation’ (Surveillance, maintaining a presence) and active military reconnaissance (Probing, without the overt deception of Black-ops) against known or discovered alien locations. Reconnaissance and the ‘information game’ in GGDM does not refer to cyber warfare, hacking, or backdoor electronic surveillance, all of which would be more appropriate as Black-ops, see 1 and 2 Special Operations generally, *supra*. Counter-Operations Missions (COMs) (see CIT, 3 Special Operations, p. 1320, *supra*) are ineffective against Reconnaissance activations of the Special Operations Power and Special Operations Missions (SOMs) (see SOM-COMS, 2 Special Operations, p. 1289, *supra*) are not used or required (or even considered) in Reconnaissance activations.

Reconnaissance in Special Operations overlaps somewhat with Scouting in the Expansion Power, except that Scouting only works until the system is successfully explored and might not be specifically directed against or find alien locations. However, it may also be possible to cleverly pair activations of the Special Operations Power for Reconnaissance and Black-ops in the same Regular Turn and location so that they complement each other, but in any case, those are always two separate functions.¹

Sorceress: *If I could look, what else would I see in there?*

Ancient One: *Confusion.*

Sorceress: *You tease me!*

Ancient One: *But it’s true. There’s the past, the future, the present, parallel worlds, the Big Bang, the second Big Bang, and the one to come. There’s even worm holes. It’s all terribly confusing.*

– *The BeastMaster* (TV series, 1999-2002)

Many Names of Merlin: The Ancient One in the uchronic BeastMaster television series has always reminded us of Merlin, which is likely quite intentional.

- ✓ “There are other worlds. This one is done with me.” – Excalibur (1981).

There is even a possible continuity between the reason given for the Ancient One’s disappearance at the end of Season 2 and Merlin’s actions in the Arthurian legends.

- ✓ The idea of multiple Big Bangs arises from debates about the possible cyclic universe and how the current universe might end. However, in the Dr. Who episode, “The Big Bang” (2010) ... he resets the universe (he can read the ‘source code’ of the universe on a cell phone) with the ‘second Big Bang.’ Dr. Who has, of course, been the modern Merlin of sci-fi television.

- ✓ See also The Cosmic Cycle excerpts, Wheel in the Sky, *infra*.

Seeing is Bell-ieving: There is a lot of information in this game, the game is admittedly information intensive and an exercise in understanding and analyzing information. The Concierge will freely report to players, as appropriate, information that is open and obvious to them, that can be seen by their units or that would be otherwise knowable to the position. For example, if **alien** Colony Ships arrive in the Capital Colony’s system, and were not somehow protected from detection, then it would be reported to the players of the respective positions by the Concierge as appropriate. Such reporting may not take the form of an Information Bulletin; rather, certain events such as the arrival and departure of ships will simply be reflected on the Public Spaces or elsewhere on the position’s information and will be up to the players to ‘look’ for and discover on their own. Therefore, players will have to look and study their turn results as they would in any other PBEM game.

- **Information Bulletin:** Rarely the Concierge may need to report important information to players of a position by email when the information would not be obvious by studying the Public Spaces. The subject line of these emails will be “Information Bulletin” which should not be confused with the special News Event posting by the Concierge on the News Event forum, called a “Special Bulletin.”

- ✓ Game information is a design problem inherent in what GGDM is (or isn’t depending on your view). People like games because the information is boxed and packaged and not overwhelming, the possible choices are both fairly clear-cut and important within the game context. GGDM, as a holistic simulation of civilizations has tended to become – naturally – like what it simulates; our civilization is experiencing currently information overload and publication proliferation and our previous cognitive systems are struggling to keep up as they slowly adapt over the next two centuries.

For example, in my experience in the legal profession, I learned from doctors that it is literally impossible to read even all of the critically important articles published in their sub-specialty, and ‘publish or perish’ (and routine CV inflation) has begun to damage our system in ways similar to credentialism and other related ills discussed in Wossamotta U, 3 Disruption, p. 287, *supra*. GGDM is the creature of its time and place, such a game would not have been possible half a century ago when I was born, due to the ability or inability of our worldview and technology to process voluminous information and keep it fairly clear cut, packaged and consequential within the game.

“At present, human scientists are attempting to communicate outside our species to primates and cetaceans, and in a limited way to a few other vertebrates. This is inordinately difficult, and yet it represents a gap of at most a few SQ points. The farthest we can reach in our ‘communication’ with vegetation is when we plant, water, or fertilize it, but it is evident that messages transmitted across an SQ gap of 10 points or more cannot be very meaningful. What, then, could an SQ +50 Superbeing possibly have to say to us?”²

– Robert A. Freitas, Jr.

Xenology: Though Mr. Freitas is best known in the nanotechnology field, publishing many articles on nanomedicine, and is a senior research fellow at the Institute for Molecular Manufacturing, he also holds a Juris Doctorate, and has published works on the legal implications of SETI, Xenology, and Metalaw. The paper, “Metalaw and Interstellar Relations” (supporting Dr. Fasan) is available on his website (xenology.info) as is his paper on Sentience Quotient as part of his book *Xenology* (1st Edition) that is free on the site as well. He also worked as a SETI researcher.

- ✓ “Xenology may be defined as the scientific study of all aspects of extraterrestrial life, intelligence, and civilization. Similarly, xenobiology refers to the study of the biology of extraterrestrial lifeforms not native to Earth, xenopsychology refers to the higher mental processes of such lifeforms if they are intelligent, and so forth.

The xeno-based terminology was first coined for this usage by the renowned science-fiction author Robert A. Heinlein (starting in *The Star Beast ...* 1954), though the first use of the related word ‘xenologist’ is apparently attributable to L. Sprague de Camp (‘The Animal-Cracker Plot,’ *Astounding Science Fiction* 69 (July 1949); ‘The Hand of Zei,’ 1950). This usage was subsequently defended by Heinlein and Harold A. Wooster in a 1961 article published in the journal *Science* (R.A. Heinlein, H. Wooster, ‘Xenobiology,’ *Science* 134 (21 July 1961):223-225) and by Robert Freitas in a 1983 article published in the journal *Nature* (R.A. Freitas Jr., ‘Naming extraterrestrial life,’ *Nature* 301 (13 January 1983):106).

The latter article drew a complaint (‘Xenology disputed,’ *Nature* 302 (10 March 1983): 102) from four specialist researchers claiming to represent ‘20 research groups in at least eight countries’ who preferred to retain use of ‘xenology’ for the study of xenon concentrations in meteorites (an argument that would not apply to other uses of the xeno- prefix) but their plea has largely failed. By December 2008, Google listed 20,600 entries for ‘xenology’ of which only 1140 referred to xenon and most of the rest referred to the extraterrestrial usage. Online dictionaries (e.g., Webster’s New Millennium Dictionary of English, 2003-2008) now typically define ‘xenology’ as ‘the scientific study of extraterrestrials, esp. their biology.’” – from *Xenology.info*, a website owned by Robert Freitas.

- A fascinating if petite study in how words tussle, develop and spread in our language.

Xenobiology Section: The ability of a position to accurately, more or less, estimate the Habitability Class and Maximum Habitability of a planet relative to another species, either as a result of exploration or observation, is at the judgment of the Concierge. The Concierge will take into account the technical expertise and capabilities of the position, as well as, the quality, quantity, and length of contact with the other species, including relevant Reverse Engineering attempts (see 3 Technology, p. 712, *supra*). For example, if two species have had First Contact but have not encountered each other’s colonies, the chances of accurately determining the suitability of a planet for colonization by the other species is lower than if the two species have shared colony planets and colony systems for an extended period of time and/or have a large Diplomatic Space.

- ✓ This issue comes into play during situations where a position might observe a planet as described in the next section, 2 Information, *infra*, or use Information Operation activations of the Special Operations Power to obtain xenobiological information.

- The Life of a Flea: Insofar as we can determine, the life of a flea consists of biting, breeding and migrating; no one seriously thinks of fleas as persons or of having any ‘purpose’ other than as a ubiquitous pest. And according to our intellectual scheme in which persons are valued most highly, we regard fleas as being very low on the scale and their individual deaths as being meaningless (or even good, from our point of view). But imagine that in contact between alien sapient species, whether First Contact, or Balkanization of a colony planet, that a few unnoticed fleas might mean the extinction of the other population (depending on biology). It may also mean that we cannot take our pets with us into space; even if no sapient species are encountered, the spread of fleas – alien to the biosphere of a new planet – could destroy the native life.
 - ✓ Pets rarely appear in space-opera fiction; there may be a few practical reasons – for example, life support systems, but mostly I suspect it is simply the focus on *humanity* going to the stars, *human* interstellar adventure. I was never a fan of Muffit in the original *Battlestar Galactica*; I know they were trying new things ... and it was 1970s television, they were doing the family in space, and if there was a (preadolescent) boy in the program he had to have a dog, and the dog had to heroically save them³ ... but the robotic dog-like creature, especially as a recurring character, always felt corny, contrived and elicited eye-rolls. Mercifully, they omitted the daggits, both real and robotic (and chimp actors), and any mention of, from the reimagined *Battlestar Galactica*, but there was at least one real dog on *New Caprica* whose dish was flipped, though you never saw dogs elsewhere in the series. Which brings us right back to where we were in the beginning...

We have plenty of experience in this with the spread of species through colonization (the Columbian Exchange) or deliberate transplant from continent to continent on our world, which have often proved catastrophic for the local flora and fauna.

“But what makes extremists extreme – whether they’re leftists, right-wingers, fundamentalist Christians, or anti-vaxxers – is a ferocious resistance to anything that contradicts their worldview. When you spend some time with young white nationalists on YouTube, Reddit, or 4chan, you understand that counter-information is nothing but fodder for validating their beliefs. And an attempt to force it on them only reinforces the whole weltanschauung of the new white supremacists: that there’s a massive global conspiracy to disempower white people and destroy Western civilization, accomplished by clamping down on free expression and hiding the dirty ‘truth’ about race, gender, global finance – everything.”

– Bob Moser, “How YouTube Became the World Wide Leader in White Supremacy,” *New Republic*, August 21, 2017 (emphasis in original) ⁴

Selecting Bits: Worldview is in large part a process of selecting which information we accept and rejecting other information if it doesn’t fit. Worldview is thus a discrimination.

We all do it, including myself. It is related to confirmation bias. It is possibly a defense mechanism of our cognition, and the current form may be a response to increasing complexities (see Tom Nichols excerpt, *The Campaign Against Expertise*, *Colleges*, *supra*) and/or a failure of culture to constructively fill the Existential Void. Worldview is thus, very much an information

game, often with consequences. The modern consequences are seen in the recently exhumed various forms of extremism and populism.

Our civilization has many levels at which it selects bits of the worldview. Peer review and editors select the bits which appeal to certain specialized or educated parts of the worldview. The news media (notably with editors) has long formed the layer below peer-review and learned journals. For a long time, there wasn't another layer until social media and filter bubbles formed that select only what we want to hear.⁵

- ✓ “In our founding documents, Billy Graham explains that Christianity Today will help evangelical Christians interpret the news in a manner that reflects their faith.” – Mark Galli, Editor, “Trump Should Be Removed from Office,” December 19, 2019.

- ✓ See Willful Ignorance, 2 Information, p. 1353, *infra*.

➤ Gag Reflex: I watched the two-minute trailer for the animated series *Ronja, the Robber's Daughter* and instantly decided I wasn't interested in an anime that flippantly tries to tell us how great life is and how wonderful is the world (I made it about half way through *Brave* (2012)). Now, if you accuse me of filtering, I plead guilty; I am not one to watch Hallmark special 'heart-warming' group huggy-type movies (whether for the holidays or otherwise). And like most guys, I don't go for roms or rom-coms very much, or teenage 'coming of age' movies, of which the *Ronja* anime seemed to be all three (to the level of gag reflex).

As a cynical adult male (e.g., GGDM), I have understood the world as petty, stupid, rude, nonsensical, dishonest, negligent and careless, sometimes dangerous, ruled by threat of force, and not fair (and not a lot of other things humans want to think) and my preferences in reading, music, and movies probably serve as *confirmation bias*; in this capacity, history (and the 24-hour news cycle which is the first draft of the next history book) is unequalled. I am simply not interested in being told that the world is wonderful, that life is a happy miracle, that everything is just fine, and that humanity is better than we think we are (which would mean that I am dead wrong on all counts) and that somehow I have missed out.

Such arguments are for children and adults with young minds, and they can hold onto them until the universe hits them over the head a few times.

- ✓ My 'teachable moment' long ago fell into one of the millions of black holes scientist tell us permeate the universe.

- ✓ Now, does that make me an extremist (in the non-militant sense, I am not planning on blowing up Toys 'R Us stores)? Or just a curmudgeon? The “ferocious resistance” described by Bob Moser above is not limited to the groups he names. *Confiteor*.

The point of this is that we all filter information to form our worldview. Being told or shown things that contradict our experience and view of the world, of reality, is like having to listen to the same lies over and over (they are lies because you already know they are).

- ✓ “Sometimes it happens that a man's circle of horizon becomes smaller and smaller, and as the radius approaches zero it concentrates on one point. And then that becomes his point of view.” – David Hilbert quoted by Constance Reid, Hilbert-Courant (1984), p. 174.

“Peer review is the process that decides whether your work gets published in an academic journal. It doesn’t work very well any more, mainly as a result of the enormous number of papers that are being published (an estimated 1.3 million papers in 23,750 journals in 2006). There simply aren’t enough competent people to do the job. The overwhelming effect of the huge (and unpaid) effort that is put into reviewing papers is to maintain a status hierarchy of journals. Any paper, however bad, can now get published in a journal that claims to be peer-reviewed. ...

The only people who benefit from the intense pressure to publish are those in the publishing industry. Hardly a day passes without a new journal starting. My email inbox is full of invitations to publish in a weird variety of journals. They’ll take just about anything. The US National Library of Medicine indexes 39 journals that deal with alternative medicine. They are all ‘peer-reviewed,’ but rarely publish anything worth reading. The peer review for a journal on homeopathy is, presumably, done largely by other believers in magic. If that were not the case, these journals would soon vanish.”

– David Colquhoun, “Publish-or-perish: Peer review and the corruption of science,” *The Guardian*, September 5, 2011 ⁶

Endnotes.

¹ Commentary: The Information Section was originally titled Intelligence (around 2000), but was changed to broaden the scope and to avoid confusion with Special Operations. While final editing the Expansion section in June 2018, I discovered a remaining reference to the “Intelligence Section” of the rules.

² Commentary: We may, in fact, be part of some superbeing’s ant farm. I might also be sitting in a padded cell fantasizing that I am an expendablewannabeintellectualparalegalgamerretailerhomeowneragingfailure. It’s an intriguing idea, but like the recent ideas that the universe may be a hologram or a computer program, it is not immediately clear how that knowledge is useful or how it would change our worldview. Our musings about such things – like religion – likely *matter more than any actual confirmation of our musings*.

✓ See discussion of *a priori*, Crack in the Temple 1 Beginnings, p. 27, *supra*.

³ Commentary: Similar to the rule that every serious movie and or adventure/police television show – except Westerns – had to have a car-chase scene. Which is what made the beginning and ending of *The Gambler Returns: The Luck of the Draw* (1991) so amusing – the movie, set in 1906, begins with a Western horse chase scene, and ends with a car chase scene.

✓ The Gambler Series through the 1980s, was the last hurrah of the television Western movie or TV series, and fittingly, the Gambler IV in 1991 featured cameo appearances of nine aging 1960s Western TV series stars at the ‘final’ poker game in San Francisco. There certainly was a feeling through the 1970s into the 1980s that the United States was no longer a ‘frontier country’ and that attitudes, music, dress, had become urbanized. We no longer culturally identify with the Old West or the frontier ‘values’ and this is what irks conservatives most. The fictional, idealized Old West had run its course, there are only so many times you can tell the same basic story set in the 20-30 year period (about 1865-1895) of the classic Old West.

✓ I remember thinking that the Pet Shop Boys “West End Girls” (1985) was a parody of the fading of the Old West from our culture, the end of frontier society. I apparently completely misunderstood the lyrics on the radio and it doesn’t appear that anyone else heard it that way (I never saw the music video).

⁴ Commentary: I found this in a comment section of an alien invasion movie video on YouTube:

- ✓ “I get the fact this is science fiction...BUT!!... the truth is... The Luciferians are manipulating and brain-washing Us to prepare to accept the coming ‘alien invasion’ or...Revealing, announcement of ‘contact’! and it’s going to Rock everyone’s mind! especially when they affirm that they’re our REAL creators! and viola’ the great biblical ‘falling away’ will increase across the earth, and your average Catholic is going to crumble!! Because the Pope will be behind this deception!”

Uh, yeah, ok. Sure. Because it’s posted on YouTube, it’s hard to tell if the poster is being serious or just violating Poe’s Law (notice no emojis) while trying his comedic hand a provoking nutcase responses in a comments section. Either option is somewhat concerning; the poster should probably just work this into a novel instead. Maybe the poster was doing ‘Biblical research’ on alien invasions on YouTube?

⁵ Commentary: War movie clips involving East-West battles have become a favorite target; if you scroll down the comments of just about any of the clips, you will shortly find a racist snipe, e.g., a foreign movie clip about the Siege of Plevna in 1877 has a comment below, “Those days when Europeans knew it [sic] how to talk with barbarians unfortunately gone...” It seems that the *militant wannabe brand of racist* seeks their jollies in B-rated war film clips on YouTube featuring Europeans vs. anyone else when the Europeans are winning and inflicting carnage.

⁶ Citation: “Frequent publication is one of the few powerful methods at scholar’s disposal to demonstrate academic talent to peers. Successful publication of research brings attention to scholars and their institutions. This in turn may bring in more funding for the institute and also ensure an individual’s progress through their field. Academic institutions and university frequently use the number of publication to an individual’s credit as the measure of competency. ...

The emphasis on publishing has decreased the value of the resulting scholarship as scholar must spend time scrambling to publish whatever they can manage, rather than spend time developing significant research agenda. The pressure to publish-or-perish also detracts from the time and effort professors can devote to teaching undergraduate and post-graduates. The rewards for exceptional teaching rarely match the rewards for exceptional research, which encourages faculty to favor the latter whenever they conflict. ...

This pressure to increase the number of publications has led to unethical practices and waste full [sic] research. The increase in the number of publications has led to the growth of many new journals. In 2006 alone, approximately 1.3 million peer reviewed scientific articles were published, aided by a large rise in the number of available scientific journals from 16,000 in 2001 to 23,750 by 2006. The increasing scientific articles have fuelled the demand for new journal. There is a ridiculous proliferation of scientific journals of all kind. Every other day we see a new journal cropping up. So the question arises, are we heading in the right direction? The acceptance and appreciation of a publication is frequently gauged by citation index. Only 45% of the articles published in 4500 top scientific journals are cited within the first 5 years of publication, a figure which appears to be dropping steadily. Only 42% of the papers receive more than one citation, 5-25% of these are self-citation by the authors or journals. Majority of the publications still goes uncited. This means that neither they are appreciated by the peers nor they are of any importance to the industry or patient. Research is essential to carry science forward. It importance in improving patient care cannot be denied. However, equally important is the fact that the research done actually benefits patient, physician and community at large. Most of the published research works are done just to improve the curriculum vitae (CV) of the researcher and they do not find any merit in practical terms. A thought must be spared by the researchers for the quality of research being carried out. ‘Publish or perish’ is now becoming the way of life. It is race to get more and more publications to one’s credit. The current trend is forcing scientists to create publishable research. This is giving rise to fraudulent researches. Fraud research may corrupt scientific medical literature and ultimately harm our patients.

The increasing number of publication have led to rise in unethical practices, dubious research practices such as salami slicing, plagiarism, duplicate publication, fraud, ghost authors etc. Fraud is defined as fabrication or falsification in performing or reporting research results. No one could forget the famous fraud of Piltdown man. In this forgery, the lower jawbone of an orangutan combined with the skull of a fully modern man and touted as the discovery of the missing link postulated as the intermediary in the evolution of hominids from apes. The skull was found in a gravel pit at Piltdown in England by Charles Dawson in 1912. It was only in 1953, almost 40 years later, that it was exposed as a forgery.

It is frequent to find that the head of departments and senior professors are producing a dozen publications in a year. This means that the person have conceived idea, submitted protocol, got Institutional review board clearance, done the research, wrote the paper and published it every month. It is virtually impossible for a human being to do this.

Being a professor/consultant sometimes automatically implies that whatever papers goes for publication from their department will bear their name. But this is unethical practice and should be discouraged at all levels.” – Seema Rawat and Sanjay Meena, “Publish or perish: Where are we heading?” *Journal of Research in Medical Sciences*, February 2014.

- ✓ “Research fraud, more politely termed questionable research practices, has been receiving increasing attention in the academic literature and in journal editorial circles. The Journal of Marketing Channels (JMC) Editorial Review Board and originality checking software (i.e., CrossCheck) have found several instances of questionable research practices ranging from submitting a paper for publication already published elsewhere (i.e., self-plagiarism) to a paper whose front end had many problems followed by a discussion and conclusions section that was state of the art. CrossCheck flagged the discussions and conclusions section as being verbatim from an unusual source: an article already published by completely different authors (i.e., plagiarism).

[Note 1] As I live and work in a multicultural, multilingual environment in Hong Kong, I should also mention that self-plagiarism would include publishing the same paper in a different language.

Plagiarism and self-plagiarism are particularly troubling questionable research practices for journal editors as we have a responsibility to strictly adhere to applicable copyright laws of the United States, especially as articles published elsewhere and then republished in whole or in part a second time in a different journal are likely to violate copyright restrictions associated with the prior publication. Editors, reviewers, and authors simply must not knowingly violate the publisher’s guidelines regarding the exclusivity and proprietary nature of other authors’ intellectual contributions. Consequently, every submission and revision at JMC is checked for originality with the CrossCheck software. ...

I have already mentioned plagiarism and self-plagiarism as ethical violations of considerable concern. Related to self-plagiarism is dual submission, which involves publishing the same or almost the same results in two or more journals. This practice often involves using the same results or the same data sets with slightly different twists in multiple articles that probably do not justify additional publication: results that are closely related should be published in the same article.” – Neil C. Herndon (Editor), “Research Fraud and the Publish or Perish World of Academia,” *Journal of Marketing Channels*, July 14, 2016.

- And perhaps this title from Shanghai Daily, October 10, 2011, says it most concisely: “‘Publish or perish’ leads to fraud and paper bubbles in research.” China has the same problem as Arizona State University, e.g., “Plagiarism professor stripped of prize,” *China Daily*, February 11, 2011. See Paper Bubble, *2 Technology*, p. 709, *supra*.
- I spent a week in Hong Kong in July 1988 docked at the British Naval Base HMS [Her Majesty’s Shore] Tarmac, I remember the hydrofoil ferries, the enormous harbor, the China Fleet Building and learning that ‘arcade’ meant something different in Brit dialect. I brought back a copy of Stephen R. Donaldson’s *Mordant’s Need*, Vol. 2 (1987) which I still have in the original yellow plastic bag from The Times Book Centre.
 - As mentioned previously in No Conspiracy Here, 3 The Big Bang, p. 19, *supra*, GGDM has not been peer reviewed (I am not even sure who would or could in any event – commercial copy editing is not peer review – I have done my own copy editing so any goofs are on me) *and when I eventually perish, it won’t be for lack of publication of GGDM!* The abundant quotes and citations show both that my originality is sparse and ignoble, and that I – very conscientiously – do not engage in plagiarism. GGDM is a work done the ‘old way’ – a lifetime ‘research’ project just because ... with the vain hope it means something.

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See Appendix S&P – Surveillance & Probing Example
See Appendix SO & IO – Special Operation & Information Operation Example

“In politics and in life, ignorance is not a virtue,’ [President Obama] told the more than 12,000 graduates in New Brunswick, New Jersey. ‘It’s not cool to not know what you’re talking about. That’s not keeping it real or telling it like it is. That’s not challenging political correctness. That’s just not knowing what you’re talking about. And yet we’ve become confused about this.’”

– Rachel Smolkin, USA Today, May 16, 2016 ¹

An Observation: GGDM is non-political or tries, as much as possible, to be about the future and not the politics of the here and now. GGDM is a generativity.

- ✓ “And what I like about this is that [Noam] Chomsky has shown a commitment not to allow the forest to be missed for the trees. ... What is so important about this is that Chomsky distills the importance of not messing around with these sidebar arguments.” – David Pakman, The David Pakman Show, June 24, 2020.²

Quotes are included not for political purposes, but because they add something useful to the conversation. Obama was the President of the United States, regardless of party affiliation and so now is Trump, and is an important historical figure, but anyone could have made the same point and it would still be just as useful but less quotable. Phyllis Schlafly is also quoted in GGDM – and it would be hard to imagine two figures more politically opposite than Obama and Schlafly – but both have been quoted because they have something useful to add to the conversation. Hitler is quoted too, as is Frederick the Great and Robespierre and Spock and G’Kar for the same reasons. The following disclaimer found at the bottom of military-quotes.com/Hitler.htm is the standard in apologetics:

- ✓ “This collection of Hitler quotes was not made to glorify Hitler in any way. But whether we like it or not he was an important part of our history and we must never forget the great atrocities committed by Hitler and Nazi Germany.”

Or just because he’s a bad guy, doesn’t mean he doesn’t have something interesting to say.

- ✓ Unfortunately for the future of humanity, the recruiters of Tomorrowland (2015) recruited Hitler into the future on April 30, 1945 because he was a dreamer who wouldn’t quit, and dreamers must stick together! Right?

“But one of the most important legacies of the Hubble Deep Field was how it changed the culture of astronomy. [Robert Williams, audio interview] ‘Until this time, astronomy had a history of people taking the data and keeping it to themselves until they had fully analyzed it. After all, this was intellectual property.’ Instead of hoarding the discoveries embedded in the dataset, Williams and his team formatted and released it immediately to the wider scientific community. It’s been cited in hundreds of papers. [Robert Williams, audio interview] ‘Nowadays, it is so much more common for people to take interesting observations and make the data available to the public even though they might have a right to keep it for a certain period of time to themselves.’”

– Vox Video Article, “The 1995 Hubble photo that changed astronomy,” Vox YouTube Channel, September 21, 2016 ³

Datastream: The now is here, today, and thus already really in the past like the liquid you sip from a cup, by the time you taste it it is already past. Taste is sensory data, information, input; this is why animals depend so much on smell, if it doesn't smell right, they won't eat it.

Not so humans. By the time we perceive information, it is already past the moment when it occurred; information is always old news. This is the core effect of one-directional time sense; we cannot perceive information before it happens, is created, exists (that is the fascinating business of psychics, see Farsight, 3 Information, p. 1362, *infra*). Information is always in the past, the now is information which we perceive after it has already gone.

- The Intelligence Puzzle: During the wonderful summer I spent in battlefield intelligence school, I decided that intelligence is like three-dimensional party puzzles that drunk people play: The pieces keep moving; nobody is sure how many pieces there are supposed to be, and worse yet, nobody knows what the whole picture is supposed to look like when finished.

“The intelligence community will fight hard against a threat to its culture of avoiding open partisanship, former senior CIA operations officer John Sipher told NBC News. ‘It’s all about professionalism and taking the world as it is. There is no such thing as Democratic or Republican intelligence. It is what it is, no matter how inconvenient.’”

– Ken Dilanian and Pete Williams, “Intel officials worry Trump’s pick for top spy will politicize the job,” NBC News, July 29, 2019

“When it comes to the defense of our experiment in democracy and our way of life, ideology should have nothing to do with it. Whether asked to serve by a Democratic or a Republican, you serve. ‘Politics ends at the water’s edge.’”

– Gen. Jim Mattis (USMC Ret.) op-ed, “Jim Mattis: Duty, Democracy and the Threat of Tribalism,” Wall Street Journal, August 28, 2019

One-Way Mirror: Observation begins with the arrival of any friendly unit in the system. Observation occurs automatically whenever any ship or sovereign colony is in a system with a ship or colony not owned by the owner of the ship or sovereign colony (i.e. any friendly unit in the same system with alien units). ‘Observation’ reporting involves answers to the basic question of ‘what an entity is’ (see feature quote, 1 Information, bottom p. 1329, *supra*) or what an ‘appearance’ is. The answer depends on how close you want to get, and/or how long you are willing to wait around. Information in Galactic Space is obtained three ways: by automatic, passive Observation requiring no specific Power Activation (like your eyes and ears), and by Surveillance and/or Probing which requires an activation of the Special Operations Power for the purpose of Reconnaissance.

- ✓ “Sensors do not read radiation in the same way that communication receivers do. They do not read signals for meaning, but look for intensity and patterns over time among many signals.” – Dave Nilsen, “When Empires Fall II,” Challenge Magazine, Issue 69, February 1993.

- See Processing... Please Wait, 1 Information, p. 1330, *supra*.

- ABBA Arrival: Upon arrival in a starsystem, the owner of the arriving ships will automatically see all colonized planets (orbits, owners, but *not* numbers of population factors, Native

Population Types *or* enhancements *or* political status except Capital Colony) and will see ships at colony planets and ships in the system (owners, types, numbers, but *not* cargo or enhancements), and whether or not the colony planets have orbital installations (numbers, but not types). There is also a 50% chance to detect each combat (including Besieged Colonies) in progress in the system, providing the name of the combatants and the type of combat.

- ✓ The Concierge may carve out some limited exceptions to this rule, for example, a *Low Population Colony* (see 4 Taxation & Census, p. 326, *supra*) with little or no industry and no orbital installations, nothing in particular to give away its presence on a big wilderness planet, might be allowed to escape instant detection.
- ✓ Additionally, no report or a partially inaccurate report may be received if the arriving ship(s) initiate combat, join an ongoing combat, and especially if they are destroyed (e.g., by exploration Hazard Roll, see Then Never Comes, 3 Expansion, p. 907, *supra*).

Conversely, arriving ships will be seen and noted by any other position whose units are in the system, so arrival observation works both ways when someone is arriving and someone is already there. However, if a ship is destroyed during exploration, *it might not be noticed*.

- ✓ See discussion of GGDM's generous sensor rules, Riding the T, 3 Temporal Technology, p. 828, *supra*. Note that ships which successfully enter the system surreptitiously will not be automatically detected by units already present.
- **Freeze Frame:** While Observation does not require a Power Activation, it does require submission of Regular Turn Actions from positions that indicate that they are 'looking' (i.e. still playing in the game): The information received from Observation is reported as part of the results of the Regular Turn Actions and represents a 'snapshot,' or photograph, of the situation in that place on the moment the results were generated. All news in space is old news.
- ✓ Ships executing Short Movement arrive at the end of the turn in which they began movement ... thus they will be present between their owner's Regular Turns for all other positions to see on their Regular Turns. That's a possible downside observation-wise, whereas, ships executing long movement are still *en-route* and arrive at the beginning of their Regular Turn, but are not there for critical 'beginning of the turn' supply activities . See Space Hop and Long Jump, 2 Movement, pp. 850-851, *supra*.

Observation reporting on Regular Turn results should not be confused with initiation of Combat by other positions on their Regular Turns that occur between your Regular Turns. A position *will always be notified when they are attacked* between their Regular Turns so that they can submit Combat Orders for the first Combat Round. See Capoiera, 3 Combat, p. 970, *supra*. This is necessary because GGDM runs on a continuous Regular Turn Cycle (see The Law of Periods, 2 The Streams of Time, p. 84, *supra*) and because Combat Rounds run independent of Regular Turns in GGDM (see Relativity, 2 The Streams of Time, p. 85, *supra*); i.e. ships arriving by Combat Movement that weren't there before could initiate combat.

- ✓ When we see a picture of Alpha Centauri, we are viewing it as it was approximately 4 years ago. Information from Observation in GGDM gets old quickly due to the Turn Cycle. Things may happen, come and go, from the system that are never reported because they *occurred between Regular Turns* of the position that owns the observation ship or colony.

- Pistols & Posies, Patience: When the Special Operations Power is activated for the purpose of Reconnaissance, the position may use either an Act or a Scene, regardless of whether a sovereign colony is in the target system. See Acting Lessons, 1 Special Operations, p. 1274, *supra*. The position may choose to use a Scene on a sovereign colony in the target system if such exists, risking a possible Power Activation failure based on the Constructural Elements at that colony. However, using a *Scene*, instead of an Act, also *enhances* the possible results of Surveillance and Probing.
 - ✓ It is also possible that a position may choose to use a Scene because it is there and because no Acts are available on the Powerstrip or the available Act(s) is being used for additional Special Operations Power activations in the same Regular Turn.
- Went to a Garden Party: Enlightenment may be used in Special Operations Power Activations for the purpose of Reconnaissance, but cannot be used in regular Observation (for example, the 50% chance of detecting an ongoing Combat in the system) as no Power Activation is associated. Failure to obtain the information in a Reconnaissance activation is a clear ‘no’ result that will trigger use of Enlightenment if such has been assigned (see Harsh Mistress, 2 Colleges, p. 478, *supra*), if the unit involved has an active Epistemological Constructural Element (see Skool Tyme, 2 Constructural Elements, p. 190, *supra*).
 - ✓ It’s a cost-benefit risk calculation. Each Faculty used only affects one die roll result under certain situations. But you never know when that one reroll might provide the key information. You need to *look...*
- Private Eyes: ... are watching you! Activation of the Special Operations Power for the purpose of Reconnaissance must target all friendly units in a system where at least one friendly unit is present. For *each* friendly unit present, the Power Activation must designate either Surveillance or Probing. Both are possible in the same system in the same Regular Turn and can augment each other. All game units are capable of Surveillance to a greater or lesser degree, only ships, system boats and colonies with a Fighter Complement are capable of Probing. See discussion of game units, View from A Height and Fine Print, 1 Construction, both p. 660, *supra*. Units are *unable to participate* in the Reconnaissance activation if they are:
 - ✓ Currently engaged in combat, or ordered to initiate combat during the same Regular Turn as the Reconnaissance;
 - ✓ Ordered to Load or Unload anything at a Besieged Colony (i.e. Blockade Running, see 4 Commerce, p. 1233, *supra*);
 - ✓ A Besieged Colony (see 3 The Sidereal Stage, p. 124, *supra*);
 - ✓ Ordered to Land to create a new colony in the target system (see The Landing, 4 Expansion, p. 920, *supra*);
 - ✓ Ordered to initiate interstellar movement from the target system during the same turn as the Reconnaissance activation (see generally 1 Movement, 1 and 3 Expansion, 1 Combat, 1 Commerce, *supra*);
 - ✓ Loaded on a ship; that is, Ground Units, Fighters, Population Factors on ships have no observation/surveillance ability independent of the ship.

In short, if you are fighting, running, cowering, cargo, loading, landing or leaving, you are not able to engage in Reconnaissance.

- ✓ Ideally, with a computer assistant all eligible units in the target system will display so that boxes can be checked for either Surveillance or Probing. Failure to designate a unit for either might either be handled as default Surveillance or that the unit does not participate in the activation (if eligible, *ut supra*). Whichever way it is handled should be done consistently across all cases.

➤ Taking it all Down: In the clever sci-fi short, “Telescope” (2016) by Collin Davis & Matt Litwiller (DUST Channel on YouTube), images showing the past conditions of the Earth were captured by a ship jumping outward at FTL speeds. Surveillance in GGDM however, is not about the past – it’s a snapshot of now – but it might be useful sometimes to consider this a possible form of surveillance, past conditions might be captured in light reaching other stars by very fine-tuned equipment. All news in space is old news.

Units at a location that are assigned to Surveillance by activation of the Special Operations Power for the purpose of Reconnaissance may or will attempt to report observed events at their location that occur *between Regular Turns* that can be seen within their sphere. In short, Surveillance continues Observation between Regular Turns, turning the ‘snapshot’ into a short film, but the results are still only received and available on the *next* Regular Turn results. Sphere in this sense refers to their sphere of operations, that is, the Combat Type(s) in which they could engage/initiate as discussed in Keep Your Friends Close, Your Enemies Closer 3 Combat, p. 972, *supra*, if they were hypothetically able to do so (e.g., hypothetically in the case of Cargo Ships, Colony Transports, etc.).

- ✓ For example, a colony will naturally see anything that comes within its orbit or lands on the surface as it can be engaged as a defender in a Colony Combat or Ground Combat. A colony that has a Fighter Complement may engage in Ship Combat in system space and thus may report events in System Space during Surveillance. Ground Units, which may only engage in Ground Combat, will only see events on the surface of the planet where they are located; Ground Units on ships don’t see anything, *ut supra*.
 - At the discretion of the Concierge, Low Population Colonies (see 4 Taxation & Census, p. 326, *supra*) may not be able to notice ships that come into orbit at their planet, and even less likely ships entering their system (having only a high-school telescope). This is the flip side of not being noticed upon arrival, *ut supra*, by virtue of having little industry and no orbital installations. This is a subject well covered in science-fiction literature, e.g., Robert Sheckley’s “Skulking Permit” (1954) and the Twilight Zone episode, “On Thursday, We Leave for Home” (1963).
- ✓ Another example, a Cargo Ship can be attacked in Ship Combat, so its sphere for Surveillance is System Space and whatever might be observed at colonies since it can load and unload at colonies.

Events refer primarily in this case to overt Power Activations at that location by another position, as long as such could be noticed, e.g., ships arriving or leaving are likely to be noticed, Census Power activations might prompt a report of the approximate population of a colony to appropriate units on Surveillance, but recruiting Counter-Operations Missions wouldn’t be noticed. Events also include Combat Orders and results of Combat Rounds that can be seen.

- Field Reports: Surveillance automatically detects changes in all of the conditions apparent to basic observation (see ABBA Arrival, p. 1340, *ut supra*) – which may be the result of other positions’ Power Activations or Combat Orders – plus there is a 5% chance that each unit involved in the Surveillance may obtain a nugget of information not available to regular Observation. For each unit that could possibly observe the potential target (due to their sphere of observation, *ut supra*) there is a small chance that each of the following may be determined (each is treated as a group):
 - ✓ Number of population factors on each colony and Colony Ship.
 - ✓ Native Population Types present on each colonized planet (even if in Orbital Cities) and Colony Ships.
 - ✓ Colony political status (Capital Colonies are automatically known in Observation).
 - ✓ Enhancements currently on each colony (not colonized planet as they can be Balkanized), including Fighter Complements, Ground Units, and Industry.
 - ✓ Types and numbers of each colony’s current Orbital Platforms (Ship Yards, Orbital Cities, Orbital and System Defense Bases, unfinished Keels).
 - ✓ Cargo currently on each Cargo Ship or the contents of each Log Ship.
 - ✓ Enhancements on each ship present (this includes Fighter RPs).
 - I believe from the various questions that I have read online at Quora, Stackexchange, etc. that if ten units have a 5% chance each of success, they have about a 40% chance of success collectively. As I am un-schooled and a dunce, if this is incorrect or unsatisfactory in play, the percentages can be adjusted.⁴

Being located on or *at the same planet* as a colony engaged in Surveillance during the inter-turn period should *double the chances* of that unit obtaining information, i.e. colonies sharing the surface of a Balkanized world or ships loading, unloading, or transferring, or being built at that world.

- ✓ The Pirates broadcasters have noted many times that all of the teams have the same information, yet in pitching and defensive shifting, they come to different conclusions about the same hitters. So, even in terms of *objective statistical information*, there is interpretation. Even medical tests and imaging are ‘interpreted’ and subject to competing interpretations.⁵ For example, patients ask for a second opinion on critical medical decisions; consistency of opinion or interpretation from the same information is a bit of an issue that bedevils our civilization, and has since politics, war and ethics were invented. In baseball, it is commented that you can take stats and make them mean anything you want.
- One Is the Loneliest Number: There is no defense to Observation or Surveillance other than being alone. To share a system or a planet with aliens is to be exposed to automatic Observation and possible Surveillance (just as you have no expectation of privacy in a public place or walking down the street or posting to YouTube forums). The only way to avoid or correct the problem is to take action: someone has to leave.
 - ✓ “I’m getting tired of your meddling. This town ain’t big enough for the both of us and I’m going to give you 24 hours to get out. If I see you in Carabinas by this time tomorrow, it’s you or me!” – Nick Grindell, *The Western Code* (1932, IMDB quotes).

Note that being subjected to Observation or Surveillance cannot possibly act as a Conflict Check in Government Titles because they are passive and the position may not be aware they are occurring. However, there are several Conflict Checks relating to not sharing planets or even systems with aliens.

- Ground Support: If a Scene was used in the Reconnaissance activation instead of an Act, and a Power Failure did not prevent the activation, the base chance described above for Surveillance results is 8%, which can double to 16% if located on the same planet (*ut supra*).
 - ✓ Any realistic basis for the Scene enhancement is thin at best, perhaps local ‘ground support’ makes the resource difference in effective Surveillance. It is mostly a reward for the game mechanical risk of Power Activation failure.

- Compiling Dossiers: Observation and Reconnaissance reports (whether Surveillance or Probing) are secret information belonging only to the position that owns the units performing the task. Thus, other positions don’t know what has been seen, what other positions present may know or not know; this creates situations where cooperation and bluffing are possible in the game via player emails and informal diplomacy discussed in Greys Diplomacy, 1 Diplomacy, p. 1097, *supra*. The Concierge will not provide clarification or additional information.

Intelligence work is what the position players extract, interpret from the Observation and Surveillance information included in their Regular Turn results. For example, in a system with colonies and ships from several positions, a specific Scout Ship has been present for several Regular Turns (Scout Ships have *extended* OSL/OFL limitations, see Imperial Interstellar Scout Service, 3 Movement, p. 855, *supra*). On the next Regular Turn report it is not there. What happened? Did it leave, or was it destroyed, or was it scrapped? Informal diplomacy may answer these questions, depending on who you trust to tell the truth. However, if the position had Surveillance in the system, they may receive a report stating that the Scout departed, or perhaps that it was destroyed by another hostile position’s ships, perhaps indicating the start of a war. But in any case, unless it involves a direct attack on the position via initiation of Combat, none of this will be known with certainty until the next turn results.

- ✓ The Cold War was legendary for the surveillance games on both sides. I remember watching a news program or documentary where retired engineers at White Sands Proving Grounds spoke about testing jet engines. They knew when the Soviet satellites would pass over. In between, they’d roll the engines out to the concrete platform, run the tests, then take them back in the hanger before the Soviet satellite passed overhead. The Soviets would only know that they tested because of the heated air and concrete, but could not otherwise see what they were doing at White Sands.
 - It had become an important issue by the end of WWII, before satellite surveillance. Before the D-Day landings, the Allies carried out an elaborate deception plan called Operation Fortitude, including constructing a fake army commanded by General Patton, complete with command staff and rubber inflatable Sherman tanks. The bull wasn’t fooled though, because bulls are experts at ... bull, as in BS. According to Brian John Murphy, “Patton’s Ghost Army,” America in WWII (article undated), a bull charged and rammed one of the fake Sherman tanks used in the deception and the English farmer watched it deflate into a pile of rubber in his field.

- The Germans also used fog, forest and camouflage to disguise the buildup of armored spearhead forces from aerial reconnaissance flights prior to the initial attack at the Battle of the Bulge in December 1944.

“If the government is covering up knowledge of aliens, they are doing a better job of it than they do at anything else.” – Stephen Hawking

“We all know interspecies romance is weird.” – Tim Burton

Alien Probes: Surveillance works best when many units are present from the side performing the Surveillance (lots of eyes and ears, many angles, like a search for a fugitive or a missing child); it is thus less effective in situations where a side has only one ship, probably a Scout Ship, in the system and desires to obtain information on a target colony or fleet of ships very quickly.

This situation is filled by activation of the Special Operations Power for the purpose of Reconnaissance and assigning a ship or ships to Probing (i.e. ‘the quick and dirty’ solution). Both Surveillance and Probing can occur in the same Reconnaissance activation, but each unit involved can only do one or the other. All Probing is resolved before Surveillance at the same location; this is important when Enlightenment has been assigned to the Reconnaissance activation.

- ✓ Probing does not cause a Disruption Event at the target colony regardless of the outcome, see *Burning Sky*, 2 Disruption, p. 275, *supra*.
 - ✓ It is possible, though they are not mentioned above, for Ground Units to also engage in Probing, limited to opposing colonies or targets on the surface of the world where they are located. The Probing procedure below is written on the premise of Probing attempts from space, but could be adapted for Ground Unit Probing attempts, with the caveat that Fighter Complements would be much better for the same task.
- **Flyby:** Each ship (or System Boat) or Fighter Complement assigned to Probing must be given an objective. The objective must either be all ships of a target position in the system or a planet (not specific colony) by Orbit Number. Multiple units can be assigned to Probing the same objective forming a ‘reconnaissance in force’ at that location. Units assigned to Probing do not need to be able to initiate combat, thus Cargo Ships can Probe at great risk.
- ✓ Merriam-Webster online dictionary at *flyby*: **2a:** a flight of a spacecraft past a celestial body (such as Mars) close enough to obtain scientific data.
 - ✓ “The Abwehr had prying eyes, too: reconnaissance planes that flew at 33,000 feet over the English countryside trying to spot FUSAG units and record their activities and movements. The British and American air forces had to be careful to let the Luftwaffe snoop through to see the mock preparations on the ground, yet not let the flights seem so easy as to raise suspicions.” – Brian John Murphy, “Patton’s Ghost Army,” *America in WWII* (undated article).
- **Bloody Noses:** Each Probing attempt is resolved separately, even when multiple units are Probing the same objective. There is a 50% chance that each ‘combat unit’ or enhancements (i.e. Defense Bases, Fighter Complements) at the objective will *fire once* at the Probing unit. This fire will be *normal fire*, not expending Ship Missiles or other expendable enhancements

and all normal Combat Shifts apply (i.e. Scouts Defensive Shift). If multiple units Probe the same objective, the same defending units may attempt to fire at each Probing unit, a defender may have multiple fire opportunities during various Probing attempts.

- ✓ A Probing is a reconnaissance-in-force skirmish, it is a combat to those involved, thus Combat Shifts apply. It is not a Combat Power activation, however.
- ✓ If the Probing unit is a Fighter Complement, Close-in Defense Fire will occur; if the defending unit is a Fighter Complement, it will make an Interception Attempt with both Sorties on the Probing Unit; if both are Fighter Complements, a Dogfight will occur (see Dogfighting, 3 Carriers and Fighters, p. 1072, *supra*). Interception attempts in Probing only occur when the defending unit is a Fighter Complement, as regular units cannot Intercept Fighters but Fighters can Intercept regular units. *Id.*

Defensive fire occurs automatically, no Combat Power Activation is necessary or used on behalf of the defender in attempting to repel **Alien Probing**. Enlightenment cannot be used in defense against Probing. Targeting and resolution are handled automatically and firing units are determined randomly. The defender will be informed that Probing has occurred, *but not what was learned*, with a 50% chance that the assailant will be identified.

- ✓ It would be incredibly problematic to require the defender to have a Combat Power activation at that location to defend against Probing. Such would allow aggressors to burn off Combat Alerts by Probing.
 - ✓ It is possible that there will sometimes be no defense against Probing attempts. The target planet or ships may have no combat ability, or all defenders might fail their 50% chance to fire (flip a coin, get tails ten times in a row) or may simply miss with all of their fire attempts (like an 80s Miami Vice shootout scene) at the Probing unit.
- Never Tell Me The Odds: The Probing unit does not fire at the defenders, except that it may fire Close-in Defense against Intercepting Fighter Complements. The Probing action is finished when all of the shooting is done, no retreat is necessary or is considered to have occurred on either side. Enlightenment assigned to the Reconnaissance activation cannot help Probing units survive as Enlightenment can never be applied to opposing die rolls (see Army of Light, 2 Colleges, p. 479, *supra*), however, Close-in Defense against defending Fighter Complements may expend some Enlightenment assigned to the Reconnaissance.
- Results Rolling In: There are three possible results of Probing. If the Probing unit is not hit, it is successful, if the Probing unit is hit once, it is turned away, but not destroyed (a ‘hit’ in Probing is not destruction), and may report some information at a much lower chance of success. If the Probing unit is hit twice, it is destroyed. Engaged results from Fighter Complements have no effect, so both sorties will need to be successful to score a hit in Probing.
- ✓ The Probing unit is not trying to engage in combat, it is trying to avoid combat. The turned away result is a peel off because we are gonna get clobbered (like when the Death Star was operational), it’s a game of chicken in space. The Probing unit is likewise not trying to intimidate or scare off the target; the objective is to get a good scan.
- The S-2: The information received from Probing is determined individually per unit involved. If the result of the Probing was a success, the Probing unit has a 15% chance of learning information in each category outlined in Field Reports (*ut supra*, pp. 1343-1344) that applies to the sphere of the objective or target of the Probe. If the Probing attempt was

turned away, the chance is 5%. If the Probing unit was destroyed, no report will be received for that unit. If the Special Operations Reconnaissance activation for the Probing used a Scene instead of an Act, the chances above are doubled if the Power Activation did not fail. Finally, Enlightenment assigned to the Special Operations Power Activation may be used for the Probing unit's report if that unit has an active Epistemological Constructural Element (see Skool Tyme, 2 Constructural Elements, p. 190, *supra*).

- ✓ Perhaps the approximate equivalent to Probing in GGDM are the reconnaissance flyovers that countries have conducted since the 1950s. SLAR (side-looking airborne radar) was developed specifically so that reconnaissance aircraft could hug the national border or international water boundary without violating sovereign air space. I used to stand in the gun park and watch SR-71s take off in the late 1980s. The flyovers have always been controversial, but have so far not resulted in a war. The Soviets hated it and shot down a U-2 in 1960 as it flew over the Soviet Union. India continues to fly reconnaissance over Pakistan and I recall an incident, perhaps it was in 2017, where the Pakistanis were upset that an Indian reconnaissance aircraft went sonic leaving Pakistan and created a sonic boom. The Pakistani government felt it was a direct insult by India, intended to remind them (i.e. rub salt in the wound) that the Indian air forces were flying over their air space at will.

The Probing rules in GGDM are crude at best. There is much room for development of specialized abilities by players in this area (i.e. Colleges, Technologies). On the other hand, the situation in space might be different than flying over another country on Earth.

“It’s been estimated by some intelligence experts that Mr. Walker provided enough code-data information to alter significantly the balance of power between Russia and the United States.”

– John J. O’Connor, “American Spies in Pursuit of the American Dream,” *New York Times* archive, February 4, 1990

Family of Spies: John Anthony Walker, a Chief Warrant Officer of communications, spied for the Soviet Union from 1967 to 1976 when he resigned from the Navy, but by that time, was able to continue providing information through a spy ring consisting of friends and family members. He was arrested on May 20, 1985, and his son who was serving on the USS *Nimitz* was also arrested. Mr. Walker cooperated with authorities to reduce his son’s prison sentence to 25 years. His son was released on parole in 2000, Mr. Walker died in prison in 2014 and his older brother died in prison shortly before. His ex-wife was not prosecuted because she turned him in, and the last remaining member of the ring Sr. Chief Petty Officer Whitworth is still in prison in 2019.

ISpy: The Special Operations Power may be activated for the purpose of Information Operations to assist in garnering intelligence. Sometimes the information supplements or corroborates information received via diplomacy or observation, while at other times, the Information Operation is the only way to obtain the needed information.

- ✓ Information Operations are probably espionage, and that is undoubtedly how participants will envision them, but the term can also encompass an ‘eyes open, ears open’ approach – is it espionage if you happen to be in a public restaurant and overhear a conversation? Happens to reporters a lot. There is no expectation of privacy in a

public place; if someone takes a picture of you walking down the street, or you just happen to be in someone's photo or video, regardless of what you are doing (e.g., a drug deal, handing out flyers, walking your kid to the bus stop, going into a hotel with your mistress), that is not an invasion of privacy. Or spying. Being a tendentious pedant, I chose to call it Information Operations instead of the sexier term, espionage.

GGDM makes no distinction in Recruiting and Lodging Special Operations Missions (SOMs) for either Black-ops or Information Operations, any SOM can be used for either as long as it survives and it is not required to predesignate the intended use of the SOM. *This is purely a game mechanical convenience*, as there is a wide difference between the two.

- Information Operations: Information Operations are *automatically successful* in the sense some kind of information will be reported and no die rolls are involved for resolution, unless the target is protected (see Quartering Act and Secret Services, 3 Special Operations, pp. 1321, 1323 respectively, *supra*).
 - ✓ Enlightenment *may not be assigned* to Special Operations Power activations for the purpose of Information Operations. The operation is automatically successful and Enlightenment cannot be used to affect another position's die rolls (e.g., if the target is protected by COMs). See Army of Light, 2 Colleges, p. 479, *supra*.
 - ✓ Plausible Deniability (see 3 Special Operations, p. 1314, *supra*) procedures will also be followed for Information Operations to see if the operation was 'noticed' by the target and who they think did it.

Information Operations are only resolved as part of a Regular Turn Action and thus, if units in combat are targeted (that is, have Lodged SOMs) the information received will be as of the Regular Turn – a snapshot – there is no provision in GGDM for Information Operations to be resolved during a Combat Round, even by using a separate activation of the Special Operations Power for Treason (see 3 Special Operations, p. 1310, *supra*) which is only for Black-ops, even though it may be treasonous...

There are certain areas where Information Operations and Surveillance would seem to overlap. For example, why couldn't Surveillance collect information about **alien** language, culture, government, through listening and watching, picking up the media from a target colony or from ships? For game purposes, however, those are separate functions; someone with a lot of education and expertise has to sort through the data collected to extract information more complex than which species lives there or how many Fighters are on that Carrier.

- ✓ A position could conduct a Surveillance-like Information Operation by Lodging SOMs on a friendly ship, moving it to another system, and then conducting an Information Operation, possibly in conjunction with an actual Surveillance or Probing action (assuming the ship isn't destroyed).

Information Operations represent the slow accumulation of intelligence information (a book, in sports terms) not related to Surveillance or Probing (*ut supra*) – what we might call HumInt, ComInt, and maybe some TechInt.

- A Field Guide to Traitors & Spies: Although espionage is virtually synonymous with treason, it is not an activation of the Special Operations Power for the purpose of Treason as described in 3 Special Operations, p. 1310, *supra*. Treason in GGDM is more overt action.

- ✓ [Interview] “[Kim Philby] said to betray, you have to first belong, and I didn’t belong, I never belonged. I was a straight penetration agent, he said, and if the other side, in other words, the British, were foolish enough to believe my spiel, then that’s on them. It was their failure, not mine.” – Phillip Knightley (author), *The Spy Who Went into the Cold: Kim Philby, Soviet Super Spy* (documentary, 2013).

What did Benedict Arnold actually do to betray the cause? He had been court-martialed for profiteering from his command and publicly reprimanded by Gen. Washington, and was billed £1,000 by Congress in relation to the Quebec expedition. During this time, he secretly communicated with the British, tendering an offer to become a spy. He sold his home and transferred the money to London.⁶ Arnold sent letters to the British detailing troop movements, strengths, and other information.

He stopped by West Point on the way to Philadelphia and provided a report to the British. Upon learning that he might possibly be selected to command West Point, he offered to provide drawings and to surrender West Point to the British. The British agreed for £20,000. While in command of West Point, he degraded its defenses, rearranged troops in non-optimal deployment and wasted away supplies. Arnold met the British spy chief, Major Andre, in person and gave him drawings of West Point and wrote passes for him to transit the rebel lines, but the spy chief was captured by militia on the way back to New York (and was later executed). The scheme then unraveled, and Arnold fled; later he commanded the British force in the Fort Griswold massacre, though he was not personally present.⁷

- Reliability Rating: Information Operations have two distinct differences from Special Operations. First, Special Operations Missions (SOMs) used during Information Operations are not expended as in Black-ops (see Profile in Perfidy, 2 Special Operations, p. 1300, *supra*); a Lodged SOM may be used to gather intelligence over several Regular Turns, but like all Lodged SOMs, they will eventually ‘age-out’ and disappear (Melita Norwood was 88 years old when she was revealed as a spy, more than three decades after she quit spying) and may be eliminated by Counter-Operations (see Spy vs. Spy, 3 Special Operations, p. 1323, *supra*). Second, in Information Operations, the information received has a Reliability Rating.

- ✓ “Remember that intelligence is fundamentally a craft of uncertainty and of possibilities.” – Susan Gordon, CNN interview, December 3, 2019 (available on YouTube).

The Profile for an Information Operation must ask a specific question or set of questions, *and* set forth a specific area and/or location on which information is being sought. The more general or numerous the nature of the question or areas of inquiry, the less specific or reliable the information will be when received.

The resultant information report will be given a Reliability Rating of 1-10 by the Concierge where 10 is best. The Reliability Rating is, as the term suggests, a rating of how ‘reliable’ (true, accurate, current, timely, trustworthy) the information is deemed to be *from the viewpoint of the position receiving the information*. The Reliability Rating should never be taken as absolutely true, as the information may be more or less accurate, true, complete, current, or trustworthy than the rating suggests. Information is best when corroborated and when it paints a complete intelligence picture rather than when it is taken as single reports and facts.

- ✓ “Everything [all intelligence] is uncorroborated until the terrorist attack happens.” – Nicolle Wallace, MSNBC Dead-line: White House, July 2, 2020.

- ✓ The Reliability Rating is not random, it is a judgment call by the Concierge. Thus, there is no opportunity to use Enlightenment to affect Reliability Rating. The Concierge is not bound by his own Reliability Rating, true information may be given with a low Reliability Rating, it's only a perception point of the position's intelligence professionals. But, to mean anything in the game, it should approximately correlate.
- ✓ Game mechanically, Information Operation covers broadly all the ground that is not otherwise addressed in other activations of the Special Operations Power. Information Operations are, for example, the only way to obtain information on the Public Space – by asking the right questions – such as Cultural Pieces, Conflict Checks, and non-physical sorts of information *as it relates to the operational location*.

There is some small chance that the target of an Information Operation will be informed of the operation (see Plausible Deniability, 3 Special Operations, p. 1314, *supra*); this is more likely if the target of the operation was protected or if the place where the operation is conducted has a large number of Lodged Counter-Operation Missions.

- ✓ A major revision of the history of the Waterloo Campaign in 1815 (e.g., Waterloo Betrayed, Stephen M. Beckett, 2015) attributes Napoleon's defeat to spies and traitors who passed his plans to the Anglo-Prussian allies, giving them a 12-hour head start. See also, "Waterloo: The Truth Behind Napoleon's Final Defeat," HistoryMarche YouTube Channel, August 17, 2019, made in collaboration with Stephen Beckett.⁸
 - ✓ In GGDM terms then, Benedict Arnold was successful as an Information Operation but failed subsequently when activated for Treason (i.e. Black-ops). Using the Arnold SOM for Treason expended him as a SOM – this would have been true regardless of whether he was successful or not, his game would have been up either way and it was time for him to un-Lodge (fleeing downriver on the HMS Vulture). His SOM expenditure did not mean his death, but instead his removal from the situation or system where he had trust and authority (though most distrusted him already because they thought he was involved in a black market; and that he had a Tory wife) to another where he was never trusted or respected again.⁹
- Time After Time: Special Operations is one of the primary areas where limited Temporal Technology might be applied; time-traveling police, spies, special agents have always been a fascination of science fiction stories and games (e.g., Time Agent (1992)). Information Operations may be the safest place to apply temporal technology in Special Operations.
- ✓ If we had the ability to remote view (peeping) into the past (even if we were looking into the memory of someone who lived at that place and time), without physically going there, how could that create any paradoxes? Any resulting effects would be now and into the future, not altering the past. Of course there are social ramifications of this technology, in criminal justice at the least, but also in our beliefs about the nature of the universe and about our history. Imagine the opportunity to see inside the mind of a Mongol warrior during the sack of Baghdad, or memory of Elizabeth the Cuman, or learn what Friedrich Kritzinger actually said, remembered or thought at the Wannsee Conference? In an odd sense, the present would merge with the future and past. Except that we tend to change what we observe. The Heisenberg Uncertainty principle in its general suggestion, is one of the most intriguing ideas in a millennium about the nature of knowledge. It has found its way from physics to the social sciences:

- “Abstract. In several fields of social sciences, anecdotal evidence is collected that measuring a property of a population sample couples back to the behavior of the sample and changes its property.” – Peter W. Michor, “Uncertainty Principles in Social Sciences,” October 19, 2017.
- “The preliminary paper [Kashyap (2014)] titled The Uncertainty Principle of the Social Sciences postulates the Uncertainty Principle as follows: *Any generalization in the social sciences cannot be both popular and continue to yield accurate predictions, or in other words, the more popular a particular generalization in the social sciences, the less accurate will be the predictions it yields.* This paper then continues in a verbose way to define social interaction without becoming ever specific.” *Id.*¹⁰
- “Thorngate (1976) developed a postulate of commensurate complexity in which there are trade-offs among a theory being *general*, a theory being *accurate*, and a theory being *simple*. A theory cannot be all three simultaneously; general accurate theories are not simple, accurate simple theories are not general, and simple general theories are not accurate. Weick (1979) provides examples of each.” – John P. Bean (Indiana University), “Light and Shadow in Research Design,” Clifton F. Conrad & Ronald C. Serlin, Eds., The SAGE Handbook for Research in Education (2006), p. 354 (found on Google Books, emphasis in original).

Thorngate is the most direct social expression of Heisenberg. It is an interesting phenomenon of itself that once the idea was expressed concretely in physics it found application (if imperfect) in other intellectual areas. Almost as if it suddenly existed in a greater sense when it could be concretely expressed. But back to the subject at hand ... do you think the past is an eigenstate? Most do, like object permanence, it seems to be intuitive (however, consider the Rashomon Effect). But to be able to peep back in time, we’d need a different framework, and within that framework, maybe what we call history weaves through Many Worlds and is certain seeming only to us.

- ✓ T-Ships, discussed in Ghost Probabilities, 2 Temporal Technology, p. 818, *supra*, depend upon an encounter with the target in the present to go back in time a few minutes to ambush the target, creating a paradox. The phenomenology of the T-Ship is the same as for the rest of the one-direction-in-time universe, ultimately, the T-Ship gets pushed forward in time as it cannot continuously go backwards in time. Even H.G. Wells time machine surrendered to the forward push of time when not moving backwards in time. One might argue then that with the ability to look back in time, and have things appear to you which you were not there to see when they happened, might be useful to the T-Ship instead of jumping back in time creating paradoxes? Still, I don’t think this works well operationally, since any object that is seen back in time must also be experienced in the present of the T-Ship or it would be pointless. The results would be no different than back-projecting the flightpath of a ship or missile (we do this now, e.g., counter-battery radar).

“In and of itself, ignorance is not a problem. It is often rational and is an unavoidable part of the human condition. But ignorance becomes dangerous when individually rational ignorance leads to harmful collective outcomes. Sadly, that is often the case with political ignorance, and ignorance about scientific issues relevant to government policy.

From the standpoint of the individual voter, it makes sense to devote little effort to acquiring information about government and public policy, because the chance that her vote will make a difference is infinitesimally small. But such behavior can lead to terrible outcomes when an entire electorate is ignorant in this way. We shouldn't worry much about the fact that a small minority of Americans don't know where chocolate milk comes from. But we should take the problem of widespread political ignorance far more seriously."

– Illya Somin, "Public ignorance, brown cows, and the origins of chocolate milk," *The Washington Post*, June 16, 2017

Willful Ignorance: What the internet age has finally brought to the fore (even more so than the print revolution) is the human willful refusal to learn, to understand, and to know facts, especially those contrary to religious or political beliefs. As more and more of the world becomes connected, large swaths of humanity have access to billions of internet sites, millions in their own language, and others through translation.

Those people who have got by in the world in the past through willful ignorance – cynically complaining about everything they didn't understand, which was just about everything in their lives – have now had their pants yanked down around their knees and everyone can see them for the asses that they are, as the 2016 Presidential Election highlighted. The nature of the internet, not controlled by any sovereign (short of complete blackout and unhealthy isolation), has made knowledge on nearly any subject available to those who *look*. Hundreds of thousands of original works are available free in the public domain and are on the internet. Hundreds of millions of people spend time writing, explaining and arguing on the internet for free and freely about every possible subject.

- ✓ When I was young in the early 1980s, a man in his 50s told me that Florida was a desert – he had read an article about draining the swamps in Florida. He also thought that Canada was part of the United States. He informed me that Marines wore their Dress Blues under their camos in combat. He wasn't joking, he really believed it.

Taken together with all of the books in homes, schools, and public libraries, the only barrier to learning anything is a lack of will or desire. Nothing is stopping you from picking up a book and reading it, nothing is stopping you from getting on the internet (if you have access) and learning; there is no reason why, lacking a fancy illuminated degree from an institution, you cannot have a graduate level of knowledge in subjects of your interest and the ability to understand properly the subjects about which you care to argue (or even how to argue properly). Thus, for example, religious fundamentalist who don't understand the scientific process or students who attended religious high schools who do not understand the Ice Ages or the history of the rest of the world (because they are not in the Holy Books) have no reason other than willful ignorance. What you failed to learn in high school because you were more interested in goofing off, or too fucked up on drugs, you can learn by reading books or the internet if you have the will and then you can prove your knowledge by doing something useful. This applies to myself as well.

- ✓ See discussion of *Board of Education v. Pico*, 457 U.S. 853 (1982) about the removal of Desmond Morris' *The Naked Ape* (1967) and other books from the school library.
- Ice Ages: In my final semester of undergrad at college, I knew a young lady – also in her final semester – who was in the program to become a certified public school teacher (BA in Education, I think). She was required to do an elementary school presentation on the Ice

Ages, and wanted me to help her. Some way through the process, I figured out that she knew nothing at all about the Ice Ages. I was shocked to learn that she had never had classes on it in school! I couldn't imagine it, as I had my first classes on the Ice Ages in about 3rd or 4th grade and assumed it was a requirement of public schools, how could she have graduated high school without ever having a class on the Ice Ages? Well, she went to a religious high school, in fact, had spent her entire youth in religious primary schools, and apparently, they are not required to teach much science, or the Ice Age, or anything that conflicts with their religious beliefs; in fact, she didn't know much history of the world either if it didn't have to do with her religion. She wanted to be a public school teacher, so it's time you learned about the Ice Age, because you will have to teach it someday. She didn't want to learn about the Ice Ages or anything, she just wanted to get the project done. She could have gone to the college library and read about it in an encyclopedia article. How can you be a public school teacher if you have that attitude and never learned the subjects you will be required to teach?

- ✓ I discovered, disconcertingly, that she had not known what I had been talking about more than half the time that I had known her (as you can imagine from reading GGDM); it was apparently practice for the future of the GGDM project (GGDM started about five years before these events).
 - ✓ GGDM is in fact, the result of a process of reading, looking and figuring things out, making connections over a lifetime through a natural progression of subjects, and rejecting willful ignorance (i.e. *looking*). I was pretty ignorant in my youth, though precocious, but not for a lack of will, but for a lack of adult role models and direction, and for the confused place and time where I grew up, before the internet age.
- Raising the Dead: The 'dietary supplement' industry is an epitome of willful ignorance: Foodstuffs sold and classified as nutritional or dietary supplements (e.g., kombucha) are unregulated and generally unproven by credible trials. This is a form of intentionally not looking, of willful ignorance for profit. Absent testing, the manufacturers, retailers and promoters of 'cures' and dietary supplements can claim any health benefit short of raising the dead. And leave it to others to disprove it, and they can always dispute and criticize the tests as biased. They don't want to have to 'hide' contrary empirical data that can be discovered later in litigation (e.g., as happened in tobacco, phospho-soda, and asbestos). The longest running human willful ignorance is the intentional failure to obtain confirming empirical data.
- ✓ Glaceau Smartwater, one of the top-selling distilled bottled water brands in the United States has been criticized for having no scientific or empirical backing for whatever vague health claims they are making to consumers. And you can bet they are not going to go looking...

“Mr. Williams worked for a Kentucky law firm that represented Brown & Williamson Tobacco, now part of R.J. Reynolds. He leaked thousands of pages of internal memos and studies concerning smoking and health that provided ammunition to tobacco opponents. He had copied the documents surreptitiously starting in 1988, and they were made public in 1994. The information made national headlines. According to news reports, the information showed that Brown & Williamson executives knew decades earlier that nicotine was addictive and that they had funneled potentially damaging documents to lawyers to keep them secret. ...

Mike Moore, Mississippi's attorney general during that era, was at the forefront of the legal fight against the tobacco industry. 'The now famous Brown & Williamson documents that Merrell was able to provide us, under extraordinary circumstances and threat, changed the course of our litigation,' Moore said in an e-mail. 'We got on a plane and took those documents to Congress and the FDA,' he said, referring to the U.S. Food and Drug Administration. 'The three big lies – cigarettes don't cause cancer, nicotine is not addictive and 'we don't market to kids' – were all refuted by the B&W documents Merrell obtained,' Moore said."

– Bruce Schreiner, “Merrell Williams Jr., Kentucky paralegal who became tobacco whistleblower, dies at 72,” *Washington Post*, November 27, 2013

The Big Three Lies: The Merrell Williams case is an ethical issue that was discussed in paralegal school. Law firms will maintain that there is an absolute duty of confidentiality to the client, forever, even if that client is breaking the law or hiding evidence. Merrell Williams had also signed a confidentiality agreement. On the other side are the various concepts and ethical considerations – reinforced by the experience of WWII – attached to those who are in a position, have the opportunity, to expose massive lies, cover-ups, dangers, and to improve public health, e.g., Henrik Ibsen's “An Enemy of the People” (1882).¹¹ Mr. Williams, a smoker, believed that he had heart disease from smoking (SourceWatch wiki) and hoped to use the documents to sue the tobacco industry (but he would have a conflict of interest problem, probably, at the least) and according to the *Washington Post* article (*Id.*) he did die of a heart attack at age 72.

- ✓ Later... “Onetime Brown & Williamson executive Jeffrey Wigand revealed industry secrets to the CBS news show ‘60 Minutes.’ His role inspired the 1999 movie ‘The Insider,’ which focused on a battle within CBS over whether to air the ‘60 Minutes’ report about Wigand’s allegations that tobacco companies manipulated nicotine levels in cigarettes and lied about their addictive power.” – *Id.*, *Washington Post*.

For the record, the ABA-approved Paralegal Institute is going to teach what the legal profession wants them to say, but my recollection of the discussion is that the instructor wasn't too forceful about it. It is difficult to say with force and conviction – and a straight face, like emphatically insisting that the Easter Bunny is real – to a class of professional adults that Mr. Williams was wrong when the Defendants were lying to the court and to government agencies (through their lawyers who conspired to help them hide the damning documents), to the media, to Congress, and to the entire world and they would have continued to do so *but for* the actions of Mr. Williams (however wrong those may have been).

- ✓ There will be whistleblowers as long as business and government cannot be trusted.

There were many unclean hands all around in this one, but somehow the end result ‘came out right.’ The tobacco documents in a box arrived ‘mysteriously’ on the doorstep of Dr. Stanton Arnold Glantz at UC San Francisco; Dr. Glantz was a leading anti-smoking campaigner:

- ✓ “Merrell Williams, Jr. was the Louisville, Kentucky document review analyst who is often erroneously credited with having mailed the famous Brown & Williamson (BW) ‘Mr. Butts’ documents to Stanton Arnold Glantz, Professor of Medicine at the Institute for Health Policy Studies at the University of California San Francisco. The papers arrived at Dr. Glantz’s office on May 12, 1994 from an anonymous sender identified on the box only as ‘Mr. Butts.’ They described B&W’s internal scientific research, marketing, and corporate policies from the 1960s to the 1980s, and included

studies reporting on the tobacco industry’s internal knowledge of the health effects and addictive properties of nicotine.” (SourceWatch wiki, *Id.*)

- ✓ “[Merrell Williams] was aware that the information, if revealed, could potentially be explosive. Williams secretly copied hundreds of pages of the documents to which he had access, and mailed backup copies to a college friend, Nina Selz, for safe keeping in case something happened to him.” *Id.*

“The Instrumentality passes dark knowledge to its staff, things not usually understood in the inhabited world, things prohibited to ordinary men and women, because the officers of the Instrumentality, the captains and the sub-chiefs and the chiefs, must know their jobs. If they do not, all of mankind might perish.”

– Cordwainer Smith, “The Crime and Glory of Captain Suzdal” (1964)

Endnotes.

¹ Citation: “Reckless, outrageous, and undignified behavior has become excused and countenanced as ‘telling it like it is,’ when it is actually just reckless, outrageous and undignified.” – Sen. Jeff Flake, “I Will Not Be Complicit” speech on the Senate Floor, October 25, 2017.

- ✓ Former President Obama and Sen. Jeff Flake, on opposite sides of the political aisle used the same phrases and made nearly the same point publically, less than two years apart.

² Commentary: I am certainly not an expert in any of the forms of anarchism or anarcho-thought, and I am sure that Noam Chomsky wrote many impressive things that I have not read. But what I find objectionable are the simple-minded caricatures of anarchism that seek to dial back the clock to an idealized uchronic time or that are anarchism for the sake of anarchism. The same objection is expressed in GGDM in relation to reactionary religious beliefs.

³ Commentary: In military intelligence school, it was emphasized repeatedly that information does no good if not passed along, if someone sits on it. It’s not a little kingdom that can be hoarded. The same is true in science.

⁴ Commentary: You might naturally think that if I were more mathematical, GGDM would have been different or even not at all. That may or may not be a good thing depending on your view... A math genius would have gone about it differently. This speaks not to alien manipulation, pre-destiny, divine mission, being a special person, but rather to the value of diversity: There are plenty of math and computational prodigies in the world as fits our times.

⁵ Citation: “How does my doctor know if I have the flu? Believe it or not, most of the time your doctor knows the moment he sets eyes on you whether or not you have the flu. ... Essentially, your doctor sets his eyes on you and thinks, ‘This person appears to have been hit by a truck.’ Once he has verified that you have not been hit by a truck, he will conclude that you have the flu. Sometimes, for show, your doctor may order a confirmatory rapid influenza swab. However, these tests have a surprising high rate of false positives and false negatives. Thus, if it returns positive in a person who appears to have been hit by a truck he will pat you on the back and say, ‘See what I said, you’ve got the flu!’ If it returns negative, he will explain, ‘Well, you can’t really rely on these things anyway! I knew you had the flu the moment I set eyes on you.’” – Dr. Peter Lazzopina, “How does my doctor know if I have the flu?” Frontier Direct Primary Care website (Harlingen, TX), September 18, 2018.

⁶ Commentary: We had a case like that, the Defendant sold his home to his friend to avoid having it taken in judgment and then continued to live there, paying rent. He claimed that he wanted to be rid of the mortgage in anticipation of the judgment against him, but in reality, his rent payment was much more than his prior mortgage payment. He had also sold the house at much less than market value, it was probably a sham sale, with the agreement that he could ‘buy’ his house back later. I think the defendant fled the country shortly afterward. Like Benedict Arnold.

⁷ Commentary: Every schoolchild for 200 years has known ‘what Benedict Arnold did.’ Rarely is his service and generalship given much detail in such lessons. His treason has completely overshadowed his battlefield victories.

⁸ Commentary: [Narrator] “The Philby mold was now a sorry sight. Isolated, unemployed and unhappy, he might just as well have been in jail.” – The Spy Who Went into the Cold: Kim Philby, Soviet Super Spy (documentary, 2013).

- ✓ Many people were angry that Kim Philby had not been arrested and sent to prison ... he defected to Moscow where he was kept under strict house arrest by the KGB in a fully controlled flat they provided.

⁹ Citation: “Only a few weeks after learning of Arnold’s treason, General George Washington enlisted a Continental Army sergeant major named John Champe in a daring mission to capture him from behind enemy lines. The plan required Champe to stage a defection from the colonials and join up with the British. Once in enemy-occupied New York, he was to pose as a turncoat, cozy up to Arnold and then work with local spies to spirit him away to New Jersey, where Washington planned ‘to make a public example of him.’ The scheme very nearly worked. Champe fooled the British and even won an introduction to Arnold, who asked him to join his unit. Yet on the very same night that Champe and his accomplices were scheduled to make their move, Arnold was ordered to leave town on a campaign against the southern colonies. His plan foiled, Champe had no choice but to join in on the mission. He would continue to masquerade as a redcoat for several months before finally sneaking back to the Continental lines.” – Evan Andrews, “9 Things You May Not Know About Benedict Arnold,” January 13, 2016 (updated December 21, 2018), History Channel (history.com). [\[This might make a great movie!\]](#)

- ✓ “After donning a British uniform, Arnold spent 1781 leading raids against Richmond, Virginia and New London, Connecticut, both of which were sacked and burned. He settled in London after the American Revolution ended, but received a chilly welcome from his new countrymen, many of whom considered him an unprincipled mercenary whose actions had led to the death of the heroic Major Andre. Arnold and his wife were greeted with hisses when they attended the theater, and he was lambasted in the English press and blocked from taking up positions in the army and the East India Company. Having only received 6,000 of the 20,000 pounds he’d demanded for switching sides, Arnold eventually resumed his old career as a merchant ship-owner in Canada and the Caribbean. When he died in 1801 at the age of 60, he was buried without military honors.” *Id.*

¹⁰ Citation: “The Uncertainty Principle of the Social Sciences - Quantum Inspiration, Theoretical Investigation and Empirical Insights. The more precisely the position (of some particle) is determined, the less precisely the momentum (of that particle) is known in this instant, and vice versa. -- Heisenberg, uncertainty paper, 1927. Inspired by the Heisenberg Uncertainty Principle for sub-atomic particles in Quantum Mechanics, we postulate the Uncertainty Principle of the Social Sciences as follows: ‘Any generalization in the social sciences cannot be both popular and continue to yield accurate predictions, or in other words, the more popular a particular generalization in the social sciences, the less accurate will be the predictions it yields.’

When we compare the central tenets of the two principles, a striking commonality emerges. This has to do with how each system is affected by efforts at increasing the accuracy of measurements for one variable, resulting in decreased accuracy in knowing the other variable. The Uncertainty Principle of the Social Sciences, thus stated, in terms of popularity and accuracy of predictions, primarily deals with the scope and limitations of any relationships we uncover in social systems. We lay the groundwork for a theoretical framework towards measuring and understanding the Uncertainty Principle of the Social Sciences.

Two elements seem to immediately contribute towards this uncertainty; one is the number of participants in the social system and the other is the number of possible states the predicted outcome can take. The simplifying assumption here is that we can identify [sic] all the possible predicted outcomes and participants unambiguously. We will attempt to create an Uncertainty Index, using the variables mentioned above, for any social system that captures the difficulty inherent in making predictions regarding this system. In certain instances, we will see that it is important to distinguish between the number of participants in the social system and the number of participants in the social system that are aware of the particular relationship that is expected to yield a prediction. We then look at different social systems with a view of predicting various outcomes in these systems and how the accuracy of the predictions change as more participants become aware of the generalizations that yield these predictions.

We begin this exploration by starting with simple social systems and increasing the complexity in terms of the range of possible outcomes and the number of participants. Whether the Heisenberg Uncertainty Principle is the ultimate cause of the Uncertainty Principle of the Social Sciences, or, if there is some relationship between the two is a topic better saved for another time.” – Ravi Kashyap (City University of Hong Kong), abstract of “The Uncertainty Principle of the Social Sciences,” on researchgate.com, published in SSRN Electronic Journal, January 2014.

¹¹ Commentary & Citation: A FINRA arbitrator (who was also a FAA flight instructor and investigator) at a hearing mentioned that prior to take off of Aloha Airlines Flight 243 on April 28, 1988, a stewardess had noticed a crack in the fuselage but didn’t say anything because she was afraid of embarrassing the crew and her employer. The top of the fuselage over the first class section came off in mid-flight at 24,000 feet, explosively decompressing the passenger cabin. One flight attendant was lost, 65 people were injured, eight of them seriously. The incident had been recounted in a made-for-TV movie that I watched when it first aired in 1990. The point she was making, relating to the instant matter of the hearing, was what happens when people see things that are wrong and don’t speak up.

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“The smarter and more sophisticated we get, the brighter animals appear to be. That is natural enough. The smarter a person or society gets, the less individual people need to have dumb things around them to lord it over and feel superior to. That works with the relationships between different kinds of humans just as it works between humans and animals. We have come to a time when we can emotionally tolerate animals being cognitive so, by decree, as well as by degree, they are.”

– Roger Caras, *A Cat is Watching* (1989), pp. 194-195 ¹

Times Intertwined: Roger Caras was VP of Stanley Kubrick’s production company from 1965 to 1969 and was involved in the 2001: A Space Odyssey film project with Kubrick and Arthur C. Clarke. During this time, he was also a special naturalist correspondent for The Today Show, starting in 1964; he replaced Cleveland Amory who was fired from The Today Show in 1963 for airing extreme (and unapproved) views on animal rights and sport hunting. I read books by both in my youth, but did not know their histories were intertwined.

- ✓ The interesting question is whether that would happen today? Give it a thought. The pro-sport-hunting lobby doesn’t have the same weight and media (the Public Space) has shifted such that extreme views are now the norm (it sells advertising) rather than the exception on the airwaves, social media, and all the internet places where people post. People with important names still do get fired, but not for the same reason.

“Do we, when we gratify a cat’s obvious desire to be the ultimate hedonistic materialist, deprive it of the need for cognition and therefore of cognition itself? We cannot answer that question, for our own cognitive powers fall short of the task.” – Roger Caras, *A Cat is Watching* (1989), p. 13

Animal Intelligence: A similar question has been asked of dogs: Are domesticated dogs more or less intelligent than wolves?² Although foxes were domesticated early, modern dogs are not descended from them, it is probable that foxes were found too skittish to hunt and guard.

- ✓ When interacting with an animal, you have to go at their pace. You can lead a pet or semi-feral cat to food and shelter, but you can’t make them eat or go into the shelter, regardless of your intentions or the wisdom of doing so. With some effort, you can learn their ‘language’ and earn their trust, but even then, you cannot make them do – short of being mean, and that doesn’t work either with cats – what they don’t want to do. We had a similar discussion in a philosophy course once on whether “love thy neighbor” is a command and what sort of a thing it is; if not a command. I cannot command you to “love thy neighbor,” none of us has that power. If there is a God, it experiences the same in dealing with humans as when we interact with animals.

Perception: It seems that for millennia, humans assumed that animal sensory perception was as good as or superior to human perception in all ways.³

This is very likely the origin of Plato’s Allegory of the Cave; the question: what in Ancient Greece would have been known to Plato that would make him think that humans are not capable of perceiving the full range of reality? It is very likely that Plato thought that animal senses were

better than human senses, and if true, reasoned that humans are experiencing a shadow of reality. Like being chained in a cave, facing the back, watching shadows dance across the wall from a flickering campfire (see Plato, “Allegory of the Cave”).

- ✓ “Why cats were given such terrific peripheral vision when they spend so much time looking down their noses is difficult to understand.” – Roger Caras.

Modern knowledge holds that humans have ten times more cones (receptors) in our eyes than cats do, meaning that humans see more hues and see the world more sharply than cats do; though cats have better peripheral vision (a wider range of vision) and detect movement better, consistent with their role as predators (and depend more on their other senses which actually are superior to human senses). There are many fine articles and image examples to be found on the internet comparing what a human sees to what a cat probably sees. These examples are possible because of advanced image manipulation technology and because *humans can see better than cats*. What does a cat see when it looks at a computer, or anything natural or human-made in the world? It sees what a cat sees and not what a human sees. *See?*

- ✓ What does our music sound like to them who hear things we cannot? We can also imagine, with less certainty, the intelligence and cognitive processing of cats. Cats remind us somewhat of eternal infants.

Were we to encounter an alien intelligence greater than ours – and it seems quite likely – we would not be able to fully understand their level of intelligence and cognition – imagine a plant trying to make First Contact with cats? A cat cannot be made to see what a human sees, nor can a cat be made to understand human cognition.

- ✓ “You cannot expect everything even from the friendliest cat. It is still a cat.” – Cleveland Amory.

The greater alien intelligence would eventually be able to model our sense and cognition, in general terms at least, like we do for cats and dogs.⁴ It would be impossible for us to reciprocate (see *a priori* discussion, Crack in the Temple, 1 Beginnings, p. 27, *supra*), just as a cat cannot see the world in human sharpness and hues. And this frightens us because we sit at the top of our little heap of dirt, looking mostly down instead of up.

- ✓ Standing on a pile of dirt looking down is precisely the point of the venerable childhood game, “king of the hill,” and all of the adult metaphors based on it. Or in the case of my youth memory, we used piles of snow left by the school district snow plows after they cleared the concrete playground, the snow turned soon to slick ice.
- **Pulling the Blinds:** One of my favorite perception questions – and I do not know where I first encountered this, but I am certain that I am not the originator – is how could someone who is a (real) psychic (as in extra sensory perception) explain to a non-psychic what it is like to be a psychic? The analogy I recall was, how can you explain to a person who has been blind since birth what is a color?
 - ✓ I watched a scene in some fictional romance movie (I don’t remember the title if I ever knew it) where the boy explained color to the blind teenaged girl (his love interest) by use of textures – it’s a great love scene, I guess, but I didn’t think that worked particularly well, but it was an interesting approach.

- ✓ In the Amazon rotoscope animated series *Undone* (2019), they seem to hint at this; the protagonist is a deaf girl who has an implant and a hearing aid. When her hearing aid is out, all you hear are muffled, indistinct voices; the story is about those who can see beyond reality (maybe it's about progressive schizophrenia, what is the difference?), which would be analogous, as they suggest in the story, to a deaf person hearing for the first time; she says she “never realized silence was so loud.” (Episode 2).⁵

Babylon 5 in several instances touches on these issues in a setting where part of the recent backstory is the sudden appearance of verifiable psychics in the 22nd Century (who call mundane people “blips”). How would we model a greater alien intelligence then?

- ✓ “For someone who is color-blind, the chapter on the cat’s eyesight, I am sure, is one thing, quite different from what it would be for someone with what we like to think of as a full range of color vision. My chapter about hearing can be read by a hearing person or a deaf person or a person in between where most of us dwell.” – Roger Caras, *A Cat is Watching*, p. 219.

In the old days, there were articles in *Dragon* magazine discussing this problem in *Dungeons & Dragons*: How to play deity NPCs and other NPCs of greater intelligence, wisdom and age than the normal mortal player characters. Among the advice I recall, the DM should assume the superior intelligence NPCs would know things that they should not possibly or reasonably (by our standards) know, and they should be able to react swiftly, intelligently and proactively to any tricks or actions by the PCs, based on their superior foresight and intellect.

- ✓ “A cat knows how to anticipate. If they didn’t, they could never hunt birds or mice or other sportingly fleet prey. They can anticipate and perhaps plot a prey’s trajectory just as a ... retriever can plot the arc and descent of a tennis ball or Frisbee, but a cat can’t understand the concept of anticipation and therefore is unable to allow for it in other species. So this is where we have them almost surely. Cats virtually always underestimate human intelligence just as we, perhaps, underestimate theirs.” – Roger Caras, *A Cat is Watching*, p. 17.

“It is well known that Sir James Frazer, the distinguished British student of primitive magic and religion, makes a great point of the fact that all over the world magical practice seems to resolve itself into two principles of thought: that things once in contact with each other continue to act at a distance, or, second, that like things produce like results, that is, that the imitation, with proper ceremonial, of a natural phenomenon by the magician will initiate, for example, a real rainstorm.

Concealed behind these two widespread branches of magic, Frazer believed, was a single spurious ‘scientific’ principle which was common to the primitive and untutored mind. That principle he proclaimed as a mistaken Law of Sympathy, the conception ‘that things act on each other at a distance through a secret sympathy.’ Magic, as viewed by Frazer, is thus a kind of falsely conceived science based upon a naive projection of human desire upon the exterior universe.”

– Loren Eiseley, *The Modern Dilemma* (1962), Kindle Loc. 328-330

The Slide-ways View: Frazier’s view seems to be the current common view of physics and psychiatry. Consider the Frazer analysis of primitive magic (*ut supra*) in relation to Henri Frankfort’s mythopoeic thinking quote, discussed briefly in 1 Temporal Technology, p. 808, *supra*.

The game rules do not assume the existence of any sensory abilities beyond those which existed in the species’ primal state, and which have been subsequently enhanced by technology (i.e. the game does not assume the existence of psychic abilities unless specified by a Fundamental Reality). And in the fine tradition of most science-fiction trope, the aliens – the races in the game – are assumed to have the same sensory ranges and organs as humans, or at least animals on Earth, which is part of the process of placing them on the same galactic shelf as humans (see discussion, 1 Technology and 1 Diplomacy, *supra*), and saving a lot of production costs in movies.

The point of systems such as radar, night-vision systems, and infrared cameras, microphones and listening devices, is to gather information from electromagnetic spectrums above and below our normal sensory range or at a spatial distance beyond our sensory range, and reduce, display the results within our sensory range in a way that is useful. Therefore, even with ‘advanced technology’ to expand our ability to collect data, the basic sensory package of the human species has not changed, the basic human does not have any means of naturally sensing and collecting data about the environment that we did not have a million years ago. The same goes with the ability to process the information received, we have superfast computers, we still have the same cave-brain.

- ✓ “...We are too content with our sensory extensions, with the fulfillment of that ice age mind that began its journey amidst the cold of vast tundras and that pauses only briefly before its leap into space.” – Loren Eiseley, “The Hidden Teacher” (1969).
- Majik: Magic always refers to the improbable or impossible non-causal occurrences based on our current knowledge and understanding (see Intonation of the Three, 1 Technology, p. 688, *supra*). The idea of ‘magic’ suggests divine intervention and/or the operation of forces which we cannot understand, but which presumably are accessible to us.⁶ Like quantum entanglement and quantum tunneling.
 - ✓ See discussion of intuition in You Already Knew It and Improbables, 4 Colleges, pp. 505-506, *supra*.

My cats see things that appear on my computer screen, but no matter how they bat at it, they can’t touch it, stop it, or catch it and eat it. Can’t smell it, the kitten meowing on my screen has no smell. We understand what it is on the screen and why we cannot not touch it; we have interface tools (e.g., the mouse) that allows us to ‘touch’ what is on the screen. But to my cats, it might as well be (and probably is) magic; this is not dissimilar to *a priori* being a function of sapience as discussed in Crack in the Temple, 1 Beginnings, p. 27, *supra*.

Understanding is a relative matter, a matter of perceptions, and there is already a suggestion of ‘magic’ in the game in line with Clarke’s Law, in the form of *Uber Alles*. From our perspective, the technology of the 2nd and 3rd Eras might as well be magic, and thus the *Uber Alles* are able to ‘grant’ abilities upon reaching a new Era, without need for detailed explanation (which would be impossible given our current state of understanding). It might be possible to introduce into the game a concept of ‘actual’ magic which is not technological (as in *Uber Alles*) or biological based (which would probably be called telepathy or psionics instead of magic), but again, it would require extensive and careful consideration beforehand by the players and the Concierge.

- ✓ Star Wars is a fantasy story in a science-fiction setting. Nearly everything in Star Wars would transfer one for one to a classic high fantasy movie with dragons, flying castles, planar portals, good and evil. The Force is just magic in a science-fiction setting; it operates essentially the same way magic does when imagined by modern technological-influenced fantasy writers, it happens without explanation or cause to certain special people at important places in the story. It substitutes for technology and allows characters to know in advance things they could not know otherwise. It is however, significantly different than primitive concepts of magic.

Magic is a pre-technological concept. Very few now have an understanding of magic in the pre-technological sense.⁷ In most fantasy, especially fantasy role playing games, magic is a crude substitute for technology effects, without any internal logic or justification. I have long suspected that our pre-technological ancestors would not have understood magic as a personal servant or tool at the bidding of the sage, diviner or caster. Nor would normal humans have been able to imbue magic – divine power – into normal artifacts or natural objects. The way our pre-technological ancestors viewed magic and the way we treat magic in fantasy are both very revealing of different worldviews at both ends of 2,000 years of humanity. There is a deference, fear, and mystery to magic that has been lost and replaced by egocentric, materialism, and vainglorious individual empowerment.

- ✓ Curiously, our current understanding of quantum entanglement suggests that our primitive ancestors were – somewhat correct – though in ways they could have hardly imagined. The implications of quantum send a shiver through our consciousness and modern worldview.

Some sort of “techno-mage cult” – which has had some popularity in science-fiction literature – might be possible in GGDM. Personally, I have never been entranced with the techno-mage idea or compelled by the visions of such presented on television (e.g., Babylon 5). Techno-mage cult ideas share the same root as Western Esotericism, attempting to return enchantment to the future technological worlds of science-fiction, and projecting into humanity’s future, a return of ‘knowledge’ rejected by science, rationality, and modern intellectuals.

- Farsight: It is possible, within the scope and course of a game, for species to develop profound, new, heretofore unknown biological-based sensory abilities (i.e. telepathy,⁸ empathy, ESP), biological-based abilities to manipulate matter and energy (e.g., telekinetics, psychokinetics, pyrokinetic) or biological based abilities to affect the behavior of other creatures (i.e. mind-control, coercion, hypnotic suggestion), either individually (i.e. special talents, the term Robert Heinlein used in *Starship Troopers* (1959)) or as a group effort (i.e. a meta-concert, the name that Julian May gave to group focused mental powers in the *Pliocene Saga* (1981)).⁹ Such a development must or will likely become part of the greater game story arc.

It is possible that such developments might be included as part of the *Uber Alles* for the 2nd and 3rd Era, or it could accompany the transition from the pre-Interstellar Era to the 1st Era, for example, the sudden appearance of verifiable telepaths coincided with interstellar travel in Babylon 5 and were critical underpinning to the entire story arc. It is a development, however, that the players and the Concierge would need to work out in some detail before being implemented since the game mechanics don’t really support it. A psychic is a walking causality violation, things ‘appear’ to them before they ‘appear’ in the universe. Such new abilities can never be allowed to become all powerful or to unbalance the game but could be fun.

- ✓ “Some of the intelligence people I’ve talked to know that remote viewing works, although they still block further research on it, since they claim it is not yet as good as satellite photography. But it seems to me that it would be a hell of a cheap radar system. And if the Russians have it and we don’t, we are in serious trouble.” – Congressman Charles Rose, Chairman, House Sub-Committee on Intelligence Evaluation and Oversight, Omni magazine, July 1979.¹⁰

Calling it “a hell of a cheap radar system” demonstrates a stunning ignorance of the phenomena and typical Congressional political thinking. But the Congressman may have been repeating what he and his colleagues were told when they questioned the funding (i.e. they were manipulated); in 1979 we cannot let the Ruskies get something we don’t have, no matter how crazy it sounds! The world hung by a thread, dependent entirely on NATO’s deterrence power, the U.S. Navy and Air Force SAC; and the needle could not be allowed to move even a tick in favor of the Warsaw Pact. What is far more interesting is that a Congressman was commenting on remote viewing in a 1979 magazine article; the Star Gate program was closed and declassified in 1995. Program documents are online at the CIA archives.¹¹

People misunderstand the CIA’s brief interest in psychic abilities during the Cold War; it’s not that the CIA or the government thinks there are reliable and controllable psychic abilities in the population or individuals (the G-men probably thought it was a bunch of malarkey), but rather, that if there are, just in case they were wrong, the CIA wanted to be there to take control and keep it secret, keep it from the Ruskies. Hence, the CIA reportedly funded experiments at Stanford Research Institute and interviewed researchers and subjects.

“In this story humanity has been selecting for super intelligence. However there are always some throwbacks born – ‘norms’ as they are called. The norms are always at a disadvantage, not just because of their lower intelligence quotient but also because of the restrictions and discrimination that they face. One norm, a poet, rises up as a voice for the oppressed and becomes a Moses for his kind – asking ‘Pharaoh’ (the government of the su-norms) to build spaceships so he and his people can leave Earth and have [a] place where they can be free. Will the World Council agree? Or will the norms be second-class citizens forever?”

– Summary by Bev Hankins (March 1, 2013) of Joseph Green’s short story “Let My People Go” (1973) on My Reader’s Block (blog)

Let My People Go: “Let My People Go” might be the source of or inspiration for arrogant telepaths in the Babylon 5 television series who call normal people ‘blips’ and treat them as second-class citizens. Babylon 5 simply flipped the numbers making the ‘su-norms’ (in the form of telepaths) the minority but they still nearly ended up ruling the planet.

Generations of intellectuals have considered and writers have toyed with the concepts and consequences of reliable and operational telepathic abilities among humans and aliens. Most of these musings have not ended with a favorable conclusion, much having to do with the wall between the sexes. Are men ready to let women into what they really think, want, and feel, and vice versa? To experience (mentally only) what it is like to be the other sex? Are we ready for a new telepathic priests and ruling class or are we willing to live in the fish tank of a communal mind? It is clear that widespread telepathic abilities would require an entire different and new framework, a new culture that is centuries or millennia away from today.

- A Bowl of Biskies: If any human population demonstrated an evolutionarily significant developmental advantage over the general population, one of two courses would occur:
 - ✓ The group would either become the rulers or controllers of a significant part of civilization or be marginalized, controlled or eliminated by the current government, or ...
 - ✓ The group would assume control of humanity and thereafter, either find a way to evolve the rest of humanity to their level, or eliminate mainstream humanity, or eventually be overthrown, marginalized, controlled or eliminated.

Marginalization can take many forms, including, in an interstellar setting, departing into the unknown to found new colonies far away from the current governments. This is a theme which was explored in *Babylon 5* via the telepaths, especially the last season, and various short stories – such as the one where a Moses-like leader of normal kids (*ut supra*) wants to lead his people to a new planet, or self-imposed or forced exile, such as Khan Noonein Singh (can you still hear Captain Kirk screaming his name?) and the Auguments in *Star Trek*.

- ✓ “Let My People Go” (1973) by Joseph Green and “A Bowl of Biskies Makes a Growing Boy” (1973) by Raymond F. Jones were part of a ‘young persons’ anthology compiled by editor Roger Elwood called The Other Side of Tomorrow (1973). Many people seem to remember reading it long ago – as I did sometime around 1980 – but don’t remember the title or titles of the stories; there are at least three asked and answered questions relating to this on SciFi StackExchange (the last from 2016) and I found another on Google Answers (from 2005). Mark L. Irons on his site (article “Sick Tomorrows,” rdrop.com), and some others on StackExchange and Goodreads have commented that the stories are very dark and disturbing for anyone, let alone young readers; rather, the collection is *about* young people in dystopian futures but not very suitable *for* young people to read. So now you know why I am nutso...

“Asymmetric Advantage: an asymmetric advantage goes beyond a normal advantage of knowledge into the realm of having asymmetric information and knowing things others do not. For example, others may be aware of certain operations of our business, but only we can actually do those things. If we have an operational advantage we have an asymmetric advantage. A Patent can [be] used to establish this kind of advantage, but not necessary if the advantage takes skill and discipline others find it difficult to achieve or retain long term. Asymmetric advantage is based on knowing something that creates value or has an edge that others don’t. An asymmetric advantage is protected and maintained through the distinctions between knowledge of a concept vs. actually being able to do it.

The Illusion of Asymmetric Insight is useful to maintain an asymmetric advantage because people perceive their knowledge of others to be greater than what it really is. The overconfidence of others is also helpful, since a person’s subjective confidence in his or her judgments and knowledge is greater than the objective accuracy of those judgments, and overconfidence is even asymmetric: this is more true when confidence is high. Disruptive competitive edges are based on having an asymmetric advantage.”

– Mike Shell, “Asymmetric Advantage,” *Asymmetry Observations* (asymmetryobservations.com), captured June 26, 2019

De-Mystification: Mysticism and mystical arts is humanity’s natural drive for the asymmetrical advantage. So is magic and telepathy. Humans have never been satisfied with the empirical world; there has to be more, there has to be a way around it. When we could make up stories to explain creation and the phenomenal world around us (i.e. mythopoeic thought), mysticism and such were natural fits and adjuncts to that world. Empiricism has proven corrosive to mysticism, tearing away veils, pretense of learning, making squares fit into squares and nothing more and nothing less, all measured and explained and testable, repeatable. The sociocultural reaction was Western Esotericism and Theosophy, various Hermetic Orders and neo-Pagan movements.

The classic socially-sanctioned asymmetric advantage is the licensed practitioner – sorry but your New York City psychic friend probably isn’t licensed or insured, for which entry is exclusive and for which the group of licensed practitioners are granted practice monopoly over an important practice in our civilization; e.g., medical doctors, lawyers, engineers. You know, or think you know, what a doctor, lawyer or engineer does, but you cannot do those things (legally, anyways) and probably lack the skill or discipline to even try (e.g., Oneal Ron Morris, 2011, Natalia Jiminez, 2020). What they know and their exclusive right to practice, combined with the needs and procedures of our civilization, creates value. *De-mystification* (as well as burgeoning need and technology) has cut into this slightly, creating a class of unlicensed staff para-professionals, more than clerical workers, who work under the licensed professional, e.g., paralegals, noting that such is the critical practice of medicine that physician’s assistants, nurses, therapist, and such are usually required to be certified and licensed but still must be supervised by a physician.

- ✓ Can you imagine someone suing their psychic advisor or astrologer for malpractice in the same way they might sue their financial advisor, stock broker, mutual fund manager, lawyer, CPA, doctor, architect, or doctor?
 - In Babylon 5, certified human telepaths were forced into a sort of ‘licensed guild’ called PsyCorps for the purposes of control and self-policing, but in fact, it became a highly cohesive organization that took over the government. Those who refused to join were forced to take medications to suppress their abilities (e.g., Ivanova’s mother). PsyCorps telepaths were allowed to charge fees for their commercial services during interrogations, investigations, explorations, and business negotiations; I assume they were barred from casinos, the stock market, baseball, and certain professions, so by dint of their psychic abilities (which they did not seek or want, like being born) they were excluded from normal socioeconomic existence, forced into PsyCorps. I assume they could be sued for malpractice ... but what is the point of it? They were above the law; *their only profession is psychic – imagine your only profession is male or female?*

Asymmetric advantage is eroded by *imperfect execution* and *cognitive limitations*: Even if a batter in baseball could read the pitcher’s mind perfectly, he still might not get a hit because pitchers frequently don’t execute their pitches; in fact, in that case, the worse the pitcher is, the less useful the psychic ability of the batter! The batter might be hit in the head by a bad pitch because he is not looking for where the pitch is, but where it is supposed to be due to his psychic abilities.

- ✓ “The first test came on March 21, 1918. The British had long known that the blow would fall on their front, and even the exact date had been learned. But a surprise can be achieved in method as well as time or place, and no one in General Gough’s Fifth Army

had any conception of the havoc which would soon be wrought.” – Lynn Montross, *War Through the Ages* (1960, 3rd Ed. p 741), discussing the first use by the Germans of infiltration tactics that were invented by a French army captain (WWI *Sturmtruppen*).

Similarly, the Tetris-like falling tile game Hashira provides a preview on the right side of the next three tiles that will fall on the board. I have been undecided as to which results in better play: To take the cognitive moment to glance over and see the next three tiles, so that I can play the current falling tiles more effectively, or to use all of my cognitive speed to react to the current set of falling tiles?

- ✓ That is, even if a psychic can see the future, there is significant cognition that is used in the process and in processing the information (which may not have complete underpinning at that moment, drama fiction loves to use that) as opposed to simply, naturally best reacting to what is happening without precognition of the moment?¹²

In the game Hashira (or any Tetris-like falling tile game) the increasing speed of the game forces the player from the former to the latter; at some point with the board space significantly filled, space shrinking fast, and tiles falling faster, there is no time at the end for precognition of the next set of falling tiles. The question then is whether early game precognition extends the time to that point when it is not possible to glance over at the preview of the next set of tiles; theoretically the final scores should provide the answer, but that result has been inconsistent.

- Magical Thinking: “Men often become what they believe themselves to be. If I believe I cannot do something, it makes me incapable of doing it. But when I believe I can, then I acquire the ability to do it even if I didn’t have it in the beginning.” – Mahatma Gandhi.¹³
 - ✓ Cf. “For a strong adversary (corps) the opposition of twenty-four squadrons and twelve guns ought not to have appeared very serious, but in war the psychological factors are often decisive. An adversary who feels inferior is in reality so.” – Field Marshal Carl Gustav Baron Von Mannerheim, “Father of Modern Finland.”

Which of the above represents mystical thinking as opposed to practical observation (or even a Kantian synthetic *a priori* proposition)? The problem with most motivational quotes is that they contain an element of magical thinking, some more openly, some more disguised. Motivational quotes usually appeal to our childish sense of the world, where God watches over each and every moment of our lives, the world cares about just us, and things we need or want badly just appear for no particular cause (Santa, Easter Bunny, Tooth Fairy, our birthdays) or because we *really wanted it*. Motivational quotes appeal to that time when we (most of us) experienced unconditional love from our parents (however short that may have been); most are of the same ilk as cargo cults:

- ✓ “...the belief which began among Melanesians in the late 19th and early 20th centuries that various ritualistic acts such as the building of an airplane runway will result in the appearance of material wealth, particularly highly desirable Western goods (i.e., ‘cargo’), via Western airplanes. ... In attempts to get cargo to fall by parachute or land in planes or ships again, islanders imitated the same practices they had seen the soldiers, sailors, and airmen use. Cult behaviors usually involved mimicking the day-to-day activities and dress styles of US soldiers, such as performing parade ground drills with wooden or salvaged rifles. The islanders carved headphones from wood and wore them while sitting in fabricated control towers. They waved the landing signals

while standing on the runways. They lit signal fires and torches to light up runways and lighthouses. In a form of sympathetic magic, many built life-size replicas of airplanes out of straw and cut new military-style landing strips out of the jungle, hoping to attract more airplanes. The cult members thought that the foreigners had some special connection to the deities and ancestors of the natives, who were the only beings powerful enough to produce such riches.” – from Wikipedia article, “Cargo Cult,” July 31, 2019.

Wouldn't this be a fun basis for a RPG adventure? In countries with extreme poverty and low literacy and/or substantial superstition, could the landing of planes with cash, goods, and military equipment in exchange for narcotics be viewed somewhat in this way?

- ✓ **Rhetorical Question:** What is the difference between magical thinking and faith? Are either or both a failure of causal logic or empirical thought, or are they reliant upon belief in some as yet unseen dynamic. Is there ever a case for Justified True Belief? A primitive human vigorously rubs a stick on a rock while calling on ancestors, wood spirits and the mythopoeic fire god to grant him fire; is this faith or is it magical thinking (when the physical dynamics of friction are unseen, unknown to them)?

Open Face GGDM: If a human player were psychic, Mahjongg (or any card game) would be a perfect information game. A perfect information game is one in which nothing is hidden, like a game of chess or the tile game Hive (promoted as “nature’s chess”). The speed of solving the Mahjongg board would still be limited by the physical movement speed at which the tiles could be played off in pairs and solving the game would depend on the correct sequence of decisions; it would still be possible for a puzzle to be unsolvable.

An open public information game of GGDM – where the Public Space, Matrix, Power Strip of each position and all information about Galactic Space are always available to everyone, would be somewhat like a psychic playing Mahjongg – the information utility however would still depend on players looking at, studying and processing of the information, and the mental states and communication between other players, outside the game information, would still be unknown.

“Hegel remarks somewhere that all great world-historical facts and person-ages appear, so to speak, twice. He forgot to add: the first time as tragedy, the second time as farce.”

– Karl Marx (speaking about Emperor Napoleon III of France)

History and Perception: I knew and read little about Emperor Napoleon III when I was young. The main event with which he was associated in my youth was the surrender at Sedan; that was his historical legacy (like Benedict Arnold). There are a number of possible reasons why he was not widely discussed in the Anglo-sphere when I was young. One is a heavy Anglo bias to the histories I read (and certainly in our schools, as I commented elsewhere, most ‘world history’ courses in American schools of my youth were really U.S.-justification courses).

Another is that he is overshadowed by the rise of Germany, and the following World Wars, in which play, he is but collateral damage, thus the focus on his surrender at Sedan. Another is that his role in the Italian unification – another subject little taught or understood in America of my youth, again possibly because they were the minor losers of WWII – was not appreciated and I

barely heard of Garibaldi before I was 30 years old. The perception of the 19th Century history of France and Italy in the United States through our public school teaching was thus: That they were unimportant – they were not part of the ‘U.S. justification’ except when we had to liberate one and defeat the other in our great 20th Century crusades. *Pax Americana*.

Finally, most American students who learned about the American Civil War in grade school are unaware of, never heard of the concurrent French invasion of Mexico in December 1861 (or even the Taiping Rebellion in China), other than if they happened to see Clint Eastwood and Shirley MacLaine in *Two Mules for Sister Sara* (1970), which doesn’t exactly give the subject serious treatment. In fact, Mexican history in American public schools consists of the Aztecs, the Mexican-American War, the Pershing Expedition of 1916-1917, and the Zimmerman Telegram. If it doesn’t have to do with the United States, we aren’t interested in learning. If it wasn’t for the lessons on the Louisiana Purchase, half the country would never have heard of Napoleon because he didn’t invade the United States.

- ✓ “Every year a new army comes along and says ‘feed us, we are fighting for your liberty.’ The only thing they ever liberate are my chickens.” – Mexican farmer, from *The Young Indiana Jones Chronicles* (aka *The Adventures of Young Indiana Jones*).

As an intellectual adult, in the context of GGDM, I have found in the period of the French First Republic and Second Empire, fascinating and missing information about the forces in play on the Continent in the 19th Century. And as I came to understand the Opium Wars (see 3 Commerce, p. 1216, *supra*), the Taiping Rebellion (I only knew of the Boxers Rebellion because they teach it in Marine boot camp) was both crucial and also fascinating as a phenomenon in itself.

- Play Dates: In Iran – according to a respondent to Herman Wong’s question, cited in “How the Hiroshima bombing is taught around the world,” (see full cite in *Atomic Bombings 70th Anniversary excerpts, The Secret of Fire, supra*) – they are taught that Japan surrendered after the first bomb was dropped on Hiroshima, and then the U.S. dropped the second bomb on Nagasaki “just to test it.” *Id.* Accepting this hypothetically as fact, this is consistent with the Iranian Revolution’s cultural and political villainization of the United States – and it would certainly make sense to surrender after someone dropped a nuke on you if you knew that is what happened (which the Japanese didn’t immediately) – but is not consistent with historical facts accepted in most of the world outside of Iran:

- 1) The first bomb was dropped on Hiroshima on August 6, 1945,
- 2) The second bomb was dropped on Nagasaki on August 9, 1945,
- 3) The surrender by the Emperor of Japan was recorded on a phonograph on August 13 or 14, 1945 (and was hidden when the Imperial Palace was stormed by mutinous officers led by Major Kenji Hatanaka, who attempted to prevent Japan from surrendering) to be played over the radio,
- 4) The surrender of Japan by the Emperor (i.e. the Jewel Voice Broadcast) was broadcast over Japanese radio to the population on August 15, 1945.

Thus a simple chronological examination exposes *the way in which widespread perception can be altered for political purposes by simply changing the date of a historical event*:

- ✓ For example, if the United States wanted to vilify Great Britain, the date of the Treaty of Ghent (December 24, 1814) ending the War of 1812 could be moved back in the history books (to say, August 1814) so that allegations could be made that the British

commander knew the war had ended when his troops attacked the U.S. forces at the Battle of New Orleans on January 8, 1815. To this could be added, without alteration, that two ships were captured, a fort surrendered, and another battle took place, all in early 1815, after the Battle of New Orleans (the last action of the War of 1812 was the Battle of the Sinkhole, May, 24, 1815).

- ✓ On the other side will be those who will – if they have not already – argue that the U.S. government (apparently with the cooperation of the rest of the world outside of Iran) changed the dates in the history books to make it appear that Japan had not yet surrendered on August 9, 1945. And that I have been brainwashed by public education. I don't think that is likely for the reasons cited below – and that the government would also need to destroy all old copies of newspapers, *à la* Orwell's 1984, but in any case, this is an argument necessitating *widespread scholarship* in our civilization – reading from a wide variety of sources, reading from original works, reading reliable secondary sources and translations. And above all, thinking critically, detecting errors, and making colorable arguments.

For those who understand, altering history is the true danger of Wikipedia and not all of the usual near-nonsensical criticisms that have been addressed previously in GGDM. Except that Wikipedia is not controlled by the government (unless you love big conspiracies, e.g. Jimmy Whales is an android, alias, alien, or made-up person), is a creature of the internet, and that a body of scholarship and information exists outside of Wikipedia such that, unless everyone is a moron, there is little danger of history being altered by a Wiki. Wikipedia articles are usually patrolled by people who understand the subject matter independent of Wikipedia, and Wikipedia also insists (as it is an encyclopedia) that articles cite to reliable sources and not be original research.

- ✓ When faced with an argument, it is not a bad approach to ask yourself what would be required to be true for the other side to be correct? In the preceding discussion, ask what would be required for Iran to be right (about anything) and the entire rest of the world to be wrong. The absurdity of their position (on just about all issues) becomes apparent. The U.S. is not also immune to this problem, and our main faith is that the adversarial arguments will eventually lead to truth (in the media, in history, in the courts, in science, in technical disciplines, in the humanities and philosophies). GGDM News Events sort of work that way.

“There is no international law or treaty that calls the Internet into existence or forces everyone to use the same standards and technology. Rather, it is a voluntary effort of people around the world.... The global consensus at the heart of the Internet exists by virtue of trust built up over decades with people from all over the world collaborating on the technical design and operation of the network and the web. ICANN is a critical part of this global consensus. But if the United States were to reverse plans to allow the global Internet community to operate ICANN independently, as Sen. Cruz is now proposing, we risk undermining the global consensus that has enabled the Internet to function and flourish over the last 25 years.”

– Op Ed by Tim Berners-Lee and Daniel Weitzner, “Ted Cruz is wrong about how free speech is censored on the internet,” The Washington Post, September 20, 2016

Media Fact Checking: A sizable portion of our professional media is dedicated to ‘fact checking’ claims by politicians. Yet it has seemed to become less and less effective in recent years, as politicians receive a ‘free pass’ from the public as to claims they make, because it’s just political theatre. Fact checking anything does little good in situations where people don’t care much for facts and prefer conspiracies and wild assertions; where hyperbole rules the public discourse.

ICANN Understand: By way of introduction, Sir Tim Berners-Lee is considered the inventor of the internet and is the director of W3C. Few individuals have had such impact on Western civilization in such a short time. Co-author Daniel Weitzner is the Director of MIT’s CSAIL Decentralized Information Group and teaches internet public policy at MIT. He has also held the post of Deputy Chief Technology Officer of the United States.

The arguments over releasing ICANN from U.S. control to make it a true international body have precedent in the French decision in 1875 to release control of the metric system:

- ✓ “In the 1870s the French made a crucial decision to turn control of the system over to an international body. In 1875, most of the leading industrialized countries (including the United States, but not Britain) signed the Treaty of the Meter. The treaty established the International Bureau of Weights and Measures, which has presided ever since over what we now call the International System of Units. It also provided for distribution of copies of the metric standards throughout the world and for continuing consultation and periodic revision and improvement of the system through regular meetings of a General Conference of Weights and Measures. The 26th General Conference is scheduled for November 2018.” – Russ Rowlett, “The Metric System,” <http://www.ibiblio.org/units/metric.html>, last revised April 27, 2018.

There has been popular resistance to the adoption of the metric system in the United States and Britain, even though the U.S. signed the Treaty of the Metre in 1875 with 16 other nations.

- ✓ In a similar move, President Ronald Reagan allowed worldwide access to the U.S. GPS system following the downing of Korean Airlines Flight 007 in 1983.

However, the story of the proto-internet thinking goes back possibly to the end of WWII. For example, Ted Nelson coined the terms hypertext and hypermedia in 1963. Vannevar Bush described a proto-internet in an essay published in *The Atlantic* in 1945 which was eventually called Memex. Project Xanadu established in 1960 began to attempt implementation of these ideas, and there is a running vision dispute between members of Project Xanadu and WC3 or Berners-Lee about true implementation of the hypertext concept.

“This tendency found its most effective advocate in a follower of Pythagoras named Plato. He preferred the perfection of these mathematical abstractions to the imperfections of everyday life. He believed that ideas were far more real than the natural world. He advised the astronomers not to waste their time observing stars and planets. It was better, he believed, just to think about them.”

Plato expressed hostility to observation and experiment. He taught contempt for the real world and disdain for the practical application of scientific knowledge. Plato's followers succeeded in extinguishing the light of science and experiment that had been kindled by Democritus and the other Ionians. Plato's unease with the world as revealed by our senses was to dominate and stifle Western philosophy.” – Carl Sagan, Cosmos, Episode 7

Endnotes.

¹ Commentary: I have a copy of this book and have read it several times over the years, I may have had this book in my library for 20 or more years now (along with Cleveland Amory's The Cat Who Came for Christmas). As of August 2018, a full, searchable copy of A Cat is Watching – surely one of the most astute studies of cat and human psychology and behaviors – is available on Google Books. The word-search function helped me find something that I knew was in the book, but where the index was unhelpful, and I was looking in the wrong part of the book.

² Commentary: I do not dislike dogs, I had a collie named Ladd (because I couldn't name *him* Lassie) through my youth that I loved very much and I am sure we made quite a ruckus because, as everyone knows, dogs and children are natural companions. Many dogs passed through my youth, often unfortunately, but Ladd lived to old age. As an adult in my current cognitive state, I find dogs – my neighbor's four dogs or the houses with dogs that I walk past on the way to the store – annoying. They go bonkers over everything and anything, they have no restraint or sense of proportion, and cannot be made to understand, they can only be disciplined with great effort and patience. Thus, I do not desire to have a dog, quite aside from the natural objections of the dozen or so cats that I care for daily.

³ Commentary: A user on YouTube posted a one-minute video of two wild foxes jumping around on a large backyard trampoline. Lots of viewers liked it. *Twelve years later*, a sharp viewer posted a comment explaining the foxes' jumping around on the trampoline as hunting activity, pointing out that the jumps were clearly 'hunting jumps' and theorizing that the foxes heard higher pitch squeaking from the coil springs and thought it was small prey; the vertical jumps were the same as they would make when hunting mice or small rabbits. Doubtless, everyone who viewed the video over twelve years thought they were just playing cute. Hence, replies to the post called the poster a 'killjoy' for rationally explaining the behavior, and this turned into a spat (not involving the OP) over people who resent people who are smarter than they are, etc.

⁴ Commentary: Although cats are social creatures, the cat tribe that lives on my front porch is a bit of an unnatural creation by virtue of the fact that I feed them, provide water and milk, provide heated, comfortable places to sleep, have a fenced in yard fronted by hedges, and provide them with toys and attention. That is, by virtue of being what I am – the SQ and cognitive difference between cats and humans – and the economic and material power of human civilization, I have created in the cats something more than they would do naturally. This may be what happens if humans encounter a more intelligent and advanced alien species (it was hinted at in *Babylon 5*), that their being may unite lower SQ or less intelligent or less advanced species into some unnatural level of coexistence and interaction.

⁵ Commentary: My ears have been ringing since I was an early teen, I am sure they were when I was about 13 or 14; my mother told me then that it was because someone was thinking about me. I hardly believe that now since my ears ring frequently (I cannot imagine any reason why people would waste their brainpower constantly thinking about me), but I guess her comment might have been linked to the idea that 'psychic phenomenon' is a form of hearing above the common level, to the idea that thoughts have sound (*à la Dune* (1965)). According to Mayo Clinic:

- ✓ “Tinnitus is the perception of noise or ringing in the ears. A common problem, tinnitus affects about 15 to 20 percent of people. Tinnitus isn't a condition itself – it's a symptom of an underlying condition, such as age-related hearing loss, ear injury or a circulatory system disorder. Although bothersome, tinnitus usually isn't a sign of something serious.” – from <https://www.mayoclinic.org/diseases-conditions/tinnitus/symptoms-causes/syc-20350156>.

The Mayo Clinic represents likely the 'official party line' of modern medicine on every subject. Another place I read years ago linked Tinnitus to stress or even to intense thinking. So it goes round, thoughts have sound... Whatever the case, I certainly passed the hearing test to enlist in the Marine Corps when I just turned 16 and went to boot camp when I was 17. I believe they said that I had a slightly 'higher end' hearing range than normal. After being in Marine artillery for a couple of years, I was tested again and had lost 'low end hearing' and was diagnosed with 'noise induced hearing loss' meaning that I have a hard time hearing in a crowded room or if there is ambient

background noise. This is what the military calls ‘artillery ears’ – we joked about it when I was in the artillery. The doctor said it would get worse with age, and I can say definitely that my ringing ears may have got a little more frequent and louder with age ... but I also probably think more intensely in my advanced years.... ☺

⁶ **Citation:** Corollary of Clarke’s Third Law: Any sufficiently advanced magic is indistinguishable from technology, a variation of which is noted on TV Tropes and stated in a 2008 comic called “Genius Girl”: Any sufficiently analyzed magic is indistinguishable from science! See Intonation of the Three, 1 Technology, p. 688, *supra*.

⁷ **Citation:** WWII in southern England: **German commander:** “There’s the witch!” **Subordinate:** “You said there was no such thing as a witch, sir.” – Bedknobs and Broomsticks (1971).

⁸ **Citation:** “Telepathy, for instance, is in trouble with the scientific community for one main reason: it is in complete conflict with that paradigm we call the electromagnetic theory. We do know, of course, that across the skulls of every one of us race minute electrical currents; and the movement of electrical currents produce radio waves. However, these have been measured by Rolf Ashby, Adrian Walter and Grey Walter, and one can now say that if the nearest person to me has a radio receiver in his skull, his chances of picking up the radio broadcasts from my skull are about as good as his chance of making an audio recording of a smoke-signal. So that kind of transmission is out. Telepathy is therefore impossible.

When we look, however, at the evidence which has been gathered, and we make the temporary assumption – as we must – that some of this evidence has been honestly gathered, and honestly reported, and may represent real instances, we find also that it is characteristic of telepathy that its strength of reception does not vary over distance – even over long distances. Now we are in trouble with something much greater than the electromagnetic theory: we’re in trouble with the inverse square law itself. To me this means one of two things. It means either that telepathy is impossible, by two different paradigms, or else it tells us that the electromagnetic theory is the wrong paradigm to apply here. Now I have no idea what the right one might be; and one of the problems of telepathy is that nobody who has ever worked seriously in the field, and is respected as honest and responsible, has himself ever managed to come up with a decent model for how it works. There is no altering this paradigm to the ones we know don’t work in order to account for this evidence.” – James Blish, The Tale that Wags the God (1987) (Kindle Locations 572-587).

⁹ **Citation:** “Special Talents” were psychic individuals who assisted military units in Robert Heinlein’s Starship Troopers (1959); “meta-concert” is a term used in Julian May’s Saga of the Pliocene Exiles (1981) to describe a cooperative effort of a group of meta-psychic individuals.

¹⁰ **Commentary & Citation:** There is an extremely rich joke contained in the 100th episode of the television series, Stargate SG-1, which was titled “Wormhole X-Treme” and aired on September 8, 2001. The SG-1 team is sent to act as technical advisors for a campy, idiotic sci-fi television series called Wormhole X-Treme (a TV show within a TV show) because it will supply plausible deniability if anyone discovered the actual Stargate program and made it public. The mission is also cover for the real objective of the operation, the team is looking for an amnesic alien; at the end of the episode a real alien space ship arrives and the filming crew thinks it is just a cool special effect!

- ✓ But the real joke is that the *actual Star Gate project* to develop telepathic location abilities (i.e. remote viewing), for spying on the Soviets is deemed a failure and was declassified in 1995 (FOIA documents can be found online at <https://www.cia.gov/library/readingroom/collection/stargate>). This now provides plausible deniability to any claims made that the CIA and U.S. law enforcement are currently using telepathic abilities for investigations (for example, if someone saw the 2000 film, The Gift). Ingo Swann, whose science-fiction novel Star Fire (1979) I read in about 1983 was part of or associated with the Star Gate Project. Whatever history may think of Ingo Swann and his associates, I liked Star Fire when I read it.
- ✓ The underlying idea is quite clever and interesting: That the popularity of video science-fiction and the fertile imaginations of a century of science-fiction authors and screenwriters provides plausible deniability to *any* secret, outlandish government project or investigation.
- ✓ And of course, if anyone claimed that there actually is a secret Stargate on Earth, the TV program SG-1 would provide plausible deniability for the government to dismiss the investigative exposé as a crackpot who watches too much television! The same is true of Close Encounters (1976).

¹¹ **Commentary:** I saw a video on YouTube in mid-2019 whose title seemed to indicate that some civilian group is still trying to ‘develop’ remote viewing as a psychic ability. Or maybe it is a secret U.S. government program pretending to be civilians and posting on YouTube to create plausible deniability. Big money if it ever works!

¹² **Citation:** “Muad’Dib could indeed see the Future, but you must understand the limits of this power.” – from Arakis Awakening by the Princess Irulan (Dune, 1965).

¹³ **Citation:** cf. “Anyone who believes that the laws of physics are mere social conventions is invited to try transgressing those conventions from the windows of my apartment. I live on the twenty-first floor.” – Alan Sokal.

3 Information – Perception

SHARD: VII. The Next Season

The Man, the Horse, the Ox, and the Dog

A HORSE, Ox, and Dog, driven to great straits by the cold, sought shelter and protection from Man. He received them kindly, lighted a fire, and warmed them. He let the Horse make free with his oats, gave the Ox an abundance of hay, and fed the Dog with meat from his own table. Grateful for these favors, the animals determined to repay him to the best of their ability. For this purpose, they divided the term of his life between them, and each endowed one portion of it with the qualities which chiefly characterized himself. The Horse chose his earliest years and gave them his own attributes: hence every man is in his youth impetuous, headstrong, and obstinate in maintaining his own opinion. The Ox took under his patronage the next term of life, and therefore man in his middle age is fond of work, devoted to labor, and resolute to amass wealth and to husband his resources. The end of life was reserved for the Dog, wherefore the old man is often snappish, irritable, hard to please, and selfish, tolerant only of his own household, but averse to strangers and to all who do not administer to his comfort or to his necessities.

Translated by George Fyler Townsend. Aesop's Fables (pp. 58-59). Amazon Digital Services, Inc.¹

¹ Aesop is probably still telling fables somewhere. Like Swedish meatballs, every sapient species must have an Aesop to point out their laughable fallacies.

**Excerpt from Closing Arguments by Clarence Darrow for the Defendants
PEOPLE V. HENRY SWEET, Detroit, MI, May 11, 1926**

Now, let me ask you whether you are not prejudiced. I want to put this square to you, gentlemen. I haven't any doubt but that everyone of you are prejudiced against colored people. I want you to guard against it. I want you to do all you can to be fair in this case, and I believe you will. A number of you people have answered the question that you are acquainted with colored people. One juror I have in mind, who is sitting here, said there were two or three families living on the street in the block where he lives, and he had lived there for a year or more, but he didn't know their names and had never met them. Some of the rest of you said that you had employed colored people to work for you, are even employing them now. All right.

You have seen some of the colored people in this case. They have been so far above the white people that live at the corner of Garland and Charlevoix that they can't be compared, intellectually, morally and physically, and you know it. How many of you jurors, gentlemen, have ever had a colored person visit you in your home? How many of you have ever visited in their homes? How many of you have invited them to dinner at your house? Probably not one of you. Now, why, gentlemen?

There isn't one of you men but what know just from the witnesses you have seen in this case that there are colored people who are intellectually the equal of all of you. Am I right? Colored people living right here in the City of Detroit are intellectually the equals and some of them superior to most of us. Is that true? Some of them are people of more character and learning than most of us. I have a picture in my mind of the first witness we put on the stand – Mrs. Spalding. Modest, intelligent, beautiful; the beauty in her face doesn't come from powder or paint, or any artificial means, but has to come from within; kindly, human feeling. You couldn't forget her. I couldn't forget her. You seldom have seen anybody of her beauty and her appearance. She has some colored blood in her veins. Compare her with the teacher who for ten years has taught high school on what she called the corner of Garland and "Gote" Street. Compare the two.

Now, why don't you individually, and why don't I, and why doesn't every white person whose chances have been greater and whose wealth is larger, associate with them? There is only one reason, and that is prejudice. Can you give any other reason for it? They would be intellectual companions. They have good manners. They are clean. They are all of them clean enough to wait on us, but not clean enough to associate with. Is there any reason in the world why we don't associate with them excepting prejudice? Still none of us want to be prejudiced. I think not one man of this jury wants to be prejudiced. It is forced into us almost from our youth until somehow or other we feel we are superior to these people who have black faces.

But who was Breiner, anyway? I will tell you who he was. I am going to measure my words when I state it, and I am going to make good before I am through in what I say. Who was he? He was a conspirator in as foul a conspiracy as was ever hatched in a community; in a conspiracy to drive from their homes a little family of black people and not only that, but to destroy these blacks and their home. Now, let me see whether I am right. What do we know of Breiner? He lived two blocks from the Sweet home. On the 14th day of July, seven hundred people met at the schoolhouse and the schoolhouse was too small, and they went out into the yard. This schoolhouse was across the street from the Sweet house.

Every man, in that community knew all about it. Every man in that community understood it. And in that schoolhouse a man rose and told what they had done in his community; that by main force they had driven Negro families from their homes, and that when a Negro moved to Garland Street, their people would be present to help. That is why Mr. Breiner came early to the circus on the 9th. He went past that house, back and forth, two or three times that night. Any question about that? Two or, three times that night he wandered past that house.

What was he doing? “Smoking his pipe.” What were the rest of them doing? They were a part of a mob and they had no rights, and the Court will tell you so, I think. And, if he does, gentlemen, it is your duty to accept it.

Was Breiner innocent? If he was every other man there was innocent. He left his home. He had gone two or three times down to the corner and back. He had come to Dove’s steps where a crowd had collected and peacefully pulled out his pipe and begun to smoke until the curtain should be raised. You know it. Why was he there? He was there just the same as the Roman populace were wont to gather at the Colosseum where they brought out the slaves and the gladiators and waited for the lions to be unloosed. That is why he was there. He was there waiting to see these black men driven from their homes, and you know it; peacefully smoking his pipe, and as innocent a man as ever scuttled a ship. No innocent people were there. What else did Breiner do? He sat there while boys came and stood in front of him not five feet away, and stoned these black people’s homes, didn’t he? Did he raise his hand? Did he try to protect any of them? No, no. He was not there for that. He was there waiting for the circus to begin.

Gentlemen, it is a reflection upon anybody’s intelligence to say that everyone did not know why this mob was there. You know! Everyone of you know why. They came early to take their seats at the ringside. Didn’t they? And Breiner sat at one point where the stones were thrown, didn’t he? Was he a member of that mob? Gentlemen, that mob was bent not only on making an assault upon the rights of the owners of that house, not only making an assault upon their persons and their property, but they were making an assault on the constitution and the laws of the nation, and the state under which they live. They were like Samson in the temple, seeking to tear down the pillars of the structure. So that blind prejudices and their bitter hate would rule supreme in the City of Detroit. Now, that was the case.

Now, you know that the mob met there for that purpose. They violated the constitution and the law, they violated every human feeling, and threw justice and mercy and humanity to the winds, and they made a murderous attack upon their neighbor because his face was black. Which is the worse, to do that or lie about it? In describing this mob, I heard the word “few” from the State’s witnesses so many times that I could hear it in my sleep, and I presume that when I am dying I will hear that “few”, “few”, “few” stuff that I heard in Detroit from people who lied and lied and lied. What was this “few?” And who were they, or how did they come there? I can’t tell you about everyone of these witnesses, but I can tell you about some of them. Too many. I can’t even carry all of their names in my mind and I don’t want to. There are other things more interesting; bugs, for instance. Anything is more interesting to carry in your mind, than the names of that bunch, and yet I am going to say something for them, too, because I know something about human nature and life; and I want to be fair, and if I did not want to, I think perhaps it would pay me to be.

Are the people who live around the corner of Charlevoix and Garland worse than other people? There isn’t one of you who doesn’t know that they lied. There isn’t one of you who does not know that they tried to drive those people out and now are trying to send them to the penitentiary so that they can’t move back; all in violation of the law, and are trying to get you to do the job. Are they worse than other people? I don’t know as they are. How much do you know about prejudice? Race prejudice. Religious prejudice. These feelings that have divided men and caused them to do the most terrible things. Prejudices have burned men at the stake, broken them on the rack, torn every joint apart, destroyed people by the million. Men have done this on account of some terrible prejudice which even now is reaching out to undermine this republic of ours and to destroy the freedom that has been the most cherished part of our institutions.

These witnesses honestly believe that they are better than blacks. I do not. They honestly believe that it is their duty to keep colored people out. They honestly believe that the blacks are an inferior race and yet they look at themselves, I don’t know how they can.

Gentlemen, lawyers are very intemperate in their statements. My friend, Moll, said that my client here was a coward. A coward, gentlemen. Here, he says, were a gang of gunmen, and cowards – shot Breiner through the back. Nobody saw Breiner, of course. If he had his face turned toward the house, while he was smoking there, waiting for the shooting to begin, it wasn't our fault. It wouldn't make any difference which way he turned. I suppose the bullet would have killed him just the same, if he had been in the way of it. If he had been at home, it would not have happened.

Who are the cowards in this case? Cowards, gentlemen! Eleven people with black skins, eleven people, gentlemen, whose ancestors did not come to America because they wanted to, but were brought here in slave ships, to toil for nothing, for the whites – whose lives have been taken in nearly every state in the Union – they have been victims of riots all over this land of the free. They have had to take what is left after everybody else has grabbed what he wanted. The only place where he has been put in front is on the battlefield. When we are fighting we give him a chance to die, and the best chance. But, everywhere else, he has been food for the flames, and the ropes, and the knives, and the guns and hate of the white, regardless of law and liberty, and the common sentiments of justice that should move men. Were they cowards? No, gentlemen, they may have been gunmen. They may have tried to murder, but they were not cowards.

The cowardly curs were in the mob gathered there with the backing of the law. A lot of children went in front and threw the stones. They stayed for two days and two nights in front of this home and by their threats and assault were trying to drive the Negroes out. Those were the cowardly curs, and you know it. I suppose there isn't any ten of them that would come out in the open daylight against those ten. Oh, no, gentlemen, their blood is too pure for that. They can only act like a band of coyotes baying some victim who has no chance.

Now, let us return to the house. Why were the policemen there that night? You know why they were there. Were they there to protect these Holy people from the Negroes? Oh, no. Were they there to protect the people who hate 'Eye-talians' from the Negroes? No. Were they there to protect the residents of Goethe Street? No, no, not that. Was an army to be let loose on Charlevoix and Garland? No. They were there, gentlemen, to protect the rights of a colored family who occupied the premises that they had bought. Protect them against what? Against people who would drive them out in violation of law. Is there any doubt about that?

No, perhaps some of you gentlemen do not believe in colored men moving into white neighborhoods. Let me talk about that a minute, gentlemen. I don't want to leave any question untouched that might be important in this case, and I fancy that some of you do not believe as I believe on this question.

Let us be honest about it. There are people who buy themselves a little home and think the value of it would go down if colored people come. Perhaps it would. I don't know. I am not going to testify in this case. It may go down and it may go up. It will probably go down for some purposes and go up for others. I don't know. Suppose it does? What of it? I am sorry for anybody whose home depreciates in value. Still, you cannot keep up a government for the purpose of making people's homes valuable. Noise will depreciate the value of a house, and sometimes a street car line will do it. A public school will do it. People do not like a lot of children around their house. That is one reason why they send them to school. You cannot get as much for your property. Livery stables used to do it; garages do it now. Any kind of noise will do it. No man can buy a house and be sure that somebody will not depreciate its value. Something may enhance its value, of course. We are always willing to take the profit, but not willing to take the loss. Those are incidents of civilization. We get that because we refuse to live with our fellow man, that is all.

Look at the Negro's side of it. You remember Dancy. Did you ever see a brighter man than he? Compare him with Miller. Compare him with Miss S-t-o-w-e -l-l. Compare him with Andrews. Compare him with anybody on their side of this case. There isn't any comparison. Dancy is colored. He is the head of the Urban League, branch of the association of charities. His business is to look after the poor black, the ones who need it.

He told you how hard it was for colored people to find homes. Do I need to say anything about it? You, gentlemen, are here and you want to do right. Are any of you going to invite colored people to live next door to you? No. Would it hurt you? Not at all. Prejudice is so deep that it might affect the value of your property for sale purposes. Let me ask you, would not any of you like to meet Dancy? Who would you rather meet for companionship and association and fellowship, Dancy or some of the gophers up around "Goffee" Street as some call it? I know who you would rather meet.

Who would you rather meet, their white witnesses or Spalding? Now, I would put Spalding down as a real gentleman. He has some colored blood in him, but what of it? He was a student at Ann Arbor University. He has a good mind, hasn't he? Wouldn't any of you be willing to invite him into your home? I think you would. What is he doing? He is a mail carrier, because he is a black gentleman, otherwise he would have as important a position as the white man would have, with his attainments and his courtesy and his manner. He is black, partly black.

They sent four policemen in the morning to help this little family move in. They had a bedstead, a stove and some bedding, ten guns and some ammunition, and they had food to last them through a siege. I feel that they should have taken less furniture and more food and guns.

Gentlemen, nature works in a queer way. I don't know how this question of color will ever be solved, or whether it will be solved. Nature has a way of doing things. There is one thing about nature, she has plenty of time. She would make broad prairies so that we can raise wheat and corn to feed men. How does she do it? She sends a glacier plowing across a continent, and takes fifty-thousand years to harrow it and make it fit to till and support human life. She makes a man. She tries endless experiments before the man is done.

She wants to make a race and it takes an infinite mixture to make it. She wants to give us some conception of human rights, and some kindness and charity and she makes pain and suffering and sorrow and death. It all counts. That is a rough way, but it is the only way. It all counts in the great, long broad scheme of things. I look on a trial like this with a feeling of disgust and shame. I can't help it now. It will be after we have learned in the terrible and expensive school of human experience that we will be willing to find each other and understand each other.

Gentlemen, do we need anything else? If we need anything else, it is this: If we need anything else to show the hostility of the crowd that was there, it is this: A policeman swore that one window that we claim was broken at the time was really broken afterwards. Why? Who would take a "pebble" to break the windows out of these poor peoples' home after they were safely lodged in jail? And the policemen were in charge. This shooting was on the 9th of September; six or seven months have passed away since then; all these defendants were in jail two or three months, and since that they have been out on bail, but a policeman still stands guard on that vacant home to protect it from being destroyed by the people who want to have an American community where they can raise their families "in peace and amity."

Gentlemen, supposing you return a verdict of not guilty in this case, which you will; I would be ashamed to think you would not; what would happen if this man and his wife and his child, moved into that house? They

have the same right to go to that house that you have to your home, after your services are done. What will happen? Don't you know? What did Schuknecht say? Eight or ten policemen were standing around that house for two days and two nights. A menacing crowd was around them, wasn't there? The police were protecting them. Did one policeman ever go to one person in that crowd and say: "What are you here for?"

There was a mob assembled there. The Court will tell you what a mob is. I don't need to tell you. He will tell you that three or more people gathered together with a hostile intent is a mob; there were five hundred; they were plotting against the persons of these people and their lives, perhaps, as well. Did any policeman try to disperse it? Did they raise their hands or their voices, or do one single thing? Did they step up to any man and say: "Why are you here?" Never. They stood around there or sat around there like bumps on a log, while the mob was violating the Constitution and the laws of the State, and offending every instinct of justice and mercy and humanity.

Schuknecht was standing there; five or six others were standing there, weren't they, gentlemen? Let us see how closely they were guarding the house. They did nothing. They heard no stones thrown against that house; not one of them; and yet they were not twenty feet away. The State brought here some twenty stones gathered next morning from the house and yard, and nobody knows how many more there were. Gentlemen, a roof slopes at an incline of forty-five degrees, or about that. You can get the exact figures if you want them. Imagine someone throwing stones against the roof. How many of them would stay there, or how many of them would stay in the immediate yard, and how many of them would be left there after the mob had finished and sought to protect itself, and the police and crowd had gathered them up, the police force which was responsible for this tragedy? None of them heard a stone, and yet they were there to protect that home. None of them heard the broken glass, but they were there to protect that home. None of them saw two men come in a taxi, except one who hesitated and finally admitted that it seemed as if he did; but none of the rest. Gentlemen, you could have looted that house and moved it away and the police would never have known it. That is the way these people were protected.

Oh, they say, there is nothing to justify this shooting; it was an orderly, neighborly crowd; an orderly, neighborly crowd. They came there for a purpose and intended to carry it out. How long, pray, would these men wait penned up in that house? How long would you wait? The very presence of the crowd was a mob, as I believe the Court will tell you.

Suppose a crowd gathers around your house; a crowd which doesn't want you there; a hostile crowd, for a part of two days and two nights, until the police force of the city is called in to protect you. How long, tell me, are you going to live in that condition with a mob surrounding your house and the police-force standing in front of it? How long should these men have waited? I can imagine why they waited as long as they did. You wouldn't have waited. Counsel say they had just as good reason to shoot on the 8th as on the 9th. Concede it. They did not shoot. They waited and hoped and prayed that in some way this crowd would pass them by and grant them the right to live.

The mob came back the next night and the colored people waited while they were gathering; they waited while they were coming from every street and every corner, and while the officers were supine and helpless and doing nothing. And they waited until dozens of stones were thrown against the house on the roof, probably – don't know how many. Nobody knows how many. They waited until the windows were broken before they shot. Why did they wait so long? I think I know. How much chance had these people for their life after they shot; surrounded by a crowd, as they were? They would never take a chance unless they thought it was necessary to take the chance. Eleven black people penned up in the face of a mob. What chance did they have?

Now, let us go back a little. What happened before this? I don't need to go over the history of the case. Everybody who wants to understand knows it, and many who don't want to understand it. As soon as Dr. Sweet bought this house, the neighbors organized the "Water Works Park Improvement Association." They made a constitution and by-laws. You may read the constitution and by-laws of every club, whether it is the Rotary Club or the – I was trying to think of some other club, but I can't. Whatever the club, it must always have a constitution and by-laws. These are all about the same. You cannot tell anything about a man by the church he belongs to. You can't tell anything about him by the kind of clothes he wears. You can't tell anything about him by any of these extraneous matters, and you can't tell anything about an association from the by-laws. Not a thing. I belonged to associations in my time. As far as I can remember, they all had by-laws.

Yes, all have the same. They are all of them engaged in the work of uplifting humanity, and humanity still wants to stay down. All engaged in the same work, according to their by-laws, gentlemen. So, the "Water Works Park Improvement Club" had by-laws. They were going to aid the police. They didn't get a chance to try to aid them until that night. They were going to regulate automobile traffic. They didn't get any chance to regulate automobile traffic until that night. They were going to protect the homes and make them safe for children.

The purpose was clear, and every single member reluctantly said that they joined it to keep colored people out of the district. They might have said it first as well as last. People, even in a wealthy and aristocratic neighborhood like Garland and Charlevoix, don't give up a dollar without expecting some profit; not a whole dollar. Sometimes two in one family, the husband and wife, joined.

They got in quick. The woods were on fire. Something had to be done, as quick as they heard that Dr. Sweet was coming; Dr. Sweet, who had been a bellhop on a boat, and a bellhop in hotels, and fired furnaces and sold popcorn and has worked his way with his great handicap through school and through college, and graduated as a doctor, and gone to Europe and taken another degree; Dr. Sweet, who knew more than any man in the neighborhood ever would know or ever want to know. He deserved more for all he had done. When they heard he was coming, then it was time to act, and act together, for the sake of their homes, their families and their fire-sides, and so they got together. They didn't wait. A meeting was called in the neighborhood; we haven't a record of that, but we have a record of another one.

Gentlemen, these black men shot. Whether any bullets from their guns hit Breiner, I do not care. I will not discuss it. It is passing strange that the bullet that went through him, went directly through, not as if it was shot from some higher place. It was not the bullet that came from Henry Sweet's rifle; that is plain. It might have come from the house; I do not know, gentlemen, and I do not care. There are bigger issues in this case than that. The right to defend your home, the right to defend your person, is as sacred a right as any human being could fight for, and as sacred a cause as any jury could sustain.

That issue not only involves the defendants in this case, but it involves every man who wants to live, every man who wants freedom to work and to breathe; it is an issue worth fighting for, and worth dying for, it is an issue worth the attention of this jury, who have a chance that is given to few juries to pass upon a real case that will mean something in the history of a race.

(Re-paragraphed and corrected by Prof. Bruce W. Frier, Law School, The University of Michigan. For the original, see book, Attorney for the Damned (1957), ed. by Arthur Weinberg, which contains a transcript from the court transcript preserved by the NAACP).

Excerpts From: Luther vs. Erasmus: When Populism First Eclipsed the Liberal Elite

Michael Massing, The New York Review of Books (NYR Daily), February 20, 2018

Desiderius Erasmus ... the leading figure of the Northern Renaissance, is widely considered the greatest of early humanists. Five hundred years ago, he faced a populist uprising led by a powerful provocateur, Martin Luther, that resulted in divisions no less explosive than those we see in America and Europe today.

Between 1500 and 1515, Erasmus produced a small library of tracts, textbooks, essays, and dialogues that together offered a blueprint for a new Europe. The old Europe had been dominated by the Roman Church. It emphasized hierarchy, authority, tradition, and the performance of rituals like confession and taking communion. But a new order was emerging, marked by spreading literacy, expanding trade, growing cities, the birth of printing, and the rise of a new middle class intent on becoming not only prosperous but learned, too.

Erasmus became the most articulate spokesman for this class. Moving from city to city in search of good libraries, fine wine, sparkling conversation, and skilled printers, he produced a new ‘design for living’ based on the principles of tolerance, pluralism, concord, and virtuous conduct. In his 1515 essay *Dulce bellum inexpertis* ... he denounced the ceaseless wars waged by rash princes. In *The Education of a Christian Prince* (1516), he offered a guide to good governance, urging sovereigns to pursue not their own interests but those of the people. In *The Praise of Folly* (1511), he mocked the pretensions and delusions of kings and courtiers, popes and theologians – part of his campaign to discredit the ruling class and open the way for renewal.

The term ‘Erasmian’ came into use to describe those who shared his vision. But those Erasmians represented only a small sliver of society. Erasmus wrote exclusively in Latin, for the highly educated, Latin-speaking elite.

Around the same time that the Erasmians were celebrating the dawn of a new enlightened era, a very different movement was gathering in support of Martin Luther. An Augustinian friar then in his early thirties, Luther had developed his own, unique gospel, founded on the principle of faith. Man, he thought, can win divine grace not through doing good works, as the Latin Church taught, but through belief in Christ. No matter how sincerely one confessed, no matter how many alms one gave, without faith in the Savior, he reasoned, no one can be saved. When Luther made this “discovery,” in around 1515, he felt that he had become “altogether born again and had entered paradise itself through open gates.”

With this new conviction, Luther became disturbed by the Church’s use of indulgences. These dispensations, by remitting the penalties imposed on sinners for their transgressions, reduced the amount of time they had to spend in purgatory before being admitted to heaven. In return, the Church expected a financial contribution. To Luther, this seemed to turn repentance into a form of barter. In protest, he prepared (in Latin) a set of theses for debate that challenged the pope’s authority to grant indulgences. On October 31, 1517, he posted them on the door of the Castle Church in Wittenberg....

Soon appearing in print (in both Latin and a German translation), the *Ninety-Five Theses* quickly spread across Germany. Indulgences were but one of many instruments Rome used to extract money from the German people, and Luther’s protest fanned their resentment. Initially, the Vatican ignored him, assuming the matter would blow over, but the friar – driven, blunt, fearless – spoke out ever more forcefully against what he considered Rome’s arrogance, greed, and corruption. In addition to writing thick theological tracts in Latin, he produced sharp popular pamphlets in German. In them, Luther used an earthy, folksy, and sometimes scatological idiom that helped carry his ideas far beyond the educated elites who were drawn to Erasmus and his high-minded program of social and scriptural renewal.

In his famous 1520 tract *To the Christian Nobility of the German Nation*, Luther (writing in the vernacular) offered his own reform program. Along with a piercing attack on Rome's oppressive practices, he proposed twenty-seven measures to protect both the souls and pocketbooks of the German people. He also rejected the idea that the clergy make up a separate spiritual class superior to the laity. All Christians, he declared, are priests of equal standing, free to read and interpret the Bible for themselves. Such attacks on privileged elites endeared him to *Herr Omnes*, "Mr. Everyman."

Initially, Luther admired Erasmus and his efforts to reform the Church, but over time Luther's inflammatory language and his stress on faith instead of good works led to a painful separation. The flashpoint was the debate over whether man has free will. In dueling tracts, Erasmus suggested that he does, while Luther vehemently objected; after that, the two men considered each other mortal enemies.

Beyond that immediate matter of dispute, however, their conflict represented the clash of two contrasting world views – those of the Renaissance and the Reformation. Erasmus was an internationalist who sought to establish a borderless Christian union; Luther was a nationalist who appealed to the patriotism of the German people. Where Erasmus wrote exclusively in Latin, Luther often used the vernacular, the better to reach the common man. Erasmus wanted to educate a learned caste; Luther, to evangelize the masses. For years, they waged a battle of ideas, with each seeking to win over Europe to his side, but Erasmus's reformist and universalist creed could not match Luther's more emotional and nationalistic one; even some of Erasmus's closest disciples eventually defected to Luther's camp. Erasmus became an increasingly marginal figure, scorned by both Catholics, for being too critical of the Church, and Lutherans, for being too timid. In a turbulent and polarized age, he was the archetypal reasonable liberal.

As his end approached, Erasmus sought to warn his fellow Christians of the catastrophe he saw looming – in vain. After his death, in 1536, Europe descended into a century of religious-fueled violence, culminating in the Thirty Years' War (1618–1648) – the continent's most destructive conflict before World War I. Erasmus's ideas about tolerance, peace, and clemency were ruthlessly suppressed. Both Catholics and Protestants dismissed him as a weak, vacillating man who lacked ardor and conviction, and whose commitment to an irenic form of Christianity founded on the Gospels was as objectionable as it was obsolete. Yet Erasmus's vision of a united Europe in which people of differing beliefs share a common citizenship would live on, providing an intellectual haven amid the eruptions of nationalism, xenophobia, racism, and nihilistic violence that periodically ravaged the continent. Despite its snobbism and elitism, Erasmian humanism offered an alternative to the apocalypse.

Luther underwent his own reverses. When, in 1524–1525, the German peasants – inspired in part by his writings – rose up against their spiritual and secular overlords, Luther, fearing anarchy, denounced them as mad dogs who deserved to be stabbed, smitten, and slayed. With that, the common man turned irrevocably against Luther. A wrenching dispute over whether the body of Christ is present in the bread of communion led to an irreparable breach with the Swiss branch of the Reformation. And Luther's uncompromising insistence on the rectitude of his own beliefs alienated many moderates, and not just Catholic ones.

By the time of his death, in 1546, Luther had become an isolated reactionary, his work eclipsed by a younger and more dynamic reformer, John Calvin. Even so, Luther would go down in history as the founder of Protestantism, the man who broke the spiritual stranglehold of the Roman Church. Luther's brand of Bible-based ardor founded on pure faith would exercise a profound influence on Western culture, not least in America.

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See Appendix REF – A Reformation Example

“The priesthood have, in all ancient nations, nearly monopolized learning. Read over again all the accounts we have of Hindoos, Chaldeans, Persians, Greeks, Romans, Celts, Teutons, we shall find that priests had all the knowledge, and really governed all mankind. Examine Mahometanism, trace Christianity from its first promulgation; knowledge has been almost exclusively confined to the clergy. And, even since the Reformation, when or where has existed a Protestant or dissenting sect who would tolerate a free inquiry? The blackest billingsgate, the most ungentlemanly insolence, the most yahooish brutality is patiently endured, countenanced, propagated, and applauded. But touch a solemn truth in collision with a dogma of a sect, though capable of the clearest proof, and you will soon find you have disturbed a nest, and the hornets will swarm about your legs and hands, and fly into your face and eyes.”

– John Adams, The Letters of John and Abigail Adams
[Letters to John Taylor, 1814, XVIII, p. 484]

Monopoly on Learning: Mr. Adams letter suggests an intellectual view in his time that the progress of his age was a long-term process of wresting the monopoly on knowledge away from the clergy – noting also that the Church provided legitimacy to the Crown and the elite. I believe he shared this belief with Denis Diderot, who was born 30 years before Thomas Jefferson.

GGDM makes the standard science-fiction assumption that knowledge is empirical, secular, and widely available – when I was in 11th grade, before the internet, my astronomy teacher taught us how to build an atomic bomb and worked through the equations as an extension of the lesson about the Sun – that is, mirroring the conditions of our time, and that something amounting to societal collapse would be required to restrict knowledge to a chosen group, such as the clergy, shamans, mystics, or such (e.g., Alfred Coppel, “The Rebel of Valkyr” (1950)). However, participants are welcome to explore situations where knowledge and education are restricted.

The World Turned Upside Down: *Listen to me and you shall hear, news hath not been this thousand year...* You have reached a milestone in gaming; no other game has ever attempted to model Reformations or Kairotic Moments. I play civilization games, I have played games about The Reformation (e.g., GMT’s Here I Stand), but I have never seen a civilization game, no matter the scale, that addressed reformations. Most do not even think of reformations as a process, but instead, limit the term to a specific historical period and geography called The Reformation.

A game design is bounded by the mechanics imagination of the designer; Reformation as a social process is a direct result of the game mechanics designed to answer the original question asked in GGDM (see The Problem of Immersion, 1 Culture, p. 352, *supra*). Unfortunately, attempts to model a Reformation in GGDM will be required to conform to the game, to make the story emergent, and will only vaguely resemble a historical reformation-like process. Like Culture in GGDM, Reformations will seem mechanical; they are, after all, a set of game mechanics designed to bridge the gap between Fundamental Realities and the current game milieu, to simulate macro- and systemic-level changes that eventually roll into the next civilization’s Fundamental Realities. They are the echoes of the footfall in a large empty hallway, not the footfall itself; this is also true of Kairotic Moments in GGDM. It is up to the participants to provide whatever color and quirk is necessary to make a good story.

- ✓ In the original vision of Reformations and Kairotic Moments, probably before 2015, I had some vague idea that Reformation would transition a Major Race in the game

into an ‘Elder Race’ (probably in conjunction with 3rd Era technology). However, there was never a mechanic written for it, and I had no specific idea of what Elder Race would mean in the game. Like ‘prophecies’ as a mechanic for Kairotic Moments, and ages and epochs as measures in the game, the idea of Elder Races as a position status went by the wayside, but still might be useful for creative participants.

- General Systems Collapse: *Warning, at any point after this, GGDM may begin general systems collapse.* Revisiting the discussion in Diminishing Returns, 2 Disruption, p. 269, *supra*, regarding problem solving, complexity and diminishing returns (e.g., Tainter) in GGDM game design, it is the game mechanical complexity of the GGDM simulation (e.g., Thorn-gate) and the imagination of the designer that enables the GGDM to model Reformations and Kairotic Moments. Is the problem solving a return that validates the complexity of GGDM?¹
- ✓ The phenomenology of GGDM to the designer: Every time I work on GGDM, it gets bigger, every time I open a file, something gets added, modified, or moved, rarely is anything subtracted. GGDM consumes time, space, and worlds, even Galactus trembles before the onslaught. The phenomenology of GGDM to potential players... ?

“We have always watched the stars and mused about whether there are other beings who think and wonder. In a cosmic setting vast and old beyond ordinary human understanding, we are a little lonely. In the deepest sense, the search for extraterrestrial intelligence is a search for who we are.”

– Carl Sagan, *Cosmos*, Episode 12

Enculturation of GGDM: Throughout GGDM, I have stressed repeatedly the idea of scale. I believe that one of the main impediments to humanity is the lack of appreciation of scale based on our limited point of view – and I don’t mean merely taking the long view of things, which is the subject of macro-history and macrosociology and the various studies in evolution – but instead, to *grok* as a species what we know scientifically and mathematically about the universe. How do we get there? I do not know; it might be a physiological change in the state of humanity, or it might be a long slow sociocultural development. It took most of the 20th Century for the main pre-WWII quantum physics discoveries to trickle down to the consciousness of Western civilization. Considering the enculturation of Protestant ideas over the last 500 years, what appreciation might our descendants have around 2300 A.D.? And only well after the year 2000 have we begun to make engineering use of quantum entanglement in communications.

- ✓ “A doctrine or philosophy insinuates itself into culture by means of rumor as much as by persuasion occasioned by reading its founding, or even subsequent, texts.” – Theodore Dalrymple, Admirable Evasions: How Psychology Undermines Morality (2015), discussing enculturation of Freudianism.

I am aiming for nothing less than enculturation of the ideas of GGDM over the next century or two; GGDM would be easy to plagiarize, if there is anything worth stealing – few will have read it, and it won’t be in plagiarism software check databases editors use now – see Truman quote. 😊 Surprised? Aside from being completely absurd – as James Baldwin said, “Action is a lack of balance. In order to act you must be somewhat insane. A reasonably sensible man is satisfied with thinking.” – it should not be: As a practical extension of Kant’s Categorical Imperatives or universal legislator (I am sure this was said long before Kant), why would one present a serious

philosophical or intellectual work if the author didn't desire to see the ideas contained therein en-cultured? Faith in one's own ideas, perhaps, even if they cannot now be proven empirically?

- ✓ Sometimes I feel like Kenny Rogers' song "She Believes in Me" (1978).

In other words, one who presents ideas they don't actually believe, as if serious, is a charlatan (see discussion of Leibniz' 'Best of All Possible Worlds,' PANGLOSS DOESN'T VISIT OFTEN, 1 Fallen to Earth, p. 1495, *infra*). And how many people go to that much effort for falsehoods (e.g., Adolf Hitler, the Big Lie, see Propaganda and Cartoonworld with feature quote, 1 Diplomacy, pp. 1091, 1106 respectively, *supra*)? As a corollary, we must believe that the Nazis and others who have put forth ideas *that we find abhorrent* or that have been subsequently rejected, did so with sincere internal belief in their ideas, no matter how horrific they seem to us now (and who is to blame for that?); sometimes it is difficult for us to accept that those people really believed those things when history (see Encomienda and Pragmatic Ethics discussions, 3 Order, pp. 549-551, *supra*), empiricism and logic have shot them so full of holes. Not all *fourth order facts* are happy social phenomenon.

"There is nothing new in the world except the history you do not know."

– Harry S. Truman, 33rd President of the United States of America

"The Reformer is always right about what's wrong. However, he's often wrong about what is right." – G.K. Chesterton

The Human Thing: To the extent that I might be considered ever a 'reformer' of anything (e.g., macrosociology), I believe that G.K. Chesterton was spot on correct, I know more about what is wrong than what is right. It's the human thing, we can more easily list what is not than what is, we most often decide truth by what is not true than by what is true, we are not inherently *a priori* beings. See discussion of (T) or (F) Conflict Checks, 4 Government Titles, pp. 628, 633, *supra*.

A Reformation of History: The Reformation, as commonly taught, is a specific period of European history describing the violent Protestant revolt against the Catholic Church-legitimized imperial rulers that began in 1529, when German cities and princes protested an edict of the Diet of Spires that was intended to destroy the Lutheran movement and 'ended' in 1648 at the conclusion of the Thirty Years War. The Reformation 'followed' the Renaissance, was followed by the Wars of Religion and preceded the Enlightenment (1648-1815²) as taught in Western history.

- ✓ The seeds of the Reformation may have already formed as early as the Cadaver Synod in 897, where the charges against the *cadaver* of Pope Formosus amounted to a declaration that the people have been corrupted if they express a preference to have a particular bishop rule them and second, that no one not approved by the church could practice ecclesiastical office. Yet, it was acceptable for political and ecclesiastical factions *in Italy* to determine by bribery, struggle, murder, theft, adultery, and deceit, the next Pope of all Roman Catholics in the world, which still tentatively included the Eastern Church since the Great Schism didn't occur until 1054.

Although there is a specific period of time, that was recognized and named in hindsight, as The Reformation, there is no basis to hold that this was the only 'reformation' of Western civilization

of that magnitude. Thus, when there are at least two widely separated periods *in Western history* that could equally be called ‘Reformations’ with a capital “R,” a ‘Reformation’ becomes a recognizable historical cycle rather than the singular historical period which it has been presented for the last several hundred years.

Because the result of a reformation is the shift of the most fundamental widespread views of reality, the reformation usually involves conflict on many levels (political, economic, religions, etc., the old saying “may you live in interesting times” was not intended to be a blessing), and is only generally recognized for what it is in historical hindsight. The catalyst for the reformation is the perceived ‘collapse’ or decay or revolt against the preceding order of the world (but should not be confused with a mere revolution, most revolutions don’t really change anything, only destroy, and then fade before they can fully replace the old order). For example, the time period known as The Reformation was, in large part, a result of the collapse or decay of the feudal system, a class struggle between the established nobility and royalty and the new aristocracy and up and coming powers, and ultimately, a social and political revolt against the deeply corrupted Church which upheld and legitimized the old order:

- ✓ “There are monasteries where there is no discipline, and which are worse than brothels – *ut prae his lupanaria sint et magis sobria et magis pudica*. There are others where religion is nothing but ritual; and these are worse than the first, for the Spirit of God is not in them, and they are inflated with self-righteousness. There are those, again, where the brethren are so sick of the imposture that they keep it up only to deceive the vulgar. The houses are rare indeed where the rule is seriously observed, and even in these few, if you look to the bottom, you will find small sincerity. But there is craft, and plenty of it – craft enough to impose on mature men, not to say innocent boys; and this is called profession. Suppose a house where all is as it ought to be, you have no security that it will continue so. A good superior may be followed by a fool or a tyrant, or an infected brother may introduce a moral plague. True, in extreme cases a monk may change his house, or even may change his order, but leave is rarely given. There is always a suspicion of something wrong, and on the least complaint such a person is sent back.” – Desiderius Erasmus, Letter to Lambertus Grunnius (August 1516) (discussing the rule of celibacy in monastic orders).
- ✓ “There is no doubt about Martin Luther’s marriage, but the rumour about his wife’s early confinement is false; she is said however to be pregnant now. If there is truth in the popular legend that Antichrist will be born from a monk and a nun (which is the story these people keep putting about), how many thousands of Antichrists the world must have already!” – Desiderius Erasmus, Letter to François Dubois (13 March 1526).
 - If there is one case where we ought to be happy that the bell cannot be un-rung, it is that we have the critical writings of Desiderius Erasmus. The Church has not been able to un-ring Erasmus for 400 years. It is quite surprising that he was not rung up on some heresy charge and dismissed or muzzled during his lifetime. Notably, though loyal to Rome, and awarded with permanent dispensations, he always stayed a safe distance from Rome in his travels. In his travels through Holland, Belgium, southern England and northern France, he also, perhaps intentionally, avoided the hotbed of Protestant controversy, the German city-states and principalities.

The Reformation was not the only, there probably have been many, smaller, more localized processes, however, the one other event in Western history that reaches and perhaps surpasses the scale of The Reformation (deserving of a capital “R”) are the two centuries preceding and following the ‘fall’ of the Roman Empire, which signaled the final ‘passing’ of classical civilization. This I call the First Reformation; the Church, contrary to some belief, was not the cause of this collapse, the symptoms were already present, but the phenomenal (and unprecedented) spread of the Church, far transcending the time and place of the events giving rise, through the areas of the late Roman Empire, the conversion of the Germanic and Goth invaders, made the Church the major defining force of the new worldview following the First Reformation.

Interesting to compare circumstances.

- ✓ The Reformation associated with the fall of the Roman Empire was a result of a combination of centuries of internal power struggles in the Empire coupled with massive invading human waves from the East.
- ✓ The Reformation of Martin Luther was an internal religious matter stemming from centuries of Church corruption and abuse of clerical legitimacy amid European poverty, although Europe also faced the threat of Ottoman military invasion up to 1683.

Working definition of a Reformation, stripped of historical context: A cyclic process of protracted struggle between the significant minority and those who hold political and military power for certain very fundamental changes that will eventually alter society (or the system) at all levels through future generations. A Reformation is more than just a struggle for political power or legitimacy, or economics, in civilization, though all play a significant part.

- ✓ See further discussion, *The Core of Christianity*, 1 Kairotic Moments, p. 1423, *infra*.
- Fracture and Complexity: A Reformation should not be confused with a general systems collapse or societal collapse (e.g., the Samnites’, Aztecs’ collapse were not reformations!). A Reformation is instead a struggle in problem solving that usually leads to both fracturing of the society and new layers of complexity to solve the problems. A Reformation is not a rewrite. The reformation of the West did not end with the historical period called the Reformation, and neither did the Church end, but is much diminished now that other problem solvers have taken bits of its role over the centuries, e.g., what we now call Family Law and Orphans Court was wrested from the Ecclesiastical Courts through the 16th to 18th Centuries.
 - ✓ Reformations and Kairotic Moments in GGDM were significantly reformed late in 2018 based on better intellectual tools and deeper knowledge of the subject matter. I am now entering the middle ages.
- Understanding the Question: One of my professors – and I am sorry that I do not recall with certainty which one, but it could have been Dr. Paul T. Mason, opined that in the Reformation, the Catholics simply did not understand the question asked by the Protestants: How do I know I will be saved? To the Catholics of that milieu, one did not have a personal relationship with God, one had a relationship with the Church, which was God’s intermediary, the House of God on Earth, and one was assured of ascension in the afterlife by being faithful to, adhering to, and practicing Catholicism and being properly interned as a Catholic.

The Protestants, on the other hand, were asking about their personal relationship with God (because the Church was corrupt and mortal, *how could it be a part of one’s relationship with God?*). Now, it may seem silly to us, with over half a millennia of historical hindsight that

the Catholics did not understand the question, but this simply attests to the cultural and intellectual impact of Protestantism, and to the enculturation of ideas over time – the essential process of civilization at all levels. It also demonstrates, as Prof. Oswald (University of Warwick) stated, that “It is hard for a human being to absorb ideas that are of first-order originality; such ideas, by definition, barely compute.”

- ✓ This is perhaps the same sort of question that the Rabbinic asked the Sadducees before the destruction of the Second Temple. A theme of the Reformation was a return to *early* Christian forms, mainly communalism and a Rabbinic relationship with God.
- ✓ Though we like to think of our worldview as broader than that of the pre-Reformation world (and if that is true, then the Reformation has succeeded... we have been Enlightened), many of the questions I have asked in GGDM may be as incomprehensible now, in the same way, as the Protestant Question was then.

It seems to me, with 500 years of historical hindsight, that the Protestants ‘won’ the Reformation; ultimately, the Catholic Church adopted many of the reforms sought or moved away from certain objectionable practices. Much of the Protestant victory is also caught up in various macro-historical trends, for example, the Protestant Historical Coincidence, rejection of scholasticism, rise of empiricism and science (see, Loren Eiseley, *The Modern Dilemma*, 1973), and the whole bundle of what is now called modernity (see *Modernity*, 3 Constructural Elements, p. 207, *supra*).

Had the Reformation not occurred, had there been no great wars of religion, had the New World not been discovered, how would history have unfolded in the world of Catholic Europe? Would they have looked, would they have tinkered, would the European obsession with tinkering have developed, or would the path to knowledge have been shut away as an encroachment on the realm of God, the path to the end of times, divine wrath?

- ✓ It is amazing, after all that has happened, that the Roman Catholic Church continues to embrace the concept of Papal Infallibility when Popes have proven so fallible! There are people who will say that I have misunderstood the concept. In another, satirical sense, one might say that Papal Infallibility is the essence of faith – the human preoccupation that ignores the lessons of history and other inconvenient facts to maintain a waking dream state against the Existential Void.
- Heavens Apart: Heaven (i.e. eternal afterlife) is rather relative, and that should be the first and only clue you need to understand that it is a completely subjective human cultural construct; humans across cultures don’t even envision the same heaven or afterlife (but is still a ‘fact’ within the *fourth order of natural phenomenon* and thus cannot be simply dismissed).

What would be heaven to a cat? A painless place with other cats (but not too many) and birds singing, no dogs allowed, where the mice and birds run free, plentiful and are easy to catch, there is running water and streams of milk nearby, endless canned cat food, no upset tummies, every day is sunny, it’s never too cold, and there are lots of great places to lay, dens to have kittens, and maybe some toys, cat tunnels, cardboard boxes, crinkly paper and plastic, strings, stuffed furniture, carpet, and catnip and flying bugs to chase for amusement. Maybe even a kind human caregiver (a sort of ‘benevolent god’ I guess), if the cat ever knew one.

- ✓ A man looks out for women, children and small animals. If a man cannot look out for small animals, he has no business with women and children.

Like a perfect cat Earth. But their vision of such a place, if they had it, would not include eternal life in the hereafter, because, as Roger Caras points out (and also common observation), they have no concept of their own mortality (or that of their human caretaker) or of greater good, and such a vision *would not* include harps, wings, greater cosmic struggles, blessings, morality, the possibility of punishment, or any other such abstractions or nonsense. A cat's heaven would be just the purrfect continuation of their life on Earth and they might not even know the difference.

- ✓ What would be heaven to an elephant, who mourn their dead? No mice or big cats?

“But if we’re willing to live with the growing likelihood of nuclear war shouldn’t we also be willing to explore vigorously every possible means to prevent nuclear war? Shouldn’t we consider, in every nation major changes in the traditional ways of doing things? A fundamental restructuring of economic, political, social and religious institutions? We’ve reached a point where there can be no more special interests or cases. Nuclear arms threaten every person on Earth.” – Carl Sagan, Cosmos, Episode 13

Transformations: Domestication of the horse was a major transformation of human civilization (quite aside from general domestication of animals and advent of agriculture); it changed space and time for humans on Earth, bringing into contact groups that would have never met, tilling our fields, and pulling the heavy loads building the architecture of civilization. Two or three days of walking became a day ride on horseback, a day ride on horseback is now an hour or two in a car on the highways between population blots on the land.³ River-going and coast-hugging boats (and later navigation on open waters) accomplished the same effect. A similar effect has occurred through the late 19th Century to the present with mechanical travel (trains, planes and automobiles, ‘fly over country’), it is the root of what we now (and what some derisively) call globalization (see discussion, Spheres in Six Degrees, 3 Commerce, p. 1220, *supra*). It is the root of World War II. According to Joseph Tainter, however:

- ✓ “Complex feedback relations emerged among agricultural production, conflict, and complexity. Productivity fluctuations made military adventures tempting, even essential, while in turn military strategy came to influence agriculture. Dispersed, shifting swidden plots were essentially indefensible (at least at any reasonable cost), and yet were highly vulnerable and essential to subsistence. Concentrated, intensive systems, such as raised fields and terraces, were at the same time more easily defended (being compact, concentrated, and stationary) and productive enough to be worthwhile defending. The same consideration applies to centralized storage facilities. While it would be simplistic to suggest that warfare was the sole reason for agricultural intensification, it certainly made intensification that much more attractive.” (The Collapse of Complex Societies (1988), see 2 Government Titles, EN 9, p. 604, *supra*, for full quote).

Thus, transformation and conflict play together through human history (this is hardly news to anyone who understands history), whether called Reformation or not. The fullness of the space expanding transformation of horses and wagon wheels is expressed first in the Great Migrations, and later in the conquests of nomadic steppe peoples from the Turkic Cumans to the Mongols.

Although all of these space-expanding transformations (i.e. horses, chariots, wagons, boats) have been appropriated in warfare and other struggles and perhaps caused them via contact and competition, and certainly enabled them (e.g., Alfred Thayer Mahan feature quote, top 1 Commerce, p. 1181, *supra*), none of them were, as far as we know, the direct result of struggle.

- ✓ One could, of course, invent a mythopoeic origin heroic story set in the Neolithic age in the Pontic Steppes where the hero domesticates a horse to rescue his female companion and children who have been kidnapped by warriors of another tribe. Perhaps he first thinks that he can overcome their lead by riding the horse, but then discovers that the horse is also a weapon against which the opposing warriors on foot will not stand. The same sort of story could be written for the invention of the boat. Not saying it didn't happen that way, but we have no record.

From this perspective then ('space expanding transformations'), the invention of space travel (and perhaps FTL or Stardrive in the future) does two things: It not only expands the space we can cover, but also expands the available space to be covered. This is different than all of previous human history: Human ability to travel distance has improved vastly, to the point that any place on the globe is just a day or two travel by air (taking into account waiting in the airport bar time), but the Earth is not now larger than it was in prehistoric times. But as the primary yardstick of human travel is time, we haven't really conceptualized space as distance yet.

- Reformation or Transformation?: These fundamental transformations challenge the 'working definition' of Reformation above (lacking fundamental change related to struggle), in the sense that GGDM Reformations are about more than the classic Reformation (with a big r or little R), Reformations are a subcategory of transformations. But for GGDM purposes, Reformation is a sexier term, at least in the West, and for game purposes, and thus the mechanics in GGDM are referred to throughout as Reformation.
 - ✓ In the Merriam-Webster online thesaurus, at *transformation*, reformation is considered a related word.

Thus, Reformation in GGDM whether reformation or transformation, is merged into this Reformation section. This has two practical implications. First, the participants need not assume or believe that a Reformation in GGDM necessarily or automatically involves violent conflict or struggle, it might be possible to shape Reformations or parts of in non-violent transformation terms. Second, the result of a Reformation process in GGDM, in part, is an expansion of the Public Space which is arguably similar to both the domestication of the horse (a transformation) and the Age of Discovery (or Age of Exploration, late 15th Century into the mid-16th Century) during the late Renaissance and into the Reformation period.

- Duo Decei Millenii: Arguably, the Age of Discovery influenced the course of the Reformation; e.g., it provided an outlet for population to emigrate to the New World (colonization in GGDM, an outlet factor that should not be ignored), and New World resources certainly financed Spain's and to some extent, the Habsburg's wars against the Protestants (and everyone else) in central and western Europe.

But it was much more than that. It was, and still is, a transformation in GGDM terms that equals the Neolithic revolution. It was perhaps a once in a 20,000 year event (or 20 *chiliad* – yes, it's in the dictionary!). The 'transformation' wasn't a reformation-like fight between

Protestant rebels and imperial Catholics, it was the sailing ship, which transported people and horses over the watery majority of the Earth's surface.

There is no provision in GGDM for losing Monads on the Public Space. It might be possible, perhaps through a complete collapse of civilization, to construct such a scenario, but overall, GGDM follows the macro-trend of human history of expanding perceptions.

- ✓ See also Science Daily feature quote regarding Neolithic horse domestication and Battle of the Tollense River, 2 Reformation, p. 1396, *infra*.

While regression and stagnation may occur on a local level and has oftentimes not expanded much; it seems *overall* the 'reality' of humanity (i.e. the Public Space in GGDM) has never receded, has never regressed. Perhaps this is a function of sapience and the arrow or flow of time. European oceangoing sailing ships had the same magnitude of effect as the Neolithic revolution and the domestication of the horse. The disparity of realities is as good an explanation as any other of the half-millennia of European colonial domination and a much more interesting, perhaps Soja-Diamond-esque, angle on history, offering an explanation of why the current world feels orders of magnitude different than just a millennia ago.

- ✓ Of course, as every writer knows, increased space reality for humans has carried over to the same for wild and domesticated animal and plant life, including microbes that follow humans: "A large factor in the worldwide occurrence of this flu was increased travel. Modern transportation systems made it easier for soldiers, sailors, and civilian travelers to spread the disease." – from Wikipedia article, "Spanish flu."
- Post-Apocalyptic Reality: Stark reduction in the macro-reality of humanity to the stone ages or to some sort of neo-medieval agrarian setting is a common feature of post-apocalyptic fiction. While not often explicitly stated – usually presented as a return to barbarism, superstition and ignorance – it is what you feel most strongly in those settings – nascent global civilization smashed like a pumpkin; the pieces of our current world laying on the ground. The difference from a character in historical fiction is that the post-apocalyptic characters know on some level that human reality has receded, shrunk, and in most cases, that we did it to ourselves (i.e. we effectively gave ourselves a lobotomy).
 - ✓ "This you know: the years travel fast, and time after time I done the tell. But this ain't onebody's tell. It's the tell of us all, and you've gotta listen and to 'member, 'cause what you hears today you gotta tell the newborn tomorrow. I's lookin' behind us now into history back. I sees those of us who got the luck and started the haul for home, and I 'members how it led us here and how we was heartfelt 'cause we seen what there once was. One look and we knewed we'd got it straight. Those what had gone before had the knowin' and the doin' of things beyond our reckonin' – even beyond our dreamin.' Time counts and keeps countin,' and we knows now: finding the trick of what's been and lost ain't no easy ride, but that's our track. We gotta travel it, and there ain't nobody knows where it's gonna lead. Still in all, every night we does the tell so that we 'member who we was and where we came from. But most of all we 'members the man who finded us, him that came to salvage. And we lights the city, not just for him, but for all of him that are still out there. 'Cause we knows there'll come a night when they sees the distant light and they'll be comin' home." – Savannah Nix, ending narration, *Mad Max: Beyond the Thunderdome* (1985).

- **Reformulation of Existentialism:** You are free to think you can do whatever you want until you don't agree, then you find out there are barriers bounding your existence. The universe is rather petty on this point, if I think I should be able to swim with the fishes and breathe water, I will soon be struggling to the surface gasping for air, my body will fight to survive regardless of my wishes. Existentialism seems to be more an observation than a philosophy, Viktor Frankl was a psychologist observing humans under the most horrific conditions.
- ✓ Time is the ultimate existential tyrant and boundary as we are trapped in it, moving in a direction against our will simply because we exist. We are 'punished' for existing.

“One of the things that I find interesting about Dwarf Fortress is that (to use programming jargon) it's sort of a declarative game rather than an imperative game. In e.g. StarCraft you select an individual unit and demand that it move to a specific point on the map; in Dwarf Fortress you configure which dwarves are allowed to perform certain tasks, then you place a task in a queue, and some dwarf somewhere will (eventually (hopefully)) take care of it (until they get distracted by a party, or decide to go fishing, or get hungry and wander off to the dining hall, or fall asleep in a stockpile, or drop anything they're carrying and run screaming from the forgotten beast hurtling down the hallway at them). It's a fascinating difference in paradigm, and I wish more games would explore the idea of actors in the world being chaotic/free agents which will only somewhat prioritize your wishes.”

– By kibwen, “The Brilliance of Dwarf Fortress (2011) (nytimes.com),” found on forums at <https://news.ycombinator.com/item?id=13754307>

Imperative Game: GGDM has been the classic, standard imperative game: Positions give orders to or demand actions from far flung ships, units, and colonies and – no matter how distant – the unit immediately does as directed (or tries), even if it means certain or near certain destruction. This is the essence of military command and discipline. As discussed in Communications Breakdown, *et seq.*, 1 The Streams of Time, p. 76, *supra*, this is not realistic, but GGDM tapdances on a high wire over the problem, with tools such as Constructural Elements, Entropy (see 1 Entropy, p. 228, *supra*), participatory group-fiction ideas, and mumbled vagaries about time, distance, and unknowable future technology (e.g., the *Uber Alles*, see 2 Eras, p. 767, *supra*).

- ✓ Merriam-Webster online dictionary at *imperative* (adj.): **1:b** expressive of a command, entreaty, or exhortation, **c:** having power to restrain, control, and direct, **2:** not to be avoided or evaded: necessary; *imperative* (n): **2:** something that is imperative (see imperative entry 1): such as a: command, order, **b:** rule, guide, **c:** an obligatory act or duty.

There are some elements of GGDM, for example, the operation of Corporations and MegaCorporations, that were written back around 2000-2002, that operate in vaguely similar ways to Dwarf Fortress-type games except that they are really automated imperative routines that replace Power Activations.

- ✓ Mars rovers are 'driven' from Earth ground control, the communications lag is between 4 and 24 minutes. Thus, control must be declarative, local intelligence a must.
- **Declarative Game (sort of):** Reformations (and Kairotic Moments, *infra*) in GGDM are treated differently, they are treated in a declarative fashion. The declarative game is one in

which the units are free agents and have a certain amount of free will, in a declarative game, the player puts tasks into a queue and the free agents perform the task whenever they get to it. In GGDM, Reformations great and small (i.e. ‘reformations’) are going to happen, but when and how they happen will be a bit chaotic and they will happen whenever they happen.

- **Queue Ball:** In GGDM, Reformations and Kairotic Moments are always in the queue for each position theoretically, but players cannot declare them, though it is possible, though highly unlikely, that players could conspire broadly to prevent a Reformations in the game.
- **Hangovers:** GGDM could be redesigned along declarative game lines, but that would be equally problematic in that, for example, it is desired that some ships move to system X, and maybe a couple of ships go this turn, but others don’t feel like moving this turn, so maybe they go the next turn, or the turn after, whenever they finish their Pac Man tournament. This is a situation that is not realistic for combat movement, exploration, and such (except perhaps in a Confederation) where the ships belong to a centralized military command. Further, Taxation is not in the least declarative, it must be imperative, whereas Census is a species imperative of the highest order, and the activation of the Census power is only a matter of Looking to see the resultant population growth.
 - ✓ The possibility that units (i.e. Ships and Colonies) will fail to obey Power Activations, including Taxation – for whatever reason – due to inactive Constructural Elements (see Power Off, 2 Constructural Elements, p. 193, *supra*), tends to blur the line a little between GGDM as an imperative game and GGDM as a declarative game – who knows, perhaps the Power Activation actually failed because the crew and captain had a hangover from a great party the night before and wanted to sleep a few more hours, and they’ll get ready to move whenever they feel up to it? That is, next turn. But they love their jobs and are sworn patriots. Think this hasn’t happened?

“Once your faith, sir, persuades you to believe what your intelligence declares to be absurd, beware lest you likewise sacrifice your reason in the conduct of your life. In days gone by, there were people who said to us: ‘You believe in incomprehensible, contradictory and impossible things because we have commanded you to; now then, commit unjust acts because we likewise order you to do so.’ Nothing could be more convincing. Certainly anyone who has the power to make you believe absurdities has the power to make you commit injustices. If you do not use the intelligence with which God endowed your mind to resist believing impossibilities, you will not be able to use the sense of injustice which God planted in your heart to resist a command to do evil. Once a single faculty of your soul has been tyrannized, all the other faculties will submit to the same fate. This has been the cause of all the religious crimes that have flooded the earth.”

– Voltaire (Translation from Norman Lewis Torrey: [Les Philosophes. The Philosophers of the Enlightenment and Modern Democracy](#). Capricorn Books, 1961, pp. 277-278)

Subsequent History: Alternatively, this is frequently quoted as, “Those who can make you believe absurdities can make you commit atrocities.”

Injustice and atrocities being related terms, separated only by scale and severity, it is not likely that Voltaire would object to either translation, especially in light of subsequent European history. It is not too difficult to imagine what Voltaire would have said of the Bolsheviks, the Nazi

party, the Khmer Rouge, or the Islamic State. Voltaire, fortunately perhaps, died a few years before the French Revolution to which he contributed greatly.

- ✓ There are certain people in the world upon whom one should not inflict a good Voltaire quote, as it would be a complete waste of intellect to do so.

Invoking God: The addition of God to any argument does not improve the argument because, to add God to an argument, the speaker must necessarily make statements about something (God) that they cannot possibly know anything about. Consider Hitchens' Razor: "What can be asserted without evidence can be dismissed without evidence."⁴

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- ✓ This is not to say that one cannot *speculate* about a supreme being – speculation is not either an assertion or dogma – but in religion, *it is never presented as speculation*. Admission that it is all speculation and visions would be deleterious to religion.

To the extent that the addition of God to an argument is an appeal to authority, that is a fallacy. And the witness oath in Court certainly doesn't scare anyone into telling the truth!

- ✓ "I think God is as much a basic ingredient in the universe as neutrons and positrons... God is, for lack of a better term, clout. This is the prime force, when we look around the universe." – Gene Roddenberry quoted in Karen Anijar, Teaching Toward the 24th Century: Star Trek as Social Curriculum (2004), p. 38; also quoted in Terrence A. Sweeney, 1995:8.

That said, however, there is a complex emotional package attached to the concept of God in our culture, and the addition of God to an argument provides (parental) emotive force that regular reason cannot in our current state; it is the thing that is more likely to motivate some or many listeners to the desired result than reason can (the source of clerical rule). This is an example in the ways that Aspects must be considered and recognized as part of our culture. Appeals to God are an adult continuation of the way children appeal to parental authority in childish disputes.

- ✓ It seems that perhaps one of the origins of religion lie in the time when intellectuals discovered the emotive power of a supreme being, superstitions (and mythopoeic concepts) and the mysteries and rituals. It became the tool of emotive force that their reasoned arguments could not provide, and they in turn, became its tool in a self-perpetuating process and worldview, the institution of organized religion.

Appealing to God in arguments simply became a linguistic habit that has finally slowly faded in the last two centuries. When I was growing up, there were people who said 'man' or 'fuck' in every sentence, and of course, valleyspeak became famous for repetition of words, punctuating every other sentence with 'like' (e.g., the movie *Clueless* (1995): "Duh, it's, like, a famous quote."). When I was in the Marines, I listened to a conversation between two Marines one afternoon and counted the number of times one of the speaker said 'man' in two minutes (as in, "Man, that sucked!" etc.). When he finished speaking, I informed him that he had just said the word 'man' at least ten times in two minutes of speaking; they just gave me blank looks. I am surprised they didn't respond with the typical exaggerated, 'Ahhhh, man!'

- ✓ The best line in *Clueless* (and, like, the only one I actually remember, dude!): "So, okay. I don't wanna be a traitor to my generation and all, but I don't get how guys dress today. I mean, c'mon, it looks like they just fell out of bed and put on some baggy pants, and take their greasy hair – ew! – and cover it up with a backwards cap and, like, we're expected to swoon? I don't think so!" Amen, dudette!

Lucifer: *Theology is never any help; it is searching in a dark cellar at midnight for a black cat that isn't there. Theologians can persuade themselves of anything. Oh, my church, too – but at least mine is honestly pantheistic. Anyone who can worship a trinity and insist that his religion is a monotheism can believe anything just give him time to rationalize it. Forgive me for being blunt.* – Robert Heinlein, Job: A Comedy of Justice (1984)

How Many Angels: The pointless question, “How many angels can dance on the head of a pin,” describes how I feel when reading about certain intellectual debates in history, for example, the topics debated at the Marburg Castle Colloquy in 1529. Were I in the place of Phillip of Hesse, I would have been tempted to hang Luther and Zwingli upside down by their ankles from the castle’s parapets until freshly oxygenated blood replaced hot air and ill will in their heads and they sufficiently appreciated a new upside-down view of the countryside. Their pointless debate over the Eucharist completely defeated Hesse’s attempt to prevent rifts in the Protestant movement and create a unified front in the face of threats of Imperial aggression. Had they actually tried to debate the question, “How many angels can dance on the head of a pin,” they probably would have resorted to personal violence. Throughout GGDM, I have tried to stick to the practical, profound, and keep the commentary grounded in rules and real world examples.

While reading, I saw a comment to the effect that most people don’t understand what is at stake in Christology arguments, and wholeheartedly agree: I am one of them. Christology arguments – Nestorians, Luther and Zwingli arguing at the Marburg Colloquy and Diet of Augsburg over the Eucharist, Arianism/Semi-Arianism, Trinitarians, hypostatic union, dyophysitism – and the various Synods, Councils, Church suppressions and Christian on Christian persecutions – make my head spin and my eyes roll up into my head. Prof. Michael Kulikowski comments in “Christians were Strangers...” (Aeon, January 30, 2017) that, “...theologians have always been able to render Christianity subtle to the point of incomprehensibility...” All other factors aside, I just can’t see what is the practical difference, what difference does it make in our daily lives, or our civilization whether we believe in a Trinitarian or non-Trinitarian Jesus or God?

- ✓ And for the comfort of numbers, Robert Heinlein seemed to be aware of this argument – being careful not to impute on the author the words of his characters.

Whether Jesus was of one nature or two, whether Jesus was God actually, or not actually God? All are seemingly *pointless mythopoeic philosophical debates*, like in the movie Conan the Destroyer (1984) when they are arguing over whether the god of the sky or god of the earth is supreme (i.e. something like the god of the sky is over your head, above you and the earth, but you stand on the god of the earth, are born on and buried in the earth). What if Jesus was just a charming schizophrenic and all of those other guys were just ambitious fervent sycophants? Wouldn’t be the first time in history or the last. What I see, rather, is the practical and long term effect of exiles, executions, displacement of populations, suppression of ideas, and conflict between powerbrokers.

And that, of course, is the crux of the matter. Is what is offered in GGDM more or less abstruse to the majority of the population than the debates of Christology? I have always held that what Luther and Zwingli debated didn’t matter a damn to the common people and the soldiers (mostly mercenaries) fighting in the conflicts of the Reformation – noting for example, that the mercenaries who looted the Vatican in 1527 were both Catholic and Lutheran. Despite the populism

triumph of Luther, the majority of the population was uneducated and there were certain debates that were not widely publicized.

Are Christology debates abstruse to me because the world has moved on, our time is different, or because I simply don't personally embrace that worldview? Is what is offered here more relevant and accessible to the now and the future, or just a product of a late Cold War-millennial intellect? Have I offered sufficient argument for the importance of meanings?

“In an interview with Independent Investigations Group member John Rael, Minchin explains that what upsets him most about paranormal beliefs is ‘special pleading’ by people who say vague things such as ‘there is no harm in it.’ Minchin states that there is very little harm in something like reiki, but asks ‘where do you draw the line?’ when it comes to needing real evidence if a therapy works or not. He states that he is an atheist as well as a skeptic, and cannot understand how someone can be a skeptic and still be religious. ‘If you apply doubt to anything...the whole religion thing is obviously a fantasy.’”

– from Wikipedia article, “Tim Minchin,” citing July 10, 2011 interview (<https://www.youtube.com/watch?v=YGbsQkeMsA>)⁵

Endnotes.

¹ Commentary & Citation: Humans have 46 chromosome pairs, less than that of a dog (70) or a potato (48). Scientist caution that there is *no correlation* between chromosome counts and complexity, e.g., “So the number of chromosomes has nothing to do with what or how complicated something is. And neither does the number of genes or the number of base pairs of DNA. What matters is what those genes are and how the cells and the organism use its set of genes. This is what makes a dog a dog and a dove a dove even though they both have 78 chromosomes. Which of course is way more than we do!” – Dr. D. Barry Starr, Stanford University, May 25, 2017, in response to question on The Tech Interactive. Humans... dogs... potatoes ... don't even go there!©

² Commentary: However, as Dr. Paul T. Mason, History Professor at Duquesne University commented to my graduate History of the Enlightenment class, “Historians cheat.” I too, for example, have a slightly difficult time accepting that the Enlightenment ‘ended’ at the Battle of Waterloo in 1815; though I do generally understand the concept of the relationship of the Enlightenment to the French Revolution, why not say the Enlightenment ended in 1804 when Napoleon (a product of the Enlightenment to be sure) crowned himself Emperor of France (literally, took the crown right out of the Pope’s hands), and became the last ‘enlightened despot’ and ended the French Revolution?

³ Citation: “But how far could a fit, trained person walk in eight hours? Many trained walkers finish a 26.2-mile walker-friendly marathon in about seven hours, with no breaks. If a walker is well-trained and is taking breaks and a meal stop, then 20 miles a day is reasonable. If you take no breaks and are going fast, you may be able to cover 30 miles if you have steadily built your mileage over the course of three to six months. Walkers on the month-long Camino de Santiago trek typically walk 12 to 20 miles per day on terrain that includes many hills. ... The Western pioneers usually covered 20 miles a day with the wagon trains, most of them walking rather than riding.” – Wendy Bumgardner, “How Far Can a Healthy Person Walk?” Very Well Fit (www.verywellfit.com), October 21, 2018.

- ✓ Personal experience, I walked five days a week down the hill and up the hill from my house to my employment in center city Pittsburgh. The walk was about 45 minutes down and 50-55 minutes up, year round, sometimes longer when it snowed and was cold and blowing, frequently it was very hot and sunny, and often I was carrying loads, many of them heavy. According to my Fitbit, I averaged regularly over 100,000 steps (and sometimes up to 125-130,000 steps) per week, because this was in addition to walking for groceries and haircut, running a business, selling games on Saturdays, and walking around center city on errands. I also was getting about 80 floors per day during the week I think, a trip up the hill to my house on the walk home was equal to 60+ floors. It took its toll after 20 years on knees, feet, and tiredness.
- ✓ “All horses move naturally with four basic gaits: the four-beat walk, which averages 6.4 kilometres per hour (4.0 mph); the two-beat trot or jog, which averages 13 to 19 kilometres per hour (8.1 to 12 mph)

(faster for harness racing horses); and the leaping gaits known as the canter or lope (a three-beat gait that is 19 to 24 kilometres per hour (12 to 15 mph), and the gallop. The gallop averages 40 to 48 kilometres per hour (25 to 30 mph). The world record for a horse galloping over a short, sprint distance is 88 kilometres per hour (55 mph). Besides these basic gaits, some horses perform a two-beat pace, instead of the trot. In addition, there are several four-beat ‘ambling’ gaits that are approximately the speed of a trot or pace, though smoother to ride. These include the lateral slow gait, rack, running walk, and tölt as well as the diagonal fox trot. Ambling gaits are often genetic traits in specific breeds, known collectively as gaited horses. In most cases, gaited horses replace the standard trot with one of the ambling gaits.” – from speedofanimals.com, “Horse *Equus ferus caballus*” captured February 26, 2019.

- The maximum speed for an unencumbered human walking on good pavement is about 3 mph. The U.S. Marines expected an average six minute mile (10 mph) running over flat ground (hard dirt or pavement) over three miles distance; that is, finishing three miles in 18 minutes was the perfect score of 100 on that part of the Physical Fitness Test (I never did it, my best time at 20 years old was 18:45 over three miles in Okinawa, Japan, but we had a couple of Marines who did it in under 16 minutes). Encumbered vs. unencumbered movement (as in hauling bags of loot and food supplies) over various terrain discussions were a regular fixture of Dungeons & Dragons articles in the 1970s and 1980s (an extension of military advance rates in wargaming, e.g., it took Braddock’s column from May 29 to July 9, 1775, 41 days, to carve a road 110 miles (‘Braddock’s Road’) through the Allegheny Mountains wilderness moving heavy cannons, supply wagons, tents, ammunition, equipment, about 2100 men total, a rate of 2.68 miles per day).
- “Usain Bolt has apparently never run a mile. The Jamaican sprinter’s agent Ricky Simms broke the news in an email to the New Yorker, which attempted to guess how quickly the world’s fastest man would be able to go the distance. Most agree Bolt wouldn’t be able to break the world record set by Morocco’s Hicham El Guerrouj. He ran the mile in 3:43.13 in 1999. Bolt, meanwhile, who holds the world records in both the 100- and 200-meter dashes (9.58 and 19.19, respectively), takes 2:10 to run 800 meters. That’s a snail’s pace relative to Guerrouj. That comparison has many thinking Bolt would be lucky to break the five-minute barrier – a feat many high school-level runners can achieve. Here’s the thing, though. Bolt is a sprinter, so the way he’s trained his muscles isn’t meant for running the mile.” – Marissa Payne, “Usain Bolt has apparently never run a mile,” Washington Post, August 3, 2016.
- ✓ “I found this answer by googling ‘how far can horses travel.’ Essentially, it depends on the horse. Horses are athletes, and well-conditioned horses that are used to travelling long distances can travel much further than horses that are not used to such activity. If your horses don’t get out and do this particularly often, then 20-30 miles (30-50 km) per day is probably a good estimate. Wikipedia supports this, with a claim of 30 miles (50 km) per day for a small mounted company. This involves the horse walking for most of the duration of the day, with short breaks. Of course, a fit horse can travel further than this. Mounted soldiers would ride their horses 50-60 miles (80-100 km) in a day. This is more taxing on both the horses and the riders. Over the course of 6 weeks of travel, it’s possible that good riding horses would get into better travel shape, and be able to go further, perhaps in the 40 mile (65 km) per day range. This would involve spending much of the day at a pace faster than a walk, such as a trot, though not at a canter or gallop. Trotting would be interspersed with periods of walking to allow the horses to rest while still moving forwards. ... Note that, at the upper end of this, the riders may have more trouble than the horses. During the middle ages, long rides were usually taken on horses referred to as palfreys, which possessed a smooth, ambling gait rather than a trot. This made them much more comfortable to ride for long distances, since a trot is quite bouncy. This isn’t something that the horses are trained to do or learn to do over the course of a ride. Rather, it is a breed characteristic of certain horses. If your riders are not on such horses, they will probably be travelling more around the 20-30 mile per day range, and as such their total distance will be more around 1200 miles for 6 weeks.” – User ckersch, <https://worldbuilding.stackexchange.com/questions/6411/possible-distance-travelled-by-horse-over-6-weeks>, December 12, 2014.

⁴ **Commentary:** If GGDM were making a macrosocial argument, *would the totality of the simulation itself serve as self-referential evidence in support?* As a demonstration? Thus, is GGDM being offered without evidence?

⁵ **Commentary:** Voltaire in the 18th Century and the experience of World War II in the 20th Century, has already shown us ‘what is the harm.’ World War II made Voltaire prescient; it is odd that Voltaire invokes God in the argument... I think the cognitive point of separation for Voltaire was that he didn’t have a problem with God exactly (but I do), but with the abuse and distortion by human Abrahamic religions and legitimized royal authority.

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See Appendix REF – A Reformation Example

“The question is: which image of God are we talking about? Many Muslims assume that their God wants to be glorified, that he dispatches orders and makes sure these orders are obeyed. Those who obey are rewarded, and those who don’t are punished. But this is a perception of God similar to that of a tribal leader who cannot be challenged. This is why many Muslims view the Koran as a rulebook.... Contemporary Islamic theology is at least unilateral. It is based on a master-servant relationship. Reformers who interpret the Koran differently, who say Islam is more than just a religion of rules and regulations, have so far not succeeded in asserting themselves.... Change can only come from within. We don’t need an enlightenment of the kind we know from European history, but perhaps a reform that focuses on the maturity and reason of humankind. The Koran does exactly this, incidentally.”

– Mouhanad Khorchide interview by Arnfrid Schenk und Martin Spiewak, “God is not a dictator,” Quantara.de, October 2012 (English translation by Nina Koon)

Root Problem: That is, Mr. Khorchide – living and teaching in modern Germany – rejects the ‘products’ of the Enlightenment in the West: empiricism, critical thinking, secular knowledge and secular authority. This neatly encapsulates what many would regard as the central quandary of modern Islam: great wealth from oil production, a desire for Western standards of living, medicine and technology, materialism, while rejecting ‘western ways’ – scientific empiricism, secular authority, and demystification of the universe. This is demonstrated by the prohibition in areas controlled by radical Islamist groups, of the teaching of science, non-Islamic history, technological subjects, evolution, and social science.

- ✓ “Norwegian anti-terrorism analyst Thomas Hegghammer observed ‘If there was going to be an Islamic reformation in the 20th century, the Saudis probably prevented it by pumping out literalism.’” – Doug Bandow, “Economic War Against Qatar Backfires Against Saudi Arabia,” Huffington Post, July 31, 2017.¹

At the root, Islam is having the same singular problem that led to the Meiji Restoration in Japan, the same problem that Western hegemony has imposed on the rest of the world for centuries. The particulars are different, of course, Japan is an island, they had no relationship to the West while Islam is an Abrahamic religion with 1,500 years of historic interactions with the West, Islam was ahead of the West mathematically and scientifically until the Renaissance, and so on. Japan *consciously* chose in the mid-19th Century to fuse Western science and empiricism with Eastern ways; Islam has added toward the same in an uneasy, begrudging, uneven, confused manner, compounded by their sudden immense wealth from the plot fuel of the 20th Century.

To the root problem then was added tribalism and the ailment of sudden vast wealth disparity and a sudden strategic position. Having not approached the problem under a singular unified authority as did the Meiji regime in Japan, what is the answer for Islam?

- ✓ Reformation should not be confused with Enlightenment, though the two form a historical continuum in the West. Mr. Khorchide used the term ‘enlightenment’ in the top feature quote, which may be unfortunate because it suggests a condition of being unenlightened; I read his use of the term as probably intended to mean ‘reformation,’ which is the term used by others, e.g., Mr. Hitchens, *ut infra*. I could be wrong. In

addition to the use of Enlightenment as a game term already (in situations where ‘un-enlightened’ may actually apply!), Reformation is used here as a more neutral term which does not imply or denote ignorance, but rather change.

- Martin Lutero: As these sorts of things usually go, the issuance of death threats against Mr. Khorchide and the refusal of other Islam scholars to be on stage with him, rather serves to prove his point about reformation. Although a reform originating from Muslims working at European universities will never be accepted anywhere from the Maghreb to the Mashriq to Greater Khorasan, reform frequently originates from ‘outsiders’ who are in the best position and least conflicted situation, to see what needs reform. For example, what if Martin Luther (*Martin Lutero*²) had been raised in Italy instead of in the Germanic States?³

“You notice how liberals keep saying, ‘If only Islam would have a Reformation’ – it can’t have one. It says it can’t. It’s extremely dangerous in that way.” – Christopher Hitchens

Islamic Reformation: Many years ago, I asked myself the question of whether Reformations were universal to human societies or whether it was a concept or phenomenon peculiar to Western civilization? The answer sidesteps the question really; that is, we must assume that all human culture and civilizations are susceptible to the same processes and conditions until proven otherwise (“By its definition, an anomaly is unlikely and shouldn’t be assumed...” – Magellan (2018)), because absent that assumption, we can make no progress in our studies (this is linked to the discovery of natural laws operating behind what seemed like cosmic chaos). This has become especially true as global contact has somewhat homogenized humanity. Thus, it is probable that all societies undergo periodic Reformations, which is admittedly a Western term that might eventually be better replaced with a more universal word.

- ✓ For example, Ibn Rushd (known in the west as Averroes) lived in Spain and Morocco between 1126 and 1198 A.D. Translations of his discussions of Aristotle contributed to the Western reawakening of interest in Ancient Philosophy. Thomas Aquinas was born in 1225, a generation after Ibn Rushd died, and the two are linked: Thomas Aquinas roundly criticized the philosophies of Ibn Rushd that had been adopted by the Latin Averroes, and the Church condemned and banned his works in 1270 and 1277, around the time that Thomas Aquinas died. Scholars and intellectuals spend much of their time arguing with corpses.

Yet arguably, the two men from opposing civilizations were caught up in the same process or phenomenon, the increasing struggle between religion, dogmatism, extremism, and fundamentalist on one side, and the encroachment of new knowledge, both from newly-rediscovered ancient works and acceleration of new discoveries and new inquiries, new political economies, and new ideas on the other side. In short, the argument between *rationality and reason*, and *religion and emotion*.

The results however, could not have been more opposite: Ibn Rushd was eventually capitulated by conservative Islamic traditionalist and fundamentalist, he was charged, tried, convicted, his works burned and he was banished; he was largely forgotten in Islam *until modern times*. Thomas Aquinas, who like Ibn Rushd sought to reconcile Aristotle with his religion, was canonized, never strayed too close to the line, and the

thoughts of generations afterward were very frequently in reaction to – whether supporting or opposing – his ideas; he is considered the pinnacle of scholasticism.⁴

Echoing Professor Frank Elwell's comment about the macro- and micro-divisions of the social sciences (see feature quote, 3 Fallen to Earth, pp. 1539-1540, *infra*), rationality vs. religion is the single most important argument and dividing line in human civilizations for at least the last 500 years. In every current socio political argument can be heard faint echoes of previous centuries' debates, a faint glow of the line, like a highway dividing line racing past at night.

- ✓ I am not Muslim and there are those who will then say that I don't know what I am talking about, there is no Islamic Reformation, that it cannot be, or that it is the wrong term. Except for two points: There is a man, who is Muslim, who is quoted here talking about Islamic Reformation (he uses the term 'enlightenment' presumably referring to the European Age of Enlightenment period but seems to have meant Reformation as well), and second, that my argument at this point – as shown in the example above – is not really about Reformations, but rather, that we must assume that all societies share similar processes, and that a process identified in the West probably also applies, with shades of difference, but more similarly than differently, elsewhere. Further, I have identified the root problem that connects Meiji Japan and the problems of current Islam, and two different historical outcomes from the same root.
 - Perhaps it is telling that I do not speak of a second Reformation of Christianity, of which I might at least be qualified to ponder? Frankly, the subject is of little or no interest to me because I think secularization has made it largely irrelevant and in any case, what Mr. Khorchide says about Islam could also apply to Christianity (just as what Voltaire said about Islam and Jews applied equally to Christianity, in a backhanded criticism). But then those who wish to reject my arguments above will say that I speak of something which I cannot know because I am not a Muslim, but don't speak of something of which I might know, having grown up in a nominally Christian civilization.

“[Sir Edward] Coke, like every man, was necessarily a product of the age in which he lived. His faults were the faults of his time, his excellencies those of all time. He was diffuse; he loved metaphor, literary quibbles and verbal conceits; so did Bacon, and so did Shakespeare. So did all the writers of his day. They were creative, not critical. But Coke as a law writer was as far superior in importance and merit to his predecessors, at least if we except Bracton, as the Elizabethan writers in general were superior to those whom they succeeded, and, as the great Elizabethans fixed the standard of our English tongue, so Coke established the common law on its firm foundation. A modern lawyer who heaps his abuse on Coke and his writings seems as ungrateful as a man who climbs a high wall by the aid of the sturdy shoulders of another and then gives his friend a parting kick in the face as he makes the final leap.”

– John Marshall Grest, “The Writings of Sir Edward Coke,” *The Yale Law Journal*, May 1909

Giants on the Stage: The ripple power of reformations makes some men giants of posterity. Three giants strode across the Elizabethan stage, leaving the echoes of their footfalls to our day. Everyone knows about William Shakespeare, the great Bard, who is the founder of English literature *and the only one who is required high school reading*. Less know about Sir Francis Bacon, whose philosophical writings (in contradiction to his own life) rippled outward through the centuries to become the scientific revolution. Finally, less known still is Bacon’s political and personal rival, Sir Edward Coke (they vied for the hand of the same widow, Coke won) whose books and legal summaries became the basis of English common law (as opposed to Roman-style civil law jurisprudence) via *stare decisis* and a repudiation of the ecclesiastical courts. Consider that much of our impression of Sir Edward Coke lies in his rivalry with Sir Francis Bacon and the puerile insults he wrote in his gift copy of Bacon’s *Novum Organum* (1620).

- ✓ “If I have seen further it is by standing on the shoulders of Giants.” – Sir Isaac Newton, “Letter from Sir Isaac Newton to Robert Hook,” 1675.

Disputation: The entry point for a Reformation in GGDM is the Thesis Statement (go figure, eh?). Each position may issue a Thesis Statement during Regular Turns *in lieu of one Power Activation* during that Regular Turn, if all conditions precedent are met. The Thesis Statement must be in the proper form, and must be submitted with the position’s Regular Turn actions.

- ✓ This is, however, not a Power Activation, but uses one. Thesis Statements thus cannot fail due to inactive Constructural Elements (and are not targeted at units in any case), and there is no opportunity to apply Enlightenment to Thesis Statement as there are no die rolls involved.
- **Not 95:** Even though the loss of a Power Activation presents a cost to issuing a Thesis Statement, in practice, there will be Regular Turns when a position does not need or want to use, or cannot use, all available Power Activations. These are turns when Thesis Statements may be issued; probably in an attempt to advance an agenda. This is expected game behavior.
 - ✓ A specific limit has not been placed on the number of Thesis Statements that can be issued because the process should be self-policing. Given all of the possible uses of a Power Activation and all of the competing interests within a position (e.g., Government Title Conflict Checks), Thesis Statements should be naturally limited.
- **Dialectic Diplomacy:** A Thesis Statement may only be directed toward another position with whom they have established Diplomatic Space (i.e. after First Contact). Each Thesis statement may target only one position and should be tailored to what the issuer knows about the target position. Thus positions cannot just randomly start lobbing bombs in the first turns. The *conditions precedent* for issuance of a Thesis Statement are that a Diplomatic Space exists between the two positions (see Diplomatic Spaces, *et seq.*, 2 Diplomacy, p. 1116, *supra*) *at the time of issuance*. Once issued, a Thesis Statement cannot be withdrawn or altered by the issuing position, so Thesis Statements should be issued with care, and not in retaliation for current events. A Thesis Statement may or may not ever Coalesce into a Reformation, and it may happen quickly or take a long time.
- **Conspiracies & Counter-Reformations:** Generally, Thesis Statements are issued secretly (i.e. even the Concierge might not know the issuer if handled by a computer assistant) and the queue of Thesis Statements targeted to each position are kept secret *from other positions*, but can be seen by the target position who are naturally aware of their own dissident factions.

Some forms of Special Operations (i.e. Reconnaissance or Black-ops) seeking to identify dissent in a civilization may discover ‘dissent’ represented by queued Thesis Statements.

- ✓ If the Concierge is unable to see the identity of the issuing position of a Thesis Statement it may be difficult to determine if it is blatant retaliation for current in-game events. Whether or not this is important depends upon how the no-retaliation rule (*ut supra*) is observed and enforced in the game by the participants.

Because of private diplomatic communications, there is no way for the Concierge to determine or prevent collaborative efforts at lodging Thesis Statements. There is no enforceable requirement that the Thesis Statement be authored by one position or even be authored by the position that lodged it, and it is not really a concern to the game in any event. While players may be irked by the lodging of Thesis Statements against their positions, what one can do, all can do; but it should not play that way.

- ✓ Because the recipient or target position does not know the origin of the Thesis Statement (and should consider them, like a News Event, to not originate from other players), it is possible for the Concierge to issue Thesis Statements as well, using Intervention Potentials, hastening the coming Reformation. Intervention Potentials are the Concierge’s position in GGDM. In the end, the effect is the same regardless of the source.

Positions may engage in a counter-Reformation effort by lodging ‘favorable’ Thesis Statements against their own position, but only *after* a Thesis Statement has been lodged against them (no shadow boxing!). As with the historical Counter Reformation (1545 to 1648 A.D.), these homegrown Thesis Statements may be somewhat effective in keeping the dragon insanity (e.g., Cordwainer Smith, “Game of Rat and Dragon” (1954)) at bay.

- ✓ *A priori*, any ‘counter-x’ requires an ‘x’ to exist first. Counter-Reformation Thesis Statements should not be issued before there is a Disputation. The Concierge may choose to ‘ignore’ preemptive Counter-Reformation Thesis Statements.
- **Dissonance:** Thesis Statements should be assumed to represent the desires and arguments of *dissenting forces* within the target position’s civilization. Like News Events, Thesis Statements are not ‘caused’ by the issuing position (see The Nature of News Events, 2 Dreamtime, p. 146, *supra*). Unlike News Events, the target position is not informed of the source, but to the extent that they might figure it out or learn afterward, the target position should not retaliate against the issuer (e.g., see The Story of V and Keep the Sand in the Sandbox, 2 Dreamtime, pp. 146-147, *supra*), but instead, consider the Thesis Statement and any Coalesced Reformations, as the internal dissident’s part of the story.

Thesis Statements create – by speaking – within the game position a dissident, dissonant element to what would otherwise be a mostly harmonious, monolithic whole of a position controlled by a small group of human players (see The Singleton, 1 Government Titles, p. 579, *supra*). Although Thesis Statements are mechanically different than News Events, they can be given similar weight, importance, in the game.

- ✓ There is some conceptual overlap; some Thesis Statements could have been an adverse News Event instead. There are pros and cons; a News Event can be blocked or modified, a Thesis Statement may have no effect and costs a Power Activation, but cannot be ‘blocked’ directly or modified.

Alternatively, or additionally, Thesis Statements can be thought of in the context of ‘galactic socialization’ (since they actually originate from other positions in GGDM) preventing cultures from being isolated (see discussion of the ‘human galactic isolation’ problem, 1 Diplomacy, p. 1094, *supra*). Or that the ideas expressed by the dissidents might actually come from contact with alien cultures (e.g., the communist revolution in China, communism originated in Europe, Saloth Sâr, aka Pol Pot was educated in Paris and adopted Maoism, while the youthful Mao Zedong voraciously read foreign books).

- ✓ For those who believe that humanity is being surreptitiously guided in development by extraterrestrial or extradimensional intelligences (e.g., the fifth dimensional creatures or future humans in *Interstellar* (2014), the heptapods in *Arrival* (2016), or the Overmind in *Childhood’s End* (1953)) possibly using a sort of Asimovian ‘psychohistory’ technique, the GGDM mechanic of Thesis Statements and Reformations might approximate the process, without addressing any of the larger questions, such as why would they bother, what do they gain, or what is their ultimate purpose?
- **Dog-Ma:** Because there is *no Power Activation* associated with the issuance of a Thesis Statement, *no News Event should be provided*. Further, Thesis Statements *are not considered official Interpretations in the game*; that is, wishful thinking is not Coalesced into Universal Legislation (see Official Interpretation, 1 Dreamtime, p. 130, *supra*) by issuance of a Thesis Statement. Further, the Concierge cannot decline a Thesis Statement if it is in proper form, thus there is no acceptance requirement by the Concierge as there is with an ‘official interpretation,’ see Flavors of Fact, 1 Dreamtime, p. 134, *supra*.

As part of the emergent play of the game, the Concierge may, with discretion, issue a Special Bulletin for Thesis Statements (for story purposes, this is not construed as ‘acceptance’). This is a decision that should be made from the beginning of a game, whether or not to issue Special Bulletins for Thesis Statements; there is a risk that the target or other positions may easily determine the Thesis Statement’s author from the Bulletin, but also, it does serve to engage the players in the story of the game and may propagate ideas.

*“Science and religion ask different questions about different things. **Where religion addresses ontology, science is concerned with ontic description.** Indeed, it is what Orthodox theologian David Bentley Hart calls their ‘austere abdication of metaphysical pretensions’ that enables the sciences to do their work. So when, for instance, evolutionary biologist Jerry Coyne and pop-cosmologist Lawrence Krauss dismiss the (metaphysical) problem of how something could emerge from nothing by pointing to the Big Bang or quantum fluctuation, it is difficult to be kind: Quantum fluctuations, the uncertainty principle, the laws of quantum physics themselves – these are something. Nothing is not quantum anything. It is nothing. Nonbeing. This, not empty space, is what ‘nothing’ signifies for Plato and Aquinas and Heidegger, no matter what Krauss believes. No particles, no fluctuation, no laws, no principles, no potentialities, no states, no space, no time. No thing at all.”*

– Michael Robbins, “Atheists Used to Take the Idea of God Seriously. That’s Why They Mattered.” *Slate Magazine*, July 8, 2014 (emphasis added)

Ontic Numbers: “‘Ontic’ describes what is there, as opposed to the nature or properties of that being.” – from Wikipedia article, “Ontic,” February 15, 2019.

- ✓ Merriam-Webster online dictionary at *ontic*: of, relating to, or having real being.
- ✓ Thus, in phenomenology terms, appearance can be non-ontic, e.g., “By an ‘appearance’ is meant any existent which impinges on consciousness, anything cognized, irrespective of any judgment as to whether it *be ‘real’ or ‘illusory.’*” – Avi Sion, from abstract for his book Phenomenology (2005)(emphasis added).

When each Thesis Statement is accepted (meets the conditions precedent), the Concierge must *secretly* assign a ‘weight’ to the Thesis Statement based on judgment of how likely, accurate, relevant it is as a dissident element in the target position’s current civilization (i.e., not whether it accords or agrees with the target position’s current civilization). This is a complex judgment that is expressed in a number value attached by the Concierge to the Thesis Statement. It is not merely a matter of opposition, but a measure of how widespread is the opposition expressed by the Thesis Statement, how much strength/depth does the dissident movement possess.

The target position will see the Thesis Statement text (the opposition voices their displeasure) but will not see either the source (as indicated previously) or the weight assigned by the Concierge.

- ✓ For example, if the current Earth civilization (as a whole unified GGDM position) were the subject of a Thesis Statement that declared “The Earth is Flat,” the value assigned would be ‘0’ because, while arguably some people still insist that they believe it is, it is not an issue that is either important to our current civilization or likely to gain widespread support, become a sociopolitical movement. Most people first, believe or know (take your pick) that the Earth is spherical, and second, are indifferent to the issue in their daily lives (while enjoying the benefits of satellite-enhanced communications and broadcasting). Conversely, if a Thesis Statement read, “The proletarians have nothing to lose but their chains!” (Karl Marx, The Communist Manifesto (1848)), it might receive a greater weight in the post-Cold War world, but much less than it would have if the position were on 19th and early-20th Century Earth.

This is not intended to encourage positions to randomly throw out quotes from historical figures as Thesis Statements (or for the Concierge to give such greater weight just because), hopefully participants will be attuned to and engaged in the game enough to be spot-on creative. But history is never a bad place to start for inspiration.

- ✓ 70% of history is the story of human mistakes – starting with coming down from the trees – and the other 45% is a story of human brilliance.
- Ontic Scale: The scale used is up to the Concierge, but should be decided before the game and applied consistently to all positions. The base assumption might be a scale of 1 to 10 or 0 to 9, but there is room for other scaling schemes, e.g., 0-3, 1-3, or 1-6, 1-20, etc., and each could be developed into a well-defined criterion for each increment. There are arguments for larger or smaller scales, so it’s a matter of taste.

“Counter-Reformation” Thesis Statements issued by a position targeting itself *might* be assigned negative numbers in the scale used, if the Concierge interprets them as counter-argument to the dissidents, or they may simply receive a regular positive number on the scale if the Concierge interprets the Counter-Reformation Thesis as representing an opposing dissident group or the whole process as a widespread conflict. This is not historically inaccurate,

and serves to represent the bumbling of authorities that often results in actions that seem on one hand to target the issue, *but actually produce a different result*, showing that those in charge don't understand or didn't anticipate properly, e.g., the ATF “gunwalking scandal” aka Operation Fast and Furious.

This is an integrity point for the Concierge, since the weights assigned to the Thesis Statements are secret, there is no external judgment of consistency of application or the scale used (e.g., I have experienced ‘editing standards drift’ working on GGDM and have had to circle back to the beginning to keep it all consistent). If GGDM is assisted by a computer program, the scale should be entered when the game is set up and cannot be changed even by the Concierge during the game, so that all calculations are made from the same scale.

- Pontic Event: At the end the Regular Turn processing for each position that has Thesis Statements previously lodged against it, there is a chance that a Reformation will Coalesce. The chance is the value of all Thesis Statements lodged against the position as a percentage of the top number of the Ontic Scale used by the Concierge.
 - ✓ For example, the total value of all Thesis Statements against a position is 7 and the scale used by the Concierge is 1-20, so as 7 is 35% of 20, the chance of Coalescing a Reformation is 35% *each Regular Turn*. Thus, the frequency of Reformations is controlled by the top number of the Ontic Scale used; the lower the top number the more frequently Reformations will occur in the game; e.g., if the top number in the example above were 10, the chance would be 70% each Regular Turn, if it were 30, it would be 23% (fractions truncated) chance of Coalescing each turn. And the Concierge doesn't get Enlightenment rerolls...☺

It is important to remember that this roll is happening every Regular Turn and thus may Coalesce on the first roll or require many Regular Turns. The number will also change over time as additional Thesis Statements are added; the Concierge may also change previous values based on changes in the position and events, enhancing or destroying dissident points.

- ✓ ‘Pontic’ here refers to the Pontic Steppe or Pontic Basin important in much history, not to a false tooth, though getting a false tooth is quite an ‘event’ in your day!
- ✓ There is much math in die rolling, to wit: “The experiment is: roll a die until you get a six. The median is 3.8: That means that half the time when you perform this experiment you will get your six in under 3.8 rolls and half the time you won't. The expected value is 6. This means that if you performed the experiment a hundred times and added all the rolls from each experiment together you should get around 600 total rolls. So one could get the same total by assuming we had 6 rolls in each experiment. Think of it like this: although you have a 50% chance of it taking less than 3.8 rolls there are still gonna be a lot of times where it takes 8, 9, 10 or more. Those high numbers are going to skew your expected values and leave you with an average of 6.” – answer by user Stephen O’Sullivan on math.stackexchange.com, August 12, 2015 (edited May 16, 2016 by user “Dragonemperor42”).⁵

“Wild horses were domesticated in the Ponto-Caspian steppe region (today Russia, Kazakhstan, Ukraine, Romania) in the 3rd millennium B.C. Despite the pivotal role horses have played in the history of human societies, the process of their domestication is not well understood. ...

Based on ancient DNA spanning the time between the Late Pleistocene and the Middle Ages, targeting nuclear genes responsible for coat colorations allows [us] to shed light on the timing and place of horse domestication. Furthermore the study demonstrates how rapid the number of colorations increased as one result of the domestication. As well, it shows very clearly that the huge variability of coloration in domestic horses which can be observed today is a result of selective breeding by ancient farmers. Our modern human societies were founded on the Neolithic revolution, which was the transformation of wild plants and animals into domestic ones available for human nutrition. Within all domestic animals, no other species has had such a significant impact on the warfare, transportation and communication capabilities of human societies as the horse. For many millennia, horses were linked to human history changing societies on a continent-wide scale...”

– Science Daily, “Mystery Of Horse Domestication Solved?” from Forschungsbund Berlin e.V. (FVB), April 24, 2009

Battle at the Tollense River: About 1200 B.C. (the time of the Trojan War of Homer’s *Iliad*) there was an extraordinary Bronze Age battle on a flood plain near a bridge crossing the Tollense River in northern Germany. The battle, along a trade road, involved about 4,000 combatants, a large portion of whom appear to have been professional soldiers (i.e. mercenaries and adventurers), some rode to battle on horses and came from distant lands. Most were armed with spears, many of the dead discovered on the site were killed by flint-tipped arrows, and though no swords have been discovered, some of the wounds are of the slashing type that may result from swords.⁶ Some combatants were killed while fleeing, evident by wounds inflicted from behind, and not unusual for such battles. The battle demonstrates a hereto unexpected level of organization, military and political leadership, economics and logistics for the Bronze Age in *northern Europe*.⁷

There is a great fictional saga waiting for the right pen: Why were the armies here, what were they fighting for, who were they, did it involve the kidnapping of a princess, a flirtatious wife, or traitorous thane, was the son of a local king or chieftain killed in the battle, ending the future hopes of a nascent empire and keeping the area in a ‘backward’ state? What was won or lost?

“This division is not one by religious affiliation, rather it separates the extremists and the peace-loving people. Therefor I’m optimistic: now a humanistic Islam is getting shaken awake. Moderate Islam needs now to finally break cover and explain how to deal with the violence-glorifying parts of the Quran. The (psychological) repression that this has nothing to do with our belief doesn’t work anymore. We have to face this challenge.” – Mouhanad Khorchide

Endnotes.

¹ Citation: “In 1920 conservative Baptist editor Curtis Lee Laws coined the term ‘Fundamentalist’ to describe ‘those who were ready to do battle royal for the Fundamentals.’ The Fundamentals series marked the beginning of a culture of biblical literalism. Biblical literalism does not mean that the Bible can be interpreted only in a literal sense.

As John Bunyan pointed out, the Bible clearly contains parables, metaphors, and poetic expression. Rather biblical literalism is the position that the Bible is inerrant. James Barr described biblical literalism as the position that the Bible contains ‘no error of any kind’ and that ‘not only theological error, but error in any sort of historical, geographical or scientific fact is completely absent from the Bible.’ As with the writings of Cotton Mather and Ezra Styles, *there was a concession hidden in fundamentalism*. By ‘doing battle’ to prove the inerrancy of the Bible, *fundamentalist confirmed that if the scripture is not true in an empirical sense, then it is without value*. For this reason, some scholars have noted that fundamentalism is a mirror image of the post-Enlightenment outlook that it opposes. By valuing only literal truth, it bleaches out the multifaceted ways in which sacred stories appeal to different aspects of human experience.” – Joseph P. Laycock, Dangerous Games: What the Moral Panic over Role-Playing Games Says about Play, Religion, and Imagined Worlds (2015), p. 230 (available on Google Books)(emphasis added).

- ✓ Cotton Mather was a prominent Reverend involved in the Salem Witch trials (1692-1693) as advisor to the Panel of Judges. He appears to have been reluctant about accepting “spectral evidence” at trial, but failed to either outright embrace it or reject it, which caused some consternation and resignations in the court.

² Citation: This is the title of the Italiano Wikipedia article about Martin Luther.

³ Commentary: cf. Christoph Bernhard von Galen, Prince-bishop of Münster, in the early 17th Century was allegedly anxious for Church Reform, however, as Prince-bishop of one of the largest ecclesiastical principalities, he was rather the *ultimate insider*. Thus, instead, he sought to increase his power and prestige by forcing the Dutch to return to Roman Catholicism via military campaigns; like Offa of Mercia, his campaigns were not about his legacy or real reform, but instead, about personal power and prestige for which many thousands died or suffered.

⁴ Commentary: Aquinas and Averroes provide one of the two main circumstances for intellectual historians: Averroes was long deceased and thus Aquinas was effectively arguing with Averroes via his published and translated works. Conversely, Erasmus and Martin Luther were contemporaries, and their ‘debate,’ though they never met in person (which is really sad), was carried out by letters and publication of works and responses.

- ✓ “Marjorie O’Rourke Boyle, in her work *Rhetoric and Reform: Erasmus’ Civil Dispute with Luther*, captures Erasmus and Luther’s interaction in its proper context: ‘The common assumption that their controversy was an exchange of differing ideas is erroneous. There was no exchange, no dialogue.’ While each humanist said much about the other, few ideas were ever actually ‘exchanged’ between the two giants. They were, in essence, two loud voices of their age ringing in opposition to one another. However, Luther owed much to Erasmus. For instance, **Erasmus’ 1516 Greek New Testament** aided Luther in his Romans lectures and again at Wartburg as the basis for his German translation of the Bible.” – Obbie Todd, “Luther and Erasmus: Friends or Foes?” themajestysmen.com, February 26, 2016 (emphasis in original).
- ✓ However: “The information and the delay allowed Erasmus to request a ‘Publication Privilege’ of four years for the Greek New Testament to ensure that his work would be published first. He obtained it in 1516 from both Pope Leo X, to whom he’d dedicate his work, and Emperor Maximilian I. [sic] Erasmus’ Greek New Testament to be published first, in 1516, forcing the Spanish team of Cisneros to wait until 1520 to publish their Complutensian Polyglot. It is hard to say if Erasmus’ actions had an effect on delaying the publication of Complutensian Polyglot, causing the Spanish team to take more time, or if it made no difference in their perfectionism. The Spanish copy was approved for publication by the Pope in 1520, however, it wasn’t released until 1522 due to the team’s insistence on reviewing and editing. Only fifteen errors have been found in the entire six volumes and four languages of Cisneros’ bible. [sic] A ridiculously low number for the time. The fear of them publishing though affected Erasmus’ work, rushing him to printing and caused him to forego editing. The result was a large number of translation mistakes, transcription errors and typos that required further editions to be printed.” – from Wikipedia article, “Erasmus,” September 22, 2018 (with numerous typographical corrections only, especially possessives).
- ✓ Erasmus died in 1536, age 69, Martin Luther outlived him by a decade, died in 1546, age 62.

⁵ Commentary: This is incredibly useful d6 information for board gamers and RPGers.

⁶ Commentary & Citation: A March 11, 2020 video posted by Pete Kelly “BREAKING NEWS – ‘Oldest Sword In The World’S Discovered // Aslantepe // Bronze Age Weaponry,” announced the discovery of a Bronze Age sword made about 3,000 B.C., possibly at Aslantepe, housed in a collection of medieval swords at a monastery in Venice.

⁷ Citation: See Wikipedia article, “Tollense valley battlefield” and Andrew Curry, “Slaughter at the bridge: Uncovering a colossal Bronze Age battle,” Science Magazine, March 24, 2016 (available free online).

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See Appendix PUBS – Expansion of the Public Space Selected Summary

See Appendix REF – A Reformation Example

“What the feminists want of me is something they haven’t examined because it comes from religion. They want me to bear witness. What they would really like me to say is, ‘Ha, sisters, I stand with you side by side in your struggle toward the golden dawn where all those beastly men are no more.’ Do they really want people to make oversimplified statements about men and women? In fact, they do. I’ve come with great regret to this conclusion.”

– Doris Lessing, *The New York Times*, July 25, 1982

Golden Dawn: ‘Golden Dawn’ has been used in many political contexts, both feminist and non-feminist. Perhaps Ms. Lessing was subtly referencing 19th Century women’s participation in The Hermetic Order of the Golden Dawn which is seen by historians to be part of a Victorian feminist movement (e.g., Dion Fortune, and later Wicca authors like Starhawk, discussed in *Down the Rabbit Hole*, 3 Kairotic Moments, p. 1443, *infra*)? However, I also have memory from my youth of “the golden dawn” as a feminist ideal and goal and thus her reference to that term immediately struck me in that meaning. An example of non-feminist uses of the phrase is the ultra-nationalist, far right Greek political party of that name who would certainly never be accused of harboring feminist sympathies (one of their members punched a female opponent on television).

- ✓ There is a distinction to be made in Ms. Lessing’s statement. It is not anti-feminist; rather, Ms. Lessing is complaining about the unexamined way in which radical feminist go about their cause. Note that the date coincides with the ERA era of feminism.

“As soon as a coin in the coffer rings / the soul from purgatory springs.”

– attributed to John Tetzels (but probably is older)

A Coin in the Coffer Rings: When a Reformation Coalesces, the target position will not be informed, no position will be informed, but the Concierge will know. The Concierge may resolve the Reformation at their discretion, but it should be resolved as quickly as possible before conditions change too much. As no position is informed of the Coalescence, Thesis Statements may be added by other positions during the process of resolving the Reformation.

It should not be assumed that external threats will derail a reformation, that the elements inside a civilization will stop fighting and turn to face an external threat. History does not support such an assumption; the entire process of the European Reformation occurred while Europe was under threat from the Ottoman Empire and fighting along the frontiers through Hungary and modern-day Romania (a country formed from Moldavia, Wallachia and Transylvania). The Ottoman Army reached Vienna, Austria, and besieged the city in 1529 (shortly after the German Peasant’s War) and again in 1683, between this time, the Habsburg-Holy Roman Empire was left devastated by the Thirty Years War (1618-1648) and had to be rescued by the Holy League.

- ✓ “...and others who happily use the recipes in the quantum cookbook appreciate that the rules that prove so reliable in the design of lasers and computers, or studies of genetic material, depend explicitly on the assumption that myriad ghost particles interfere with each other all the time, and only *coalesce* into a single real particle as the wave function collapses during an observation. What’s worse, as soon as we stop looking at the electron, or whatever we are looking at, it immediately splits up into a

new array of ghost particles, each pursuing their own path of probabilities through the quantum world. Nothing is real unless we look at it, and it ceases to be real as soon as we stop looking.” – John Gribbin, In Search of Schrödinger’s Cat (1984), p.173 (emphasis added to highlight game term).

- See full quote, 2 Expansion, EN 6, p. 904, *supra*.

- Here I Sit: *E pluribus unum*. The first step in resolving a Coalesced Reformation is to make a *collage* out of the Thesis Statements. The Concierge must look at the Thesis Statements, look at the civilization and try to find a theme into which they all fit, that can be expressed in one or two simple sentences. Not everything must be included, not every issue must be addressed, just try to find something central that fits the target position’s civilization in particular, and the game story in general. The resulting Collage does not need to be positive, happy, or fruitful in our sense of things (not all emergences or transformations are positive results to all viewers nor will all dissenters be pleased), but should be sweeping insofar as the target position’s civilization and contribute something to the game story arc.

This is possibly the most difficult single process in the game for the Concierge, but will be much easier if the Concierge is immersed and engaged in the game (not everyone can be a Concierge, just as not everyone is suited to GM a RPG, I was a terrible GM). This is art, this is an ‘interpretation,’ the Concierge must just do the best with the material (i.e. the Thesis Statements) provided by the participants and try to find something emergent from it.

- ✓ There are people who still believe that all questions of the Reformation have not been resolved, e.g., “The Reformation did not directly touch the question of the true character of God’s church.” – John Nelson Darby. Martin Luther was certainly questioning the ‘character’ of the Church (which may not be the same meaning as “God’s church” to John Nelson Darby, 300 years later) at least.
 - GGDM is a collage of quotes by really smart (usually dead) people with gibberish in between.
- The Ink Had Scarcely Dried: A Reformation is resolved in GGDM through a series of Interventions by the Concierge on the target position related to the Thesis Statements that make up the Reformation. To resolve the Reformation, the Concierge should create a ‘program’ of events that happen rapidly to the target position in one or two Regular Turns, through Interventions, that reflect the Thesis Statements of the Reformation and lead to the Collage formed by the Concierge previously. The Concierge does not need to inform the position that a Reformation is being resolved, until the end when the Collage is presented.
 - ✓ The resolution of a Coalesced Reformation should use a number of Interventions equal to *at least* the number of Thesis Statements including counter-reformation Thesis Statements (see 2 Reformation, p. 1391, *supra*), thus, counter-Thesis may increase the chaos later (the Ontic Numbers are irrelevant for this purpose). Intervention Potentials Plus (IP+) against the target position should be used first, and are considered two Interventions for this purpose. After that, the Concierge can draw from the pool of regular Interventions in the game (plus those attached by Black-ops and Pollution Potentials). The Concierge should use as many Interventions as necessary to make the Reformation story work out correctly, noting that these events will be occurring while the game is still moving and positions are still posting News Events.

- “But the ink had scarcely dried on Machiavelli’s pages before the theories of the *Principe* hardened into acts.” – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), p. 205.

“Before the plantation, Ulster had been the most Gaelic province of Ireland, as it was the least anglicized and the most independent of English control.”

– from Wikipedia article, “Plantation of Ulster,” February 17, 2019

Beyond the Pale: The “Irish Question” dates from the late 19th Century, but the ‘troubles’ began in the late Middle Ages. The Normans invaded Ireland in 1169 A.D. (because that’s what Normans do, they were getting bored) but were assimilated in the following centuries, became semi-independent of England, and the English holdings shrank to an area of land around Dublin. The colloquial “beyond the Pale” (or “beyond Pale”) survives from this period, the Pale was the lowland area controlled by the English around Dublin and became also the name of the line of burrows and hedges formed by the English to keep out raiders from the West. The term Pale (area of jurisdiction) was not new to English in the 19th Century, it had, for example, been used in the Pale of Calis from the 14th Century to the mid-16th Century.

- ✓ The real troubles began when the Tudors reconquered Ireland from 1529 to 1603 (during The Reformation and before the Thirty Years War), re-imposed English language, laws, taxation, nobility and aristocracy on Ireland, and emigrated by force and coercion English, Scot and Welsh settlers to form new colonies (“plantations”¹) at Laois and Offaly in the 1550s, Ulster in the 1570s, Munster in the 1580s (in GGDM terms, forced Balkanization). Ulster in particular became a sore point, because it was the center of Gaelic culture. Thus, English colonization of Ulster has been interpreted as a direct assault on Gaelic culture by the English (i.e. cultural imperialism, similar to Charlemagne’s destruction of the sacred groves in Saxony), and six of the nine counties of Ulster became modern-day Northern Ireland, Anglican and under English control.²

Thus, when peace finally came to Northern Ireland (the 1994 ceasefire, the 1998 Good Friday Agreement, the 1999 admission of Sinn Féin to the power-sharing arrangement, the 2001 disarmament and the 2004 Comprehensive Agreement), it occurred to me that Northern Ireland was the last conflict of the Reformation, ‘resolved’ 350 years after the end of the Thirty Years War.

- ✓ If you were alive then and remember those events, you witnessed the end of a historical cycle probably without realizing the implications. I generally remember news coverage of the IRA, and attacks, but my most specific memory is of an evening news report video where, in Northern Ireland, a group of Catholic schoolchildren had to be escorted to school each day by armed soldiers. And the children dressed in their finest school clothes went up a street or walkway with mobs of angry Protestants on both sides screaming at them, throwing things; the children were walking on broken glass. And this happened every day. And I thought, what (the hell) is wrong with these people? These are just primary school children, just like in Birmingham, Alabama. What are you teaching these soon-to-be juveniles and adults? I don’t remember the date of the report, but I assume it was in the early 1990s.

*Oh if you could see how
How small everything seems from
here
So trivial, so shallow
The meaningless drama so precious
on Earth
Seen from the timeless stardust*

Xandria, “Stardust” (2014)

*Far away in a distant memory
There is lush
There is green
There’s you and me
Now all blood in our hollow hearts is
stardust, stardust*

Delain, “Stardust” (2014)

A Soul from Purgatory Springs: Upon completion of the Reformation resolution, the Collage becomes a new ‘rule’ for the target position. The position should henceforth operate within the parameters of the Collage resulting from the Reformation. The Collage is not a rule in a game mechanical sense that the position will be prevented from violating the rule – for example, like a position will be prevented from moving at twice its current maximum ship speed without any special enhancements or new Ship Speed technology (unless the Concierge uses an Intervention ☺) – but rather, the Collage (not to be confused with Colleges) is like a Fundamental Reality, only much closer, much, much closer, to the current reality, and thus, the Concierge may assess an Intervention Potential Plus (IP+) against the position for apparent or continued violation of the Collage. That means the Concierge must be paying attention to the game...

- ✓ Adverse News Events posted by the position should not be considered violations of the Collage (or even Fundamental Realities) because, as stated in *The Nature of News Events*, 2 Dreamtime, p. 146, *supra*, the source of the adverse News Event is not the ‘cause’ of the event.

When the Collage is presented, the Reformation is ‘resolved’ and the Coalesced Thesis Statements are set aside (but not forgotten). Their Ontic Numbers are no longer counted, and thus do not count toward the next Reformation (see Pontic Event, 2 Reformation, p. 1395), the resolution is a reset. But the same issues may come up again later, previous Thesis Statements may be considered in future resolution of Coalesced Reformations, because history is never really over...

- **Built Spaces:** The Reformation process, an Expose’ News Event (see *Edge of Reality*, 4 Writs, p. 452, *supra*), hegemony (see *In Spite of Ourselves*, 4 Order, p. 554, *supra*), and Era progression (see *All Things are in Motion*, 1 Eras, p. 760, *supra*) are the only means in the game to expand the Public Space *directly*; the Diplomatic Space (see *Fourth Direction*, 2 Diplomacy, p. 1117, *supra*) is also an expansion, but is shared with another and traces to the Public Space only through the Capital Colony. After the Reformation is resolved, in addition to the new restrictions of the Collage, the target position may receive additional Monads on the Public Space determined by a yes/no die roll (i.e. 50%) for each Intervention used in the Reformation resolution. Thus, the more Interventions used, the more Monads that can be gained (small consolation...). Enlightenment cannot be applied to this roll because there is no Power Activation involved.
 - ✓ “Base space, also known as reality space, presents the interlocutors’ shared knowledge of the real world. Space builders are elements within a sentence that establish spaces distinct from, yet related to the base space constructed. Space builders can be

expressions like prepositional phrases, adverbs, connectives, and subject-verb combinations that are followed by an embedded sentence. They require hearers to establish scenarios beyond the present point of time. A built space depicts a situation that only holds true for that space itself, *but may or may not be true in reality*. *The base space and built spaces are occupied by elements that map onto each other*. These elements include categories that may refer to specific entities in those categories.

According to Fauconnier's Access Principle, *specific entities of a category in a space can be described by its counterpart category in another space even if it differs from the specific entity in the other space*. An example of a built space can be seen in the example 'Mary wants to buy a book.' In this case, the built space is not that of reality, but Mary's desire space. Though the book in reality space refers to any book in general, it can still be used to describe the book in Mary's desire space, which may or may not be a specific book..." – from Wikipedia article, "Mental Space," captured February 19, 2019 (emphasis added).

- In GGDM, the Public Space contains some parts of Galactic Space (what most people call objective reality) and the holders of the Public Space (i.e. population) exist in Galactic Space but operate in both spaces, based on what is in their Public Space. Simple, right?
- Mental Space: Because random insertion of new Monads into an active and full Public Space could destroy adjacencies and formations, and distances of colonies from Government Titles, it should/might/will probably be done manually by the Concierge; however, Reformations (Era Progressions and Expose') do tend to upset existing arrangements and connections, therefore, random insertion by the computer assistant would not be entirely improper. The Concierge should decide initially how this will be handled and be consistent through the game, but knowing human predilections, it is likely that insertions will be done randomly by the computer assistant. As with Diplomatic Spaces (see Shared Spaces, 2 Diplomacy, p. 1118, *supra*), insertion of Monads will simply displace everything a space because the edges of the Public Space are considered to wrap around, such that things on the edge may be considered adjacent to things on the other edge.
 - ✓ "The mental space is a theoretical construct proposed by Gilles Fauconnier corresponding to possible worlds in truth-conditional semantics. The main difference between a mental space and a possible world is that a mental space does not contain a faithful representation of reality, but an idealized cognitive model. Building of mental spaces and establishment of mappings between those mental spaces are the two main processes involved in construction of meaning. It is one of the basic components in Gilles Fauconnier and Mark Turner's blending theory, a theory within Cognitive semantics." – from Wikipedia article, "Mental Space," captured February 19, 2019. [i.e., philosophy's *is* and *ought*]
- Talking Past Each Other: This is part of the historical process by which our perceptions of reality are expanded and changed. For example, Buddha, Christianity and the Fall of the Western Roman Empire, and Sir Francis Bacon's empiricism and the early Scientific Age. Make no mistake, our perception of what is real, and our public discourse, is vastly different than our distant ancestors due to science and empiricism, and the Abrahamic Traditions. A face to face conversation with our ancestors (for example, Roman citizens or people from the

Middle Ages) would be very difficult; in many areas, we'd be talking past each other because of our differing perceptions of reality. Television fiction never does this justice because it would be too difficult for the audience to grasp.

- ✓ “The idiomatic expression is an allusion to the interaction between Thrasymachus and Socrates over the question of ‘justice’ in Plato’s *Republic I*. In their dialogue, neither man addressed any of the issues raised by the other and two different concepts which need not have been disputed are somehow confused.” – from Wikipedia article, “Talking Past Each Other,” captured August 20, 2019 (emphasis in original).

The discussion of ‘Understanding the Question’ in 1 Reformation, p. 1377, *supra*, can be thought of as the Catholics and Protestants ‘talking past each other’ – somewhat deliberately it seems, a form of Willful Ignorance, discussed in 2 Information, p. 1353, *supra*.

- ✓ “And how many words have I got to say, And how many times will it be this way, With your arms around the future, And your back up against the past.” – Moody Blues, “The Voice” (1981).

“Time, among all concepts in the world of physics, puts up the greatest resistance to being dethroned from ideal continuum to the world of the discrete, of information, of bits. ... Of all obstacles to a thoroughly penetrating account of existence, none looms up more dismayingly than ‘time.’ Explain time? Not without explaining existence. Explain existence? Not without explaining time. To uncover the deep and hidden connection between time and existence ... is a task for the future.”

– John Archibald Wheeler, “Herman Wyle and the Unity of Knowledge,” (1986)

Just Don’t Call Me Late for Dinner: In the spring of 1990, Dr. Stan Wilk at Lycoming College was my instructor for Anthropology 101. I remember he started the first class by saying, you can call me professor, doctor, or Stan, just don’t call me late for dinner!

In a later class, he told this revealing story. At some point in the 1960s, he was in Yucatan, Mexico working in a field expedition at Mayan ruins. He befriended a local farmer and they would meet for lunch every day under a certain tree. Stan would arrive around noon or shortly before and sit until the farmer arrived; which sometimes was also around noon, sometimes closer to 1 p.m. and sometimes even 1:30 p.m. The farmer would do his morning work, and when the sun was high in the sky and he was tired and hungry and felt he had done enough, he would take his lunch break. It does not appear the farmer had a watch, he simply went by the sun and how long he felt he had worked that morning.

His concept of time was much different than ours, in our world, we all have clocks, in the mid-20th Century, there were analog clocks on the walls in homes, buildings (I had teachers who put the clocks in the back of the room because only *they* needed to know what time it was), and on the streets even (e.g., the historical Kauffman Clock on Smithfield Street in Pittsburgh), and now few wear watches, but everyone has phones, Fitbit trackers, and computers that constantly keep digital time in front of us. From the 17th Century onward, a watch was a sign of wealth, successful merchants and business owners had watches. Ship captains had watches, army officers had watches.

- ✓ The discussion of time-sense is in the same category with other equally-profound subjects that have affected human civilization, for example, how clothes changed civilization (and the development of ‘style’ and personal hygiene) – for example, by looking at cultures that never developed clothing until European arrival, or whom the authorities attempted to force the introduction of clothing. I would highly recommend reading Loren Eiseley’s essay, “How Flowers Changed the World” (1957).

The modern time sense developed during the Enlightenment and afterwards. If we say we will meet for lunch at noon, and someone arrives 15 minutes late, we might get annoyed. For example, I called the pet memorial service at 12:25 p.m. and spoke to the fellow there for a few minutes. He said that he had a 2:30 p.m. euthanasia at the vet clinic down the hill and that he would be at my house in about an hour. What does that mean? He arrived at my house almost three hours later, offering excuses which showed clearly that he had no reasonable expectation that he would be at my house in about an hour at the time he said it. That is, of course, considered very rude and/or very poor customer service to waste someone’s afternoon waiting.

- ✓ A big timid semi-feral orange tom cat comes around late at night looking for food on my front porch. Over time, we have become friends: He likes to have his head scratched, but he’s still semi-feral and probably no one has ever treated him well; he gets a little excited when I pet him and I have to watch closely that he doesn’t nip or scratch me in his happiness. He is not an existential threat to me, as I am to him. But, he’s a cat, I cannot say, be here at 11:00 p.m. for food because I want to go to bed. He shows up whenever and I look for him.

We measure our lives, tasks, sleep, in hours and minutes, and this has spread to most of the world through urban and industrialized populations. The revolution was felt during the 18th Century industrialization as farmers, losing their lands to enclosure,³ flocked to the cities to work in factories, where one punched in and out of a clock at a specific time. Mom and pop small businesses lost out to big business and industrial manufacturing and they too had to work in factories and offices on the clock, instead of whenever they wanted or needed to work in their home businesses. Children had to be to school at a certain time, finish tasks in an allotted time. A significant loss of freedom was felt in the transition, there was an elevation of stress (e.g., expressed in Charles Dickens’ stories, see *Gradgrind*, 1 *Colleges*, p. 463, *supra*) which is still felt today. The world has seemed to move faster than ever, events that took years previously now happen in months or weeks, we become impatient with waiting, *we live both faster and longer, multiplying the effects of each life, each cohort, each generation.*

- ✓ “Time is perhaps our prime yardstick. The distance to a friend’s home is generally calculated by how long it takes to get there rather than by the number of actual miles it is, for time is the reality given varying road, traffic and weather conditions, and alternate routes, and distance isn’t, not really.... we surround ourselves with realities that depend on one other dominant reality, the inexorable passage of time, a precisely measurable phenomenon.” – Roger Caras, *A Cat is Watching* (1989), p. 194.

Time is perhaps the single most important phenomenon to humanity; think of the amount of time we spend obsessing over it (and how many time travel movies?). The reformation of humanity’s time sense from agrarian to industrial, urban modernity (precision timekeeping is part of the modernity worldview, Olympic gold medals are measured in hundredths of seconds) – like a time-less child moving into the adult world now – changed us in ways and at a depth that we have not

fully understood yet (sort of an *Uber Alles* effect). It separated us by yet another order of magnitude from our pets and the animals, whose time sense is more akin to that of a human child (e.g., longer, shorter, and the march of the seasons and whenever they get hungry).

- ✓ “Ours is increasingly a world in which spacetime between individuals is generally measured in how long it takes for a message to fly between mobile devices, short-circuiting the 3D spacetime of the mere physical world. As such, linear time seems to be fading out, increasingly replaced by virtual sites on the Internet which update and mutate in webs in relation to each other. And while the web does seem to tend towards something like consistency, it still allows quite a few paradoxes to exist in powerfully entangled states.

Either way, this new spatiotemporal reality is increasingly moving from the realm of fantasy to everyday. And so, a film like *Looper* then is likely to resonate with a wide many who’ve never encountered quantum physics, but simply feel what it’s like to live everyday in our hypermodernity. And as our everyday life increasingly begins to take on quantum aspects, with micro and macro levels of our worlds echoing each other as in fractal images, perhaps films like this can help us intuit some new ways to navigate the challenges of our age.” – Christopher Vitale, “Collapsing the Fuzzy Wave: Rian Johnson’s ‘Looper’ (2012), Quantum Logics, and the Structures of Time Travel Films,” *networkologies* (blog), written in 2012, updated and reposted, October 31, 2014.

On the other side of that reformation, technology has allowed us to be somewhat freer in some respect than our industrial ancestors – sort of like we passed the narrow neck of an hour glass – for example, recordings and watch-on-demand (we can now watch and listen anywhere on phones and tablets), flex schedules, telecommute and it has also eased time-zone difficulties allowing more globalization of culture (Buckminster Fuller used to wear three watches...).

- Violating Mortality: Recording and playback technology might be as important and revolutionary as the printing press. It allows us to violate mortality in the same way as the invention of writing, except that the voice we hear is outside our heads and not inside. Some people find this is a fundamental problem with modern civilization, *always longing for the next distraction*:

- ✓ “Why are you so petrified of silence? Here can you handle this? [music stops, moment of silence] Did you think about your bills, your ex, your deadlines? Or when you think you’re going to die? Or did you long for the next distraction?” – Alanis Morissette, “All I Really Want” (1995).

Ironically, Alanis Morissette, when *Jagged Little Pill* (1995) was new and receiving regular play, *was the next distraction*.⁴ It was her high-pitched, overdoes-it inner voice you heard caterwauling outside your head, instead of the voice *inside* your head. Moving on...

Historically, we know of famous urban theatre performers and singers of the late 19th Century who were said to be the greatest of their time, the best ever and other puffery, but we do not have any recordings of them to compare or enjoy. The only recording of Scott Joplin are seven (error-filled) piano rolls from 1916 when he was ill. So we are now *about five generations into building a storage of recorded performances* and the new literary format, movies. We have been digitizing, remastering and recoloring older recordings of earlier technology.

- ✓ Recording technology has allowed Natalie Coal to sing a striking, ‘timeless’ duet with her deceased father, Nat King Cole in 1991. While it gave some listeners pause for a moment and passed by, some others may have seen the deeper implications.
 - ✓ Holograms have allowed us to ‘resurrect’ Tupac Shakur and Michael Jackson (with live choreographed dancers), and the news has hinted at holograms of deceased performers Selena and Ronnie James Dio and Amy Winehouse. This was enough to give people some pause (and chills), and it is still new enough to be an event. We don’t even know where this is going yet, but a video on YouTube by Popsugar points out that a hologram of an anime character (Hatsune Miku) is selling out stadiums performing with live musicians on stage.
 - ✓ The Dr. Who TV series has long been on the trail of this idea, inserting clips of older doctors (some of them whose actors are deceased) into specials where multiple incarnations of the Doctor come together (e.g., the Day of the Doctor (2013)) or when they need history (such as “The Magicians Apprentice” episode (2015)).
- Time Sense: Merriam-Webster online dictionary does not define “*time sense*” in the way it is used here but I believe that my use is that of anthropology. There are two qualities in which time sense can be used, first, “an ability to feel the lapse of time and to estimate and compare intervals especially of short duration” (Merriam-Webster definition) which is what Roger Caras discusses regarding cats and a second quality in which a civilization measures with precision and awareness the passage of time in daily lives and in history, and by some extension, the rate at which events happen.
- ✓ This latter quality is probably a function of “the ‘extended’ self-conception of humans, requiring *autobiographical memory*.” – Prof. Antonio Damasio quoted by Jason Pontin, “The Importance of Feelings,” MIT Technology Review, June 17, 2014 See full feature quote in 3 The Big Bang, p. 9, *supra*.
 - ✓ Roger Caras points out: “...I have never been able to accept time judgment as an actual sense independent of other stimulation, but some people still claim it is just that.” – Roger Caras, A Cat is Watching (1989), p. 93.^{5[Full Quote]}

When they teach the five senses to young schoolchildren, time is not included. To have time as a sense rather than as a perception-judgment based on external stimuli, we would need to experience time like we feel wind on our face, smell flatulence, or taste butter-pecan ice cream. No one has made such a claim, but it would be an epochal development of humanity, to feel the wind of time. Yet, the Merriam-Webster online dictionary (*Id.*) might imply that time sense is an actual sense, e.g., “the ability to *feel* the lapse of time”; it is unclear from the dictionary definition whether the feeling is innate or whether it is perception of external stimuli. I am betting the wording is designed to avoid taking a position on this issue.

The time sense discussion in the above commentary clearly expresses as a perception of the speed at which the world moves (or history progresses) on a macrosocial (technology + SQ) level regardless of how it is perceived in a sensory capacity. But the phenomenon of increase doesn’t suggest that time is somehow moving faster now than it was in the past; we have no evidence that the flow of time has changed (wouldn’t that be interesting!) on a cosmic scale or local scale through human history, but rather, that human perception of time has changed (as a child growing to adulthood), our cognitive world has changed.

- ✓ “It is the way cats seem to expect things to happen. They wait and they watch and things come full circle. The minor glitches pass (if they don’t kill you first) and the important things happen in their own good time. That is probably why it pays for cats to sleep so much. It makes the waiting time pass more quickly for them.” – Roger Caras, *A Cat is Watching* (1989), p. 198.
 - This may be the way our ancestors experienced time: Dr. Mason (Duke University) opined in one lecture on the History of the Enlightenment that our ancestors didn’t talk more than we do now, but slept more.
- Humanity in a Box: It is common or has been in my youth for people to think of time as the ‘fourth dimension.’ I am not sure now that this is correct. The fourth dimension is the direction of a hypercube or tesseract to which we cannot point, but which casts a shadow in the third dimension. Is that the same as time? If not, then what is time and why does it only seem to go in one direction? Dimensions as we know them spatially, are two directional, up-down, left-right, back-forward, pitch, yaw, roll. It has been theorized that time can flow backward (which is not the same as us going back in time, clarity), but not demonstrated, and there is no impediment to movement in both directions in the other three dimensions, so if time is a dimension, why the impediment?
 - ✓ “Viewing time as the fourth dimension is appealing for a number of reasons. The first is that we naturally have experience with time coordinates. ... So, establishing the meeting uniquely requires three spatial coordinates and one time coordinate. ... Of course, it is possible for time to change independently of the spatial coordinates – all you have to do is sit relatively still and your time coordinate will change while your position will not. ...

There are a couple of problems with considering time the fourth dimension, however. The first is that you aren’t entirely free to ‘move around’ in the time dimension. In fact, you are pretty much stuck moving forward at a rate that you cannot control (but that, according to Einstein, is not necessarily the same for everybody). So, time allows only a partial degree of freedom. The second problem is that, while you can change your time coordinate without changing your spatial coordinates, the reverse is not true: how could you move from point A to point B without a passage (i.e., change in ‘position’) of time? So, time’s role as a fourth dimension may be debatable on some philosophical level, but for practical purposes, it works quite well.

In fact, Einstein treated time as inseparable from the three dimensions of space and gave us the concept of ‘spacetime,’ which is the four-dimensional equivalent of a surface, something that we discuss in some depth in other units. This spacetime, however, is curved by massive objects, which suggests that there might be a fifth dimension that allows this curvature to take place.” – “5.3 Journey into the Fourth Dimension,” Annenberg Learner, *Mathematics Illuminated*, captured February 15, 2019.

 - ✓ “Philosophers have debated the nature of time long before Einstein and modern physics. But in the 106 years since Einstein, the prevailing view in physics has been that time serves as the fourth dimension of space, an arena represented mathematically as 4D Minkowski spacetime. However, some scientists, including Amrit Sorli and Davide Fiscaletti, founders of the Space Life Institute in Slovenia, argue that time exists completely independent from space. In a new study, Sorli and Fiscaletti have shown

that two phenomena of special relativity – time dilation and length contraction – can be better described within the framework of a 3D space with time as the quantity used to measure change (i.e., photon motion) in this space. The scientists have published their article in a recent issue of *Physics Essays*. The work builds on their previous articles, in which they have investigated the definition of time as a ‘numerical order of material change.’” – Lisa Zyga, “Physicists continue work to abolish time as fourth dimension of space,” *phys.org*, April 14, 2012.

- ✓ “When we think about how we can move through the Universe, we immediately think of three different directions. Left-or-right, forwards-or-backwards, and upwards-or-downwards: the three independent directions of a Cartesian grid. All three of those count as dimensions, and specifically, as spatial dimensions. But we commonly talk about a fourth dimension of a very different type: time. But what makes time a dimension at all? ...

But spacetime is even more complicated than space, and it’s easy to see why. The chair you’re sitting in right now can have its location described by those three coordinates: x , y and z . But it’s also occupied by you right now, as opposed to an hour ago, yesterday or ten years from now. In order to describe an event, knowing where it occurs isn’t enough; you also need to know when, which means you need to know the time coordinate, t . This played a big deal for the first time in relativity, when we were thinking about the issue of simultaneity. Start by thinking of two separate locations connected by a path, with two people walking from each location to the other one. You can visualize their paths by putting two fingers, one from each hand, at the two starting locations and ‘walking’ them towards their destinations. At some point, they’re going to need to pass by one another, meaning your two fingers are going to have to be in the same spot at the same time.

In relativity, this is what’s known as a simultaneous event, and it can only occur when all the space components and all the time components of two different physical objects align. This is supremely non-controversial, and explains why time needs to be considered as a dimension that we ‘move’ through, the same as any of the spatial dimensions. But it was Einstein’s special theory of relativity that led his former professor, Hermann Minkowski, to devise a formulation that put the three space dimensions and the one time dimension together. We all realize that to move through space requires motion through time; if you’re here, now, you cannot be somewhere else now as well, you can only get there later.

In 1905, Einstein’s special relativity taught us that the speed of light is a universal speed limit, and that as you approach it you experience the strange phenomena of time dilation and length contraction. But perhaps the biggest breakthrough came in 1907, when Minkowski realized that Einstein’s relativity had an extraordinary implication: mathematically, time behaves exactly the same as space does, except with a factor of c , the speed of light in vacuum, and a factor of i , the imaginary number $\sqrt{-1}$.” – Ethan Siegel, “Ask Ethan: Why Must Time Be A Dimension?” *Forbes.com*, November 26, 2016.

“As the story is usually told, one of the main arch villains of the Protestant Reformation was Johann Tetzel, papal seller of indulgences. It was he who played a key role in provoking Luther in regard to the 95 Theses. ... It is usually taken as absolute fact that Tetzel often used this jingle while preaching his indulgence sermons. It may be surprising to find out that attributing this exact jingle to Tetzel isn't as easy as one may think. Roman Catholics have a valid gripe if they question if Tetzel was the originator of the jingle 'As soon as the coin in the coffer rings, the soul out of purgatory springs' (Sobald der Pfennig im Kasten klinget, die Seele aus dem Fegfeuer springt).

Sometimes Protestants think this phrase was unique to Tetzel, sort of like the way the phrase 'your best life now' is attached to Joel Osteen. There is no evidence I know of that Tetzel came up with this jingle. The main reason why there's a dispute over whether or not Tetzel actually used the jingle is because it does not appear in his extant written sermons. Heinrich Boehmer points out the news of Tetzel's indulgence sermons being preached in the district of Magdeburg provoked Luther, but there are no precise records of what Tetzel preached in that area. That is, no one wrote his sermons down. ... I've never read anything suggesting Luther simply made the phrase up.

No, the jingle certainly had a life of its own, and provoked the Augustinian monk to write against it. Luther appears to have come across it by those who reported back indulgence sermons they had heard. ... This phrase may actually be traced back to a much earlier date. Martin Brecht notes the University of Paris complained about this popular jingle as early as 1482 ... but doesn't provide any helpful documentation. Heinrich Boehmer notes the idea behind this phrase wasn't anything new when Tetzel came on the scene... But while Tetzel may not have coined the phrase, he certainly taught its sentiment. Even Roman Catholic historian Hartmann Grisar (who defends Tetzel) reluctantly admits it...”

– James Swan, “Did Tetzel Really Say ‘As soon as the coin in the coffer rings, the soul from purgatory springs?’” beggarsallreformation.blogspot, January 7, 2012

Comedy, Not Funny: Criticism of the practice – where the rich could do whatever they wanted, which led to the 95 Thesis in 1517 was not new; Dante had complained in “Inferno” (the first part of The Divine Comedy (1320)) two centuries earlier of the grant of absolution of sin by priests as a recruiting tactic for the Crusades. He explicitly rejected the notion that a man could absolve another of sins, whether a clergyman or not. Dante had personal enmity toward certain members of the Magisterium, most notably, Pope Boniface VIII, which then extended to challenges of Papal authority and certain Church practices in general (this issue was still not resolved five centuries later, e.g., Italian Freemasons such as Giuseppe Garibaldi and the Carboneria).

The difference between the two is this: The Black Death and the discovery of the New World in the two intervening centuries. Dante's acrimony and criticism was bound up with his involvement in Florentine politics and exile. But he was still an Italian and was not a clergyman and thus was revered for his innovative use of Italian (instead of Latin) in his works. Martin Luther was an ordained clergyman (Augustan Friar) and a Doctor of Theology, and lived on the troublesome northern frontiers of the Holy Roman Empire in Germany. He translated the Bible into vernacular German, which was followed by translations into other languages over the next 50 years.

Thus, in the two centuries intervening, criticism of the Church in all respects had moved from the political outside into the heart of the local clergy. And that is the Reformation.⁶

Insurance Agent: Johann Tetzel was a sort of licensed insurance agent. He had a product to sell and if you could afford it and thought it was for you, he was the guy. *Results are not guaranteed!* He was just trying to make a living and move up the company ladder. On the flip side of this, because he was an agent of the Archbishop of Mainz (and a Dominican friar), his word on doctrine was taken as both learned and official, just like a modern insurance agent and his agency can be held legally responsible for misrepresenting what is being sold.

- ✓ “Fresh scope was given to his activity in 1517 by archbishop Albrecht of Mainz. Albrecht had been elected at the age of twenty-four to a see already impoverished by frequent successions and payments of annates to Rome. He had agreed with Pope Leo X to pay his first-fruits in cash, on condition that he were allowed to recoup himself by the sale of indulgences. Half the proceeds in his province were to go to him, half to Leo X for building the basilica of St Peter’s at Rome.

Tetzel was selected as the most efficient salesman; he was appointed general sub-commissioner for indulgences, and was accompanied by a clerk of the Fuggers from whom Albrecht had borrowed the money to pay his first-fruits. Tetzel’s efforts irretrievably damaged the complicated and abstruse Catholic doctrine on the subject of indulgences; as soon as the coin clinks in the chest, he cried, the soul is freed from purgatory. In June he was at Magdeburg, Halle and Naumburg; the elector of Saxony excluded him from his dominions, but Albrecht’s brother, the elector Joachim of Brandenburg, encouraged him at Berlin in the hope of sharing the spoils, and by the connivance of Duke George of Saxony he was permitted to pursue his operations within a few miles of the electoral territory at Wittenberg.

Luther was thus roused to publish his momentous ninety-five theses on the subject of indulgences on October 31, 1517. Even Albrecht was shamed by Luther’s attack, but he could not afford to relinquish his profits already pledged for the repayment of his debts; and Tetzel was encouraged to defend himself and indulgences. Through the influence of Conrad Wimpina, rector of Frankfurt, Tetzel was created D.D. of that university, and with Wimpina’s assistance he drew up, in January 1518, a hundred and six theses in answer to Luther’s.

But the storm overwhelmed him: sober Catholics felt that his vulgar extravagances had prejudiced Catholic doctrine, and Miltitz, who was sent from Rome to deal with the situation, administered to him a severe castigation. He hid himself in the Dominican convent at Leipzig in fear of popular violence, and died there on the 4th of July 1519, just as Luther was beginning his famous disputation with Eck.” – Albert Frederick Pollard, 1911 Encyclopædia Britannica (now in the public domain).

There’s an image to behold: A Dominican friar accompanied by a clerk from Fuggers⁷ as he travelled through Germany selling indulgences under questionable doctrine while conniving local hereditary rulers sought to get a piece of the action. There is not much an apologist can do with that, except to cite to the milieu.

I am not here to suggest that Johann Tetzel in any way ‘caused’ the Reformation or the Protestant revolt. Rather, I think he thought he was being quite clever, exploiting cracks in Church doctrine and human social and psychological needs to make a few coins and maybe move up the ladder. Like Pharma-bro and Michael Milken, he failed to anticipate the public blowback, how his technical exploitation would be seen, that he would be the catalyst for dissent.

According to H. Ganss, in The Catholic Encyclopedia (1912):

- ✓ “...Tetzel, deserted by the public, broken in spirit, wrecked in health, retired to his monastery at Leipzig in 1518. Here in the middle of January, 1519, he had to face the bitter reproaches and unjust incriminations of Carl von Meltitz. It was at this time that Luther magnanimously penned a letter [to Tetzel] in which he tries to console him by declaring ‘that the agitation was not that of his [Tetzel’s] creation, but that the child had an entirely different father.’ Tetzel died soon after, received an honourable burial, and was interred before the high altar of the Dominican church at Leipzig.”
 - The Catholic Encyclopedia article on Johann Tetzel is in the public domain and was transcribed into the online encyclopedia of New Advent (at <http://www.newadvent.org/cathen/14539a.htm>) by Bob Elder.
 - Many, from the comments I heard in conversations with people I know, believe that the same sort of effect happened to Head Coach Joe Paterno (aka “JoePa”) after the Sandusky scandal; his health deteriorated rapidly after dismissal from the University and he died before the criminal trials, his long life and career legacy destroyed by willful ignorance of criminality on his staff. Prior, JoePa was admired for his vibrant energy at an advanced age, still coaching when other men would have long-ago retired.
- ✓ “Bonhoeffer argues that as Christianity spread, the Church became more ‘secularised,’ accommodating the demands of obedience to Jesus to the requirements of society. In this way, ‘the world was Christianised, and grace became its common property.’ But the hazard of this was that the gospel was cheapened, and obedience to the living Christ was gradually lost beneath formula and ritual, so that in the end, *grace could literally be sold for monetary gain*. But all the time, within the church, there had been a living protest against this process: the monastic movement. This served as a ‘place where the older vision was kept alive.’ Unfortunately, ‘monasticism was represented as an individual achievement which the mass of the laity could not be expected to emulate’; the commandments of Jesus were limited to ‘a restricted group of specialists’ and a double standard arose: ‘a maximum and a minimum standard of church obedience.’

This was dangerous, Bonhoeffer says, because whenever the church was accused of being too worldly, it could always point to monasticism as ‘the opportunity of a higher standard within the fold – and thus justify the other possibility of a lower standard for others.’ So the monastic movement, instead of serving as a pointer for all Christians, became a justification for the status quo. *Bonhoeffer remarks how this was rectified by Luther at the Reformation, when he brought Christianity ‘out of the cloister.’ However, he thinks that subsequent generations have again cheapened the preaching of the forgiveness of sins, and this has seriously weakened the church: ‘The price we are having to pay today in the shape of the collapse of the organised church is only the inevitable consequence of our policy of making grace available to all at too low a cost. We gave away the word and sacraments wholesale, we baptised, confirmed, and absolved a whole nation without condition. Our humanitarian sentiment made us give that which was holy to the scornful and unbelieving... But the*

call to follow Jesus in the narrow way was hardly ever heard.” – from Wikipedia article, “Cost of Discipleship” (summary), quoting Dietrich Bonhoeffer throughout, captured May 26, 2019 (emphasis added).

- See previous discussions of Anabaptist regarding reduction of baptism to religious magic ritual and critical quotes from Desiderius Erasmus about Roman Catholic monastic culture.⁸

Rhetorical Question: Can Dietrich Bonhoeffer’s argument in *The Cost of Discipleship* (1937) be made without reference to God or to the alleged divinity of Jesus? Can Jesus, in this case, be treated and questioned, as Dr. Stephen Griffith (Lycoming College) suggested in one of my philosophy courses (and as the secularized French do of *any* religious figure – as I recall was commented on after the Charlie Hebdo massacre), as any other philosopher? Can Bonhoeffer’s argument proceed from that basis? Without reference to an ‘objective truth’ in the form of God (or some other supreme being)? See discussion about adding God to any argument, *Invoking God*, 1 Reformation, p. 1384, *supra*.

- ✓ “For me, [Nagarjuna] is just a philosopher like any other; his interest in Buddhism is incidental (as is his saintly status in the eyes of many).” – Avi Sion, *Paradoxes and Their Resolutions: A Thematic Compilation*, p. 209.

“We are also thankful for our critics, detractors, and slanderers, who provided us with an important sounding board and reality check as well as new material for our show.”

– Rev. Craig Donofrio and Rev. Bill Cwirla (“The Manly Doctors of Divinity”), from godwhisperers.org

Endnotes.

¹ **Citation & Commentary:** According to Merriam-Webster online dictionary, “plantation” – a word that Americans associate with slavery, the Civil War, Cuba and the Caribbean Islands – originated in the English language in the 15th Century, meaning “a large group of plants, usually trees, under cultivation.” *Id.* Sometime in the following century, it must have developed into a meaning of “a settlement in a new country or region” (*Id.*, Merriam-Webster online dictionary gives the example, Plymouth Plantation), being subsequently used for the Tudor conquest and resettlement of Ireland. Later, at least in the United States, it meant a large labor-intensive farm growing cash crops (e.g., cotton and tobacco).

- ✓ Some articles I read a few years ago suggested that the original Celtic population of the British Isles and Ireland had a genetic lactose intolerance until late Neolithic migrations reached them, changing their genetics (e.g., Zara Zhuang, “Ancient Europeans lactose intolerant for 5,000 years,” *Irish Times*, October 23, 2014). As indicated in the previous discussion, *Immoral History*, 2 Disruption, p. 277, *supra*, **invasion and resettlement** are the history of humanity, regardless of morals and ethics. And standing in our present time, it is difficult to repudiate the results – which is us. Just as it would be difficult for any crowd-funded game to repudiate the invention of the internet, the concept of Kickstarter or bemoan how crowd funding has destroyed the traditional game company control over the game publishing industry.

² **Commentary:** I heard about this all while I was growing up, it was a favorite subject of my mother who knew much about Queen Elizabeth I. Clearly that was her interpretation and she blamed Queen Elizabeth I for The Troubles. This countered the historical glow of Queen Elizabeth in other aspects (historical, romantic and feminist). But certainly, I don’t think my mother was the only one who interprets events in this fashion.

³ **Citation:** “The decision by English landlords to opt for intensification, greater yields, and rational stockbreeding, placed pressure on the traditional social structures of rural life. Landowners saw the need to increase the size of

their holdings through the consolidation of several farms into one. This procedure was called *engrossing*. Landowners also wished to consolidate into compact holdings the scattered strips tilled in the time-honored ways by lease-holding village peasants. This was known as *enclosing*. Neither engrossing nor enclosing was new. Since the sixteenth century landowners had tried to secure the advantages that might accrue from assuming common village rights over arable and pasturelands. Following acquisition of the property, the landowner would surround his holdings with fences or hedges, plant crops in one area, and raise cattle in another. However, common sense had prevailed against transforming peasant leaseholders into mere renters, agricultural laborers or vagrants. The social menace produced by the dispossession of large numbers of people was a very real fear. Still, during the second half of the seventeenth century fewer voices were heard against enclosing and engrossing, and it has been estimated that during this period more enclosing took place than at any comparable period before or after.

By 1700 around half of England's arable land was enclosed. Cultivation was extended and estates were enlarged. Landlords replaced traditional tenure arrangements with higher rent charges. To finance improvements, they borrowed heavily. In order to better their social status as they invested in modernizing agriculture, wealthy city merchants purchased rural property and became country squires. They, and others like them, showed tenants and renters alike the material benefits of improved farming techniques, higher yields of traditional crops, and experimentation with new ones. Elegant manor houses filled with tapestries, French furniture, marble, and mirrors sprouted throughout the English countryside. Fine gardens, grottos, and parks embraced the new structures. Improving agriculture became fashionable as well as profitable." – Raymond Birn, *Crisis, Absolutism, Revolution: Europe 1648 to 1789* (2nd Ed., 1992), pp. 50-51.

⁴ Commentary: I didn't really notice Jagged Little Pill or know about Alanis Morissette until early 1997. I remember hearing her song on the radio while riding in the firm van over to the warehouse and that would have been in early 1997. The driver of the van that day, a 30something guy who was also in a part-time local rock band, commented that she was 'one seriously pissed off female.'

⁵ Citation: "Cats do have ways of judging time, not as time elapsed, but as time arrived. I doubt that any cat ever had the means of telling three hours, three days, or even three weeks have elapsed since such-and-such happened, but they certainly have ways of knowing from their own body's signals that the time has come to raise cain over there being no food in their dish. You don't need a clock to tell you that you are hungry and neither does a cat. That is one reason why I have never been able to accept time judgment as an actual sense independent of other stimulation, but some people still claim it is just that." – Roger Caras, *A Cat is Watching* (1989), p. 93.

- ✓ Or as the sign on my veterinarian's wall read: "There is no snooze button on a cat who wants breakfast."
- ✓ "Time is actually an event for a cat, not a sequence, and too many people, I think, make rather too much of that fact." – Roger Caras, *A Cat is Watching* (1989), p. 95.
 - Working backwards, this is interesting. It suggests that human perception of time as infants is in terms of events (and that seems likely based on the child psychology experiments I recall) and as we grow into adults, it becomes increasingly a sequence (e.g., memory, pattern perception, cyclic). Mr. Caras states (paraphrasing) that the relationship between humans and our pets is always infantile, cats like to be petted because it reminds them of their mother bathing them while they nursed.
- ✓ "Two years is a human concept based on some rather refined astronomical measurements and it seems clear enough that a cat couldn't grasp any of it, not as a precise calculation. But *long time*, as we have indicated elsewhere, could be a reality. For Xnard, what had it been, and could he have anticipated it would come to an end? ... We have discussed how cats take seasonal clues and other elapsed time measurements not as time, but as triggers and alarms when there are things they have to do. But when Xnard closed his eyes, did he know it had been a long time and what did he feel because of it? As far as I can tell, and judging from conversations I have had with other people who know animal behavior, those are questions we are not likely ever to be able to answer, though *ever* remains a very troublesome word for me. Unless, though, there is some incredible breakthrough that allows us to discuss abstract concepts with animals as bright as cats and dogs (and that just doesn't seem likely at the moment), how could we ever know?" – Roger Caras, *A Cat is Watching* (1989), pp. 193-194 (emphasis in original).

⁶ Citation: "The book's concept of God, in fact, is what makes [Philip] Pullman's work so threatening. His trilogy is not filled with attacks on Christianity, but with attacks on authorities who claim access to one true interpretation

of a religion. Pullman's work is filled with the feminist and liberation strands of Catholic theology that have sustained my own faith, and which threaten the power structure of the church. Pullman's work is not anti-Christian, but anti-orthodox.

This emerging controversy, then, is deeply unusual. It features an artist who claims atheism, but whose work is unabashedly theistic. And it features a series of books that are at once charming and thrilling children's literature, and a story that explores some of the most divisive and fascinating issues in Catholic theology today.

This view of Dust echoes many of the theological ideas that the Catholic Church finds threatening today. The most obvious thread is liberation theology, the Marxist and socially progressive rereading of the Gospels born among Catholic theologians in Latin America in the 1960s. Liberation theology teaches that Jesus is a political revolutionary who loves all that God has created and wants all creation to flourish on this earth, not just in heaven. Liberation theology also holds that believers should disregard doctrine that leads to oppression.

This is not an idea in favor with the current leadership of the church. In placing the common welfare above the dictates of church authorities, this movement has sparked a long running battle with the Catholic hierarchy." – Donna Freitas, "God in the dust – What Catholics attacking 'The Golden Compass' are really afraid of," The Boston Globe (boston.com), November 25, 2007.

⁷ Citation: "Fugger is a German family that was historically a prominent group of European bankers, members of the fifteenth- and sixteenth-century mercantile patriciate of Augsburg, international mercantile bankers, and venture capitalists. Alongside the Welser family, the Fugger family controlled much of the European economy in the sixteenth century and accumulated enormous wealth. The Fuggers held a near monopoly on the European copper market. This banking family replaced the de' Medici family, who influenced all of Europe during the Renaissance. The Fuggers took over many of the Medicis' assets and their political power and influence. They were closely affiliated with the House of Habsburg whose rise to world power they financed. Unlike the citizenry of their hometown, they never converted to Lutheranism as presented in the Augsburg Confession but rather remained with the Roman Catholic Church. Jakob Fugger 'the Rich' was elevated to the nobility of the Holy Roman Empire in May 1511 and assumed the title Imperial Count of Kirchberg and Weissenhorn in 1514. Today he is considered to be one of the wealthiest people ever to have lived. The company was dissolved in 1657, however the Fuggers remained wealthy landowners and ruled the County of Kirchberg and Weissenhorn. The Babenhausen branch became Princes of the Holy Roman Empire in 1803, the Glött branch princes in the Kingdom of Bavaria in 1914." – from Wikipedia article, "Fugger," captured February 15, 2019.

✓ Thus, 'you old Fugger!' wasn't exactly an insult.☺

⁸ Commentary: Anabaptists backed the revolutionaries in the German Peasant's War (1524-1525 A.D.), which ended in a great slaughter, both of which have been mentioned previously in GGDM. The Roman Catholics and the Habsburg rulers of the Holy Roman Empire *were having their own problems*, e.g., the Sack of Rome in 1527 by Habsburg mercenaries, the Siege of Vienna in 1529 by the Ottoman Turks and Henry VIII's break from the Church in 1532, and those are just the highlights of a tumultuous period. The Anabaptist movement radicalized and turned apocalyptic very quickly, seized the city of Münster, the largest bishopric see in Germany, in the Münster Rebellion of 1534-1535. There they installed a prophetic apocalyptic theocratic government, burned all books except the Bible and instituted polygamy and proto-socialism, gospel commune systems using redistributed stolen wealth until the city was recaptured by the deposed Prince-bishop leading an allied Catholic army in the summer of 1535. After the fall of Münster, and public torture and execution of leaders, the movement flamed out and fragmented with much of the movement declaring non-resistant pacifist intent (e.g., the Mennonites, followers of Menno Simon).

✓ As mentioned previously, Martin Luther opposed the German Peasant's War and backed the magnates and electors; so naturally, he considered Anabaptists as heretics who should be executed. So the Lutherans didn't like the Anabaptists either and the Lutherans either fled or were expelled from the messianic communist theocracy of Münster. The Global Anabaptist Mennonite Encyclopedia Online (gameo.org) admits in the article on Martin Luther that Luther did not understand the Anabaptists, and the Anabaptists did not try hard to understand Luther. These are the surest signs of ideological radicalization.

✓ A century later, the ambitious Christoph Bernhard von Galen, Prince-bishop of Münster launched expeditions into the Netherlands where the Anabaptists had fled, attempting to forcibly reconvert the Netherlands to Roman Catholicism, extending his ecclesiastical and temporal authority.

Anti-intellectualism & Public Intellectuals

**Excerpt from Column by Isaac Asimov
Newsweek, January 21, 1980**

“There is a cult of ignorance in the United States, and there always has been. The strain of anti-intellectualism has been a constant thread winding its way through our political and cultural life, nurtured by the false notion that democracy means that ‘my ignorance is just as good as your knowledge.’”

Excerpt from John Searle, The Campus Wars (1971)

“The two most salient traits of the radical movement are its anti-intellectualism and its hostility to the university as an institution. [...] Intellectuals by definition are people who take ideas seriously for their own sake. Whether or not a theory is true or false is important to them independently of any practical applications it may have. [Intellectuals] have, as Richard Hofstadter has pointed out, an attitude to ideas that is at once playful and pious. But in the radical movement, the intellectual ideal of knowledge for its own sake is rejected. Knowledge is seen as valuable only as a basis for action, and it is not even very valuable there. Far more important than what one knows is how one feels.”

Excerpt from Gene Wolf, “From a house on the Borderland” (1987)

“This, then, is the new illiteracy, the illiteracy of those who can read but don’t. [...] This new illiteracy is more pernicious than the old, because unlike the old illiteracy it does not debar its victims from power and influence, although like the old illiteracy it disqualifies them for it. Those long-dead men and women who learned to read so that they might read the Bible and John Bunyan would tell us that pride is the greatest of all sins, the father of sin. And the victims of the new illiteracy are proud of it. If you don’t believe me, talk to them and see with what pride they trumpet their utter ignorance of any book you care to name.”

Excerpt from Steven Poole, “Pretentiousness by Dan Fox review – why anti-intellectualism is the real snobbery,” The Guardian, February 11, 2016

“Writing and other arts are criticised as pretentious when they seem to aim at the highfalutin aesthetic or intellectual stratosphere while lacking the chops to see it through. But that, of course, is an inevitable risk of any ambitious creative work. To employ the word ‘pretentious’ against it is empty as criticism, because all it means is ‘not good’; but it is disgustingly full as moral injunction: it means that it is better not to try at all than to try and fail.... Some writers complain about the pretentious use of words, as though the very act of writing down words and hoping that others will read them and approve of one’s ideas is not itself fantastically pretentious in the first place.”

**Excerpt from Christopher Hitchens, “How to be a Public Intellectual,”
Prospect Magazine, May 24, 2008**

“One might do worse than to say that an intellectual is someone who does not attempt to soar on the thermals of public opinion. There ought to be a word for those men and women who do their own thinking; who are willing to stand the accusation of ‘elitism’ (or at least to prefer it to the idea of populism); who care for language above all and guess its subtle relationship to truth; and who are willing and able to nail a lie. If such a person should also have a sense of irony and a feeling for history, then, as the French say, *tant mieux*. An intellectual need not be one who, in a well-known but essentially meaningless phrase, ‘speaks truth to power.’ (Chomsky has dryly reminded us that power often knows the truth well enough.) However, the attitude towards authority should probably be sceptical, as should the attitude towards utopia, let alone to heaven or hell. Other aims should include the ability to survey the present through the optic of a historian, the past with the perspective of the living, and the culture and language of others with the equipment of an internationalist. In other words, the higher one comes in any ‘approval’ rating of this calling, the more uneasily one must doubt one’s claim to the title in the first place.”

Excerpt from Benjamin Aldes Wurgraft, “Thinking, Public and Private: Intellectuals in the Time of the Public,” Los Angeles Review of Books, July 15, 2016

“Greif and Robin’s briefs on behalf of a modified version of the public intellectual are stirring. However, they do leave us with substantial questions about the fate of the life of the mind in the age of the public. After all, they still insist on the consequences of ideas. In our focus on the immediate interventions that public intellectuals can make in the public sphere, is there room for private contemplation, and the glacial tempo at which ideas must sometimes develop? For ‘useless’ knowledge? For ideas that don’t spread, or whose spread may not take place until decades, or centuries, after our deaths? What may be missing in this age of public intellectualism is respect for the unpredictable half-lives of ideas themselves, and for the fact that public life could be enriched by an appreciation of ideas on their own terms.”

Excerpt from Russell Jacoby, “Christopher Hitchens: The Last Public Intellectual?” The Chronicle of Higher Education, December 18, 2011

“In the age of insufferable pundits and bland English professors, Hitchens summoned up a different possibility – the public intellectual as literate, lucid, and committed. Was he the last of the nonacademic intellectuals? Or was he something else, a very talented journalist? He resented the put-down that someone’s writing was “journalistic” and saw himself as working the vein that ran from Thomas Paine to George Orwell. At least some of his work ranks with that company’s. But he may have been *sui generis*, neither scribbler nor pedant. To whom can he be compared? Hitchens contained multitudes. Perhaps the absence of a cohort of public intellectuals meant that he carried that much more weight. Perhaps he was a public intellectual after its decline.”

Excerpt from John Issitt and Duncan Jackson, “What does it mean to be a public intellectual?” University of York, March 2013

“We live in a different world now (or at least those of us in the ‘West’ do); a world of social media, where anyone can have a view and disseminate it for anyone else to see relatively cheaply and with relatively little technical proficiency. Potentially everyone could be an expert on anything, or at least have a view on everything for anybody else to see. There is no longer a strict division between the controllers of communication and the consumers of communication, nor necessarily such a formalised relationship between the producers of knowledge and disseminators of knowledge. Does this have the potential to mean that everyone in the West can be a public intellectual? And further could one’s success on Facebook and Twitter indicate your status as a public intellectual?”

Excerpt from Barry Gewen, “Who Is a Public Intellectual?” New York Times, June 11, 2008

“[Daniel W.] Drezner’s impulse is to be inclusive: if you’ve written a serious book that has attracted a modicum of general attention, you seem to qualify as a public intellectual. I would be more restrictive, and I’d go back to the original New York Intellectuals for guidance. Broadly, they viewed the public intellectual as someone deeply committed to the life of the mind and to its impact on the society at large. Irving Howe refers to the pursuit of ‘the idea of centrality’ among the writers he knew, and the yearning ‘to embrace . . . the spirit of the age.’ That is, public intellectuals were free-floating and unattached generalists speaking out on every topic that came their way (though most important for the New York Intellectuals was the intersection of literature and politics). They might be journalists or academics, but only because they had to eat. At the most fundamental level, ideas for them were not building blocks to a career. Rather, careers were the material foundation that allowed them to define and express their ideas. It hardly needs to be said that this stance produced an inevitable tension between academic life, with its occupational demands for specialization, and opinionated public intellectuals refusing to be pigeon-holed. What do you specialize in?, Daniel Bell was once asked. Generalizations, he replied.”¹

¹ Commentary: Not to flatter myself, but based on the present evidence (i.e. GGDM), I might be considered a retro-New York Intellectual: I work as a paralegal because I have to eat (and so my cats don’t eat me), but I comment on generally everything, live a different life in my mind, embrace ideas for their own sake, and am assuredly a creature of my age.

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See Appendix KM – Kairotic Moment Example

*“Day after Day
Alone on the Hill
The Man with a Foolish Grin
Is Keeping Perfectly Still
But Nobody Wants to Know Him
They Can See He is Just a Fool
And He Never Gives an Answer”*

– The Beatles, “Fool on the Hill” (1967)

Hallowed Round: Sacred, at least in GGDM terms, refers to an emergent moment in a civilization that is preserved (frozen in time, in the racial memory) and amplified through emergent ripple effects and historical retrospection. It is something not merely remembered, but civilization shaping at the core, defining of a vast track of the civilization’s history.

That Kairotic Moment is not ordinary history, it is earthshaking and profound, mostly in hindsight. It is more than merely saying that history would be vastly altered if the Ottoman Turks had won at Vienna in 1683, if the Franks had lost the Battle of Tours, if the Soviets had captured Warsaw in 1920, or if the Axis had won WWII. No, those are big obvious things. Kairotic Moments are little, profound, often philosophical moments, involving small events, insignificant people, who become the avalanche by which time it is too late for the pebbles to vote (Babylon 5, “Believers” (1994)). This is an important distinction to understand about Kairotic Moments and is borne out by the history of what we think is sacred.

- ✓ With Kairotic Moments, participants have reached the epic emergent storytelling finale of the GGDM simulation game. “...for he is the Kwisatz Haderach!” – Dune.

It is hard to tell if the concept of sacred as I describe it here has been shaped and created by the events in Roman Palestine that gave rise to the current milieu. But I think that is probably the case; e.g., the Native Americans had sacred places and so did the Celts, Saxons and others. Maybe we call them sacred places and so attach to them a meaning they did not have to the original peoples ... but clearly history records that the Saxons, for example, had sacred groves (and so did the ancient Greeks, possibly the Academy might have originated as a sacred grove of Athena) which must have acted as focal points of worship, ritual, veneration, and mystical thought, and that Charlemagne targeted Saxon sacred grove destruction in his conquest of Saxony so that the Saxons would convert to Christianity, by which they could be controlled.

Thus we arrive at the last element of a Kairotic Moment, the Kairotic Moment must have mystical meaning, must be sublime (even in rhetorical theory), which gives it the power that transcends the philosophical arguments and/or propels those arguments to the core reshaping of civilization (despite the cynical power-seeking pettiness, self-aggrandizing that always follows – and the damage they do – of the following generations) into a form of cultural hegemony.

GGDM is able to address this concept at least perfunctorily due to the time periods potentially represented by Regular Turns.

- ✓ Everyone has self-aggrandizing motives, both internal and external. It is only when either become extreme, involved in the processes of civilization and/or affect others that we give them names; this is the normal way that human language handles such

third- and fourth-order of nature phenomenon. John DeLorean, the American automotive industry executive and engineer (e.g., the Pontiac GTO in opposition to Lee Iacocca's Ford Mustang) was widely accused of the peculiar form of modern self-aggrandizement called 'self-promotion' at the expense of others who contributed.

- Kairotic Hindsight: Kairotic Moments in human history are usually marked by death, destruction, loss and sacrifice, and are rather relative. In only one known and notable instance, is a moment of birth arguably a 'kairotic moment' and that was probably *completely constructed in hindsight*; that is, the birth became a kairotic moment to some because of what occurred subsequently and was embellished to that point by additions. The concept of mortal women bearing children of gods or deities or other supernatural beings predates the birth of Jesus by at least a millennia. The cultures around Mare Nostrum, at the latest, would have received these stories by way of the Romans, but probably the concepts circulated much earlier (e.g., see the retro-Hellenization of the story of David and Goliath). In many if not most cases, such stories ended tragically and served as moral lessons, for example, the story of Phaethon who tried to drive his father's chariot that pulls the sun across the sky. It is not surprising then, in this context, that the story of Jesus had to end 'tragically' and that his followers interpreted his death in a 'divinely good' way.
 - ✓ As noted in *Civis Sum*, 3 Order, p. 559, *supra*, had Jesus been a Roman Citizen the entire thing might have turned out much differently. And then there would be no Christianity. If you want a Kairotic Moment in the birth of Jesus, it is that he was not born a Roman. Supernovas, little drummer boys, and wise men from the East have nothing to do with it. Unless Arthur C. Clarke's 1955 short story, "The Star" turns out to be prescient, prophetic.

Do you think the entire story of Christ's miracles cannot have been invented afterward? Collective group storytelling? Most of what is commonly known about King Arthur was invented in the last few centuries by *Christian writers*. It is a Kairotic Moment constructed out of whole cloth in hindsight. There is a distinct and well-studied literary development of the Arthurian legend, things were added, stuck, and were built upon by others later. There is little historical evidence of a King Arthur, and there is just about as much evidence of the existence of Jesus Christ, but unsurprisingly, few Christians asked that question until the Age of Reason. I am surprised that this was not mentioned in the movie *Man from Earth* (2007) in the arguments with the Christian literalist Edith, though what was said about God not being able to get it right the first time was pretty cutting too.

Incidentally, the Christians got their 'second coming' in *Man from Earth* – the man called Jesus in history was allegedly standing right before them – but it was only a disappointing deflation of their 'blood and fables that built churches' and a curt dismissal of millennia of Roman Catholic 'pompous grandstanding' (*Id.*, terms used in the movie dialogue).

- ✓ Blood and Fables that Built Churches: "A Christian exclusivity that was also status-blind could look suspicious – so there were occasional pogroms, though surprisingly few: *the pornographic violence of martyrologies, the tormented saints of a million works of Catholic art, were the loving harvest of later centuries, not any ancient reality*. Like all empires, the Roman state hated disorder more than anything, and violence that disturbed the public peace was not encouraged. Technically, for a time, Christianity was illegal (its god had been nailed to a cross like a common bandit after

all). But a ‘don’t ask, don’t tell’ policy was easier on everyone, not least the emperors. As the letters of the emperor Trajan make crystal clear, Christians were not to be sought out or persecuted unless they made themselves a conspicuous nuisance, at which point they had no one but themselves to blame for their fates.” – Prof. Michael Kulikowski (Pennsylvania State University), “Christians were Strangers: How an obscure oriental cult in a corner of Roman Palestine grew to become the dominant religion of the Western world,” *Aeon*, January 30, 2017 (emphasis added).

“Kairos, the opportune moment in rhetoric, is often an elusive element. Very seldom do the circumstances of a situation coincide perfectly; however, certain times are certainly better suited for particular rhetorical arguments than others.”

– from <https://sites.psu.edu/mgeitnerrcl/tag/kairotic-moment/>, (blog), no date or authorship attribution, captured January 26, 2019

An Instant: An instant is the time it takes to die. An instant is the time it takes to destroy a city in a huge flash of light. Instant is a word applied to coffee, hot chocolate, conception and gratification.

Nobody knows what an ‘instant’ is exactly. It’s a philosophical question. Terms like, ‘moment’ and ‘instant,’ seem simple, but are amazingly complicated to explain or pin down, for example, we say, ‘the moment of death.’ What is a moment? What amount of time constitutes a moment of death? Explain that to a jury. Some people think information can travel ‘instantaneously’ to any part of the universe, what is an instant exactly? Some inexact measure less than what a human can comprehend?

- **Instantly Relatable:** Kairotic Moment is a redundancy, like saying “RPG game” (that is “Role-Playing Game game”) or “damned blasted blasting!” near a mining site (the ‘other’ RPG doesn’t have that problem because it is usually followed by a hyphenated number, e.g., RPG-7). Because Kairos is not a common word in English, it is paired with another very common English word to make it instantly relatable to the listener so that the listener doesn’t stumble and lose the thought.
 - ✓ Merriam-Webster online dictionary at *Kairos*: a time when conditions are right for the accomplishment of a crucial action: the opportune and decisive moment.
 - ✓ I did not invent the term ‘Kairotic Moment,’ a Google search shows a couple of websites that use the term, for example, a Word Hippo page that provides seven example sentences using “Kairotic Moment” or a Yahoo answers page that asks, “What is a Kairotic Moment?” to which user MONK responded in 2010, “A kairotic moment is a crucial juncture, a moment of truth, the turning point.”
- **Ekstasis:** Kairotic Moment began when I started thinking about what makes things sacred. The GGDM section is, at best, *a cursory treatment of the subject*. The catalyst for this thought may have been in two parts:
 - ✓ I remember a news report (possibly ABC Evening News) where a reporter (and I don’t remember which one) commented on how the rest of the world regards (at least at that time) the U.S. Supreme Court as an august body and that the U.S. Constitution has become venerable and taken on some sacred document qualities.¹ By extension

then, I thought that the same is becoming true more generally of the American Revolution and particularly, those studiously studied and documented weeks of the Constitutional Convention in Philadelphia. This linkage is perhaps a small demonstration of ‘emergent’ qualities; from a news report over 30 years ago comes the Kairotic Moment section of GGDM.²

- ✓ Kairotic Moments have been in GGDM at least since the early 2000s; it is not a later invention of the final 2017-2019 edit. I had never heard the term before graduate Rhetorical Theory class at Duquesne University, so the section can be dated the turn of the millennia. It has been difficult to grasp however, because I have never been quite satisfied with the mechanics, and in early 2019, it was rewritten completely along with Reformations into the current (omega) form.

“A developmental task is a task which is learned at a specific point and which makes achievement of succeeding tasks possible. When the timing is right, the ability to learn a particular task will be possible. This is referred to as a ‘teachable moment.’ It is important to keep in mind that unless the time is right, learning will not occur. Hence, it is important to repeat important points whenever possible so that when a student’s teachable moment occurs, s/he can benefit from the knowledge.”

– Robert James Havinghurst, Human Development and Education (1952)

Teachable Moment: The modern form of the Kairotic Moment is the ‘teachable moment’; the term was used for example, in relation to the Charlottesville, Virginia riots in August 2017.

- ✓ Merriam-Webster online dictionary at *teachable moment*: a time that is favorable for teaching something, such as proper behavior.
- ✓ Cf. Merriam-Webster online dictionary at *Kairos*: a time when conditions are right for the accomplishment of a crucial action: the opportune and decisive moment.
- ✓ See also Joseph Tainter feature quote, 3 Culture, p. 386, *supra*.

Rhetoric has always been associated with education, e.g., Plato’s Gorgias (380 B.C.). Propaganda is about teaching the enemy to think what you want them to think; much the same can be said of political spin and public relations. To ‘rule the minds of men’ one must teach them what you want they should know and prevent them from learning otherwise; tyranny in the nursery, it’s a dirty business (not to mention the diapers). But there is also a feel to ‘teachable moment’ in the modern sense that is shallow compared to rhetoric.

This GGDM does both by accident and by design. Like most literary projects, I found years ago that GGDM goes in circles, covering the same ground, touching the same ideas, many times, but in different contexts and resultantly, from different angles. GGDM might accidentally be a teaching tool. But only for those who want to learn, to those for whom it *matters*.

- ✓ There are two things you must be convinced of in order to read GGDM: That I actually wrote it (i.e. didn’t plagiarize it, but even if I did, it might not matter as I am not selling anything or promoting myself) and second that it is worth reading (i.e. that it matters to you). I have no idea how to convincingly reach either of those goals, but if you are reading this now, I must have succeeded somehow.

“So much has been lost, so much forgotten. So much pain, so much blood. And for what, I wonder? The past tempts us, the present confuses us, and the future frightens us. And our lives slip away, moment by moment, lost in that vast terrible in-between. But there is still time to seize that one last, fragile moment. To choose something better, to make a difference, as you say. And I intend to do just that.”

– Centauri Emperor Turhan (played by Turhan Bey), *Babylon 5*, “Coming of the Shadows” (1995)³

What Happened in the 1960s?: A Kairotic Moment is whatever a moment is – you know what a moment is, but you don’t know what a moment *is* – as in the ‘I know it when I see it’ (feel it, hear it, experience it, *look when it matters*) colloquial expression. But a Kairotic Moment is in any case or sense, a moment. The GGDM sections about the Kairotic Moment have little to do with the moment – the details of which must be provided by the Concierge and participants (like the TV movie, *Lost Room* (2006))⁴ – but are instead about the before and after the moment. So in this way, GGDM cheats a little on the design, it is not a ‘Role Playing Game game’ (p. 1417, *ut supra*) and due to the turn structure, GGDM does not dwell on ‘moments.’

- ✓ I had a history professor, and this may be a memory of Dr. Paul Mason in one of his ‘historians cheat’ discussions, who commented that nobody really knows what happened in the 1960s, they talk about what happened in the 1950s and the 1970s and they impute the discussion upon the 1960s to create what they think happened. I am not sure I agree, but I get it, in the sense of how we talk about history.
 - ✓ As a game mechanic in the simulation, Kairotic Moments in GGDM are like the read-aloud function on the PC, which I have used hundreds of times in editing GGDM: Flat, emotionless with no hint of breath, and occasionally pronouncing words differently than native English speakers (e.g., ‘retconning’ as ‘re’ instead of ‘ret’ or read vs. read, live vs. live).
 - ✓ The most famous use of the “I know it when I see it” expression comes from a U.S. Supreme Court viewing of the obscene film in the case of *Jacobellis v. Ohio*, 378 U.S. 184 (1964), in which Justice Potter Stewart wrote, “I shall not today attempt further to define the kinds of material I understand to be embraced within that shorthand description [obscenity]; and perhaps I could never succeed in intelligibly doing so. But I know it when I see it, and the motion picture involved in this case is not that.”
- **Old News Reels**: News Events have a limited ability or role in relation to Kairotic Moments because of the time periods probably represented by GGDM Regular Turns, see previous discussion of literary characters in GGDM, *A Story Without Characters*, 4 *The Streams of Time*, p. 102, *supra*. A Prose Intervention Special Bulletin may be useful instead.
- ✓ Kairotic Moments are strongly related to Aspects in GGDM. The extent to which Aspects are not congruent with emotion, feeling (see *Affliction of Aspects*, 2 *Culture*, p. 369, *supra*) is the extent to which Kairotic Moments are also not solely descriptive of an emotion, feeling. This is important to remember when participants add color to the game-mechanical outlines of the Kairotic Moment in GGDM.

“King Abdullah had a vested interest in saying such things – more than half his citizens are themselves Palestinians, and he wouldn’t mind if many of them returned to the other side of the Jordan River. Obama was not necessarily naive. The king told him what he wanted to hear, and he left the region as he arrived, a believer that peace and war in the Middle East form a matrix whose epicenter is the holy land.”

– Zev Chafets, “In Trump’s Middle East, Israel Is No Longer the Problem,”
Bloomberg, December 21, 2017

Terra Sancta: A Kairotic Moment in GGDM must occur at a specific place, that is, a colony. While it is possible that it could occur at an uncolonized planet or ship (e.g., Arthur C. Clarke’s “The Star” (1955)), Kairotic Moments are about population and especially, those who are looking for meaning, and that suggests very strongly that a colony (or homeworld) is involved.

Some positions might prefer especially that it occur at their Capital Colony – for purely selfish reasons – possibly making their current government sacred; but the events forming the basis of Christianity (not the later books of the New Testament) did not occur in Rome and thus the idea comes down to us that Kairotic Moments are caused by *oppressed outsiders far from the capital* (in the same way that my college Intro Lit teacher pointed out that poets are outsiders).⁵ However, the *inside-outsider narrative* of Moses does occur in some part at the seat of the Pharaoh of Egypt and while the history of Medina and Mecca may be disputed, the story of Mohammed clearly features emigration and war between two walled tribal trading posts that became cities. Both stories feature movement from the *inside to the outside* of local civilization’s power centers instead of from the *outside to the center*.

A Kairotic Moment is not a Power Activation, and thus cannot fail on a colony or ship due to inactive Constructural Elements. No effect of a Kairotic Moment described in this and following sections can fail due to inactive Constructural Elements.

- **Blasphemy:** “Is this the cradle of the disease, That man alone must answer for?” – Apocalypse Orchestra, “The Garden of Earthly Delights” (2017). A poster on YouTube liked the music but wanted the lyrics to be ‘less blasphemous.’ The only thing blasphemous is the use of the word: It is blasphemy against your own intelligence and against all human thought.

It is laughable the idea that players in GGDM – representing the government and society of civilizations – should be able to create or determine when Kairotic Moments occur, but GGDM also has in it the modern gaming premise of players as godlike beings guiding a civilization and GGDM’s Public Space, Matrix, etc. represent a ‘god view’ of the civilization.

- ✓ Most certainly the Romans didn’t intentionally set out to create Christianity! Rather, the forces in play at the time each played their part, did what they would naturally do given their position, powers, abilities, duties, beliefs and *willingness to act on them*. The resulting transformative echo is the emergence.
 - Just as the Byzantine Empire wasn’t there to protect Europe from invasion across the Bosphorus for 800 years, it was just there, and whatever ‘benefit’ of isolation chaotic and impoverished Europe received from it was incidental, for which the West is still thankful to the extent that we understand it matters.

- ✓ Dune is an attempt to recreate the Kairotic Moment (through an ‘Emperor of Everything’ story, Norman Spinrad), the Padishah Emperor, the Harkonnens, and the Bene Gesserit did not intend the end result of Dune (which is the point of it!).
- ✓ The Babylon 5 station, through the events of the series, became a special fictional place to the viewers and, as shown in “The Deconstruction of Falling Stars” (1997) a holy place to following generations.

Kairotic Moments are not a ‘tool’ of the players but instead, a storytelling ‘tool’ of the game. The Concierge initiates and creates the Kairotic Moment at *opportune times* and the players deal with the consequences, and perhaps try to exploit them (because players will try to exploit anything), during the game.

- ✓ **Merlin to Arthur at Camelot:** I can tell you nothing more. My days are ending. The gods of once are gone forever. It’s a time for men, it is your time Arthur. ... No, this is the moment you must face at last, to be king alone. ... There are other worlds. This one is done with me. – Excalibur (1981).⁶
 - **Arthur to Guinevere at the Convent:** I was not born to live a man’s life, but to be the stuff of future memory. The fellowship was a brief beginning, a fair time that cannot be forgotten, and because it will not be forgotten, that fair time may come again. Now once more, I must ride with my knights to defend what was and the dream of what could be. ... I have often thought that in the hereafter of our lives, when I owe no more to the future, and can be just a man, that we may meet, you’ll come to me and claim me yours, and know that I am your husband. It is a dream I have.⁷
 - Cf. **Beowulf:** We men are the monsters now. The time of heroes is dead, Wiglaf – the Christ God has killed it, leaving humankind with nothing but weeping martyrs, fear, and shame. – Beowulf (2007).
- **Biblical Blurbs:** It would be considered good form if the Concierge would issue a Special Bulletin (Intervention) when the Kairotic Moment is officially triggered (see Critical Mass, 3 Kairotic Moment, p. 1438, *infra*). The Special Bulletin should include the key Aspect that is associated with the Kairotic Moment and perhaps something to give it context; the game mechanics of the Kairotic Moment need something to give them context in the story. It is possible that the Concierge could also use a Prose Intervention (see 2 Entropy, p. 236, *supra*), but in whatever form it is given, it is not an official ‘interpretation’ in that it does not create or govern any game mechanic in the game, i.e. the statement by the Concierge did not create the Kairotic Moment. The statement is merely to provide the Aspects for the Kairotic Moment and something of a story for the players to work off of as the Moment runs its course.
- **Equilibrium Epiphany:** Although the concept of a ‘teachable moment’ might be characterized as the modern cousin to the ancient rhetorical concept of the kairotic moment (*ut supra*), participants should not be fooled into thinking that kairotic (or even emergent) moments are always positive. A kairotic moment is just an opportune moment in a conflict, argument, debate where something important may occur. But opportune for whom? Even teachable moments are rather neutral despite their association with positive pedagogy; the teachable moment depends on what you are trying to teach, e.g., racism or anti-racism, nationalism or anarchy? The terms in which James Havinghurst (feature quote, p. 1418, *ut supra*) described

the teachable moment can (and does) also apply equally to advertising, propaganda, politics and public relations, not just pedagogy (see Pedagogy of Propaganda, p. 1424, *ut infra*).

Thus kairotic moments should not be assumed to be *positive* (in our sense): In the previous discussion of the assassination of Julius Caesar and political murder (see Bitterness & Murder, 6 Government Titles, p. 657, *supra*), *the moment was one in which the political leadership of the Roman civilization could either repudiate political murder or allow it to become the norm* and the Second Triumvirate decided to embrace it, legitimize it by their state authority (by reviving the discarded practice of *proscription*), to consolidate their power and eliminate political opposition. If you construe kairotic moments as ‘teachable moments’ in the positive, wisdom-building sense, then that moment in 36 B.C. was an opportunity missed. But *something* happened during that moment whichever way you construe it, whether you think it was an opportunity missed or not, and that is the Kairotic Moment in GGDM.

- ✓ In this sense of *something happened*, Kairotic Moments in GGDM are similar to the famous answer of “42” in the Hitchhiker’s Guide to the Galaxy: The answer to everything is 42 but what is the question? The question is what the story fills in ... or not.

In the story of a GGDM game, a Kairotic Moment does not need to be religious, but does need to be a core experience, opportune moment for *something* to happen to *or* in a civilization. The story is what that is.

- ✓ Back to our favorite agent of analogies: baseball. There are two outs in a half-inning and the bases are loaded. There are opportunities for both teams – for the at-bat team, a grand slam, or even a base hit; for the pitcher, a chance to escape a bases-loaded jam with no damage (other than an elevated pitch count). *Something* is going to happen. What is great for one team – a grand slam or a final out – is a disaster or at least a failure of opportunity for the other. Even if it suddenly rains like Noah’s flood and the game is called, or the players all just leave and go home (or maybe the recess bell rings), or the Supreme Being rolls up the map (as in Time Bandits (1981)), *something* will have happened in relation to that instance – even if outside the context of the system where the opportune moment exists. Humans (and life), by accident or design, create those instances where something must happen.

“Any man’s death diminishes me, because I am involved in mankind; and therefore never send to know for whom the bell tolls; it tolls for thee.”

– John Donne, *Devotions upon Emergent Occasions* (1624)

Opportune for Whom?: Uh-oh, there’s that word ‘emergent’ again! In the 17th Century! When constructing or resolving a Kairotic Moment, one question might be ‘opportune for whom?’ That is, who is the actor? Some considerations include:

- ✓ What opportunity exists or what is opportune about that moment in that place?
- ✓ What is the issue?
- ✓ Who is this moment *opportune for* and what are they trying to accomplish?
- ✓ What situation created the opportunity?

The example most familiar to those of Western civilization (which is why I am using it, I and my probable audience are not familiar enough with anything else) is Roman-occupied Palestine, so let's ask those questions of Christianity. For whom was the moment opportune and in what way? And was the opportunity they saw realized or sidetracked? Certainly, the Romans didn't see anything opportune in it, or if they did, it was the ability to gain favor with certain elements in the occupied territory by executing a wild heretic peasant preacher. How did it result in such a complete change of worldview of Western civilization? Page | 1423

➤ The Core of Christianity: The mystic core of Christianity is in fact, answering those questions, because it is really difficult if you understand the history and the sociopolitical milieu of the time and place to see how the moment was opportune for anything but being run through by a Roman sword or crucified. Yet clearly, something emergent came from it, and this seems to be the core issue: Palestine Judaism was being forcefully Hellenized by the Romans (there had been internecine strife over that issue previously, e.g., the Maccabean Revolt) and the early Christians were considered to be a Hellenized Jewish sect or cult.

- ✓ But Palestine appears to be the cultural crossroads of the time, being between Egypt and Syria, between Rome and the East. This is what made it Terra Sancta to two offshoot Abrahamic religions and strategically vital to the Roman Empire. In modern times, early Christianity has been characterized as an obscure 'oriental cult' (e.g., Prof. Michael Kulikowski, and the movie *The Man from Earth* (2007)) acknowledging finally its relationship to Buddhism which spread along the Silk Road.⁸

It is from this Hellenization in fact, that the early Christians got the sense of the Kairotic Moment in history and built it into a separate religion based on questionable opportunities in Palestine and penetrated all the way to the center of the Roman Empire.

Separated entirely from the religion, *this phenomenon alone is a stunning historical turn that demands explanation, the macro-process – and not the religion – is sublime.*⁹

- ✓ “Christianity itself can be seen as originating in a millenarian movement among Jewish people living under Roman rule, *although its characteristics as a social movement quickly changed* as it spread through the Roman Empire.” – from Wikipedia article, “Millenarianism in colonial societies,” captured June 14, 2019 (emphasis added).
- ✓ “Apart from the small and ethnically circumscribed exception of the Jews, the ancient world had never known an exclusivist faith, so the rapid success of early Christianity is *a historical anomaly*. Moreover, because some form of Christianity is a foundational part of so many peoples' lives and identities, the Christianisation of the Roman empire feels perennially relevant – something that is 'about us' in a way a lot of ancient history simply is not. Of course, this apparent relevance also obscures as much as it reveals, especially just how *strange* Rome's Christianisation really was.” – Prof. Michael Kulikowski (Pennsylvania State University), “Christians were Strangers: How an obscure oriental cult in a corner of Roman Palestine grew to become the dominant religion of the Western world,” Aeon, January 30, 2017 (emphasis added).¹⁰
- ✓ “The Roman Empire became Christian during the fourth century CE. At the century's start, Christians were – at most – a substantial minority of the population. By its end, Christians (or nominal Christians) indisputably constituted a majority in the empire. Tellingly, at the beginning of the century, the imperial government launched

the only sustained and concerted effort to suppress Christianity in ancient history – and yet by the century’s end, the emperors themselves were Christians, Christianity enjoyed exclusive support from the state and was, in principle, the only religion the state permitted.” *Id.*

By 395 A.D., Emperor Theodosius I dissolved the Vestal Virgins, allowed the final destruction of the remainder of the Library of Alexandria and established Christianity as the official state religion of Rome (if you like, this is an example consistent with the gradual change in worldview discussed in *Artifice*, 2 Constructural Elements, pp. 191-192, *supra*).

- ✓ The Vestal Virgins were the strangest of Roman creatures, difficult for modern Westerners to conceptualize. I suppose that some argument has been made that the Virgin Mary story was inspired by the Vestal Virgins (it would kind of make sense), but the importance of their dissolution in 395 A.D. cannot be understated. In order to have been dissolved, the entire underlying worldview must have changed, such that they appeared a quaint, odd appendage to the Roman State. Virgin Mary defeated the Vestal Virgins by birthing upon the world a sublime movement the like of which the Vestal priestesses had never imagined, the Virgin Mary had done one thing the Vestal Virgins were impliedly never allowed to do: give birth.¹¹

The Western Roman Empire was gone in three generations, a receding shadow in the fourth.

- ✓ The trick, device, quality of Christianity in particular and of the Abrahamic religions in general, that separates them from all preceding (polytheistic) religions is the Kairotic Moment which must have developed over a millennia time in the north and western Mediterranean and the Israelites received it from contact with the Hittites, Phoenicians, and possibly even Greek traders. Monotheism focused the many and diverse into the one, singular, powerful, the moment in eternity.
- It Tolls for Thee: In the *Cosmos* television series, Carl Sagan shrewdly goes about the task of *sanctifying* certain scientific historical figures of ancient times, the Enlightenment and modern scientific age in the process of putting forth his own belief system; he recognizes, without saying so, *the power of sanctification of constructed memories* of early Church figures that was the foundation of the Church’s authority for a millennia.

His Kairotic Moment for *Cosmos* was the *existential threat* of the Cold War – existential threats are considered very good teachable moments! Just like the existential threat to traditional Jewish culture and religion in Roman occupied Palestine (as opposed to how the Romans allowed the Egyptians to continue mostly unaffected).

“Our soldiers learned to think the way the enemy wanted them to think.”

– Adolf Hitler, *Mein Kampf* (1925)

Pedagogy of Propaganda: That propaganda, psychological warfare and advertising (discussed in various places through GGDM) can all be likened to learning and share similar principles – including teachable moments – with pedagogy should not be surprising, they are all seeking to have the target audience ‘learn’ something favorable to the sender.

There are always kairotic moments in any conflict, whether armed or not, in which opponents can be trained or taught to think they are wrong, they are going to lose, or whatever suits the sender's purpose.

- ✓ Allied propaganda in WWI promoted the idea that Germans were Huns. They didn't invent it. Guess the source? On July 27, 1900, Kaiser Wilhelm II made a fiery, chauvinistic, poorly-received speech to German troops departing for a European expeditionary force to China in which he implored them to be merciless like the Huns.

Consider the following:

- ✓ “In the sphere of leaflet propaganda the enemy has defeated us ... The enemy has defeated us, not as man against man in the field of battle, bayonet against bayonet; no, bad contents poorly printed on poor paper have paralyzed our strength.” – German Army report, WWI.
- ✓ “We were as hypnotized by the enemy's propaganda as a rabbit is by a snake.” – General Eric Von Ludendorf, German General Staff, 1918.
 - The German military leadership in the aftermath of WWI, convinced themselves that they had been defeated by propaganda, not man to man. They and the political leadership used political propaganda to *teach the nation* – especially the generation then coming of age – that this was the cause of their defeat, cushioning the blow to national psychology and deflecting blame. Fascist ideology added allegations of racial or ethnic treason to the story. On this basis then, groups such as White Rose, could be arrested, tried, and executed for distributing leaflets on the allegation that they were spreading ‘defeatist’ propaganda during WWII, making them a ‘danger’ to the state. The students involved in White Rose did not understand the extent to which their parents had voted away their civil liberties.
- ✓ “To seduce the enemy's soldiers from their allegiance and encourage them to surrender is of special service, for an adversary is more hurt by desertion than by slaughter.” – Flavius Vegetius Renuatus, about 378 A.D.
 - Note that this may refer more specifically to Rome's interminable civil wars of succession where legions were political power for the aspiring usurper. This is a case of taking context.
- ✓ “Psychological Warfare has always rested as an uneasy activity in democracies, even in wartime. It is partly to do with the suspicion that using the mind to influence the mind is somehow unacceptable. But is it more unacceptable to shoot someone's brains out rather than to persuade that brain to drop down their weapon and live?” – Prof. Phillip M. Taylor (University of Leeds).
- ✓ “If you give a man the correct information for seven years, he may believe the incorrect information on the first day of the eighth year when it is necessary, from your point of view, that he should do so. Your first job is to build the credibility and the authenticity of your propaganda, and persuade the enemy to trust you although you are his enemy.” – Psychological Warfare Casebook, Operations Research Office, Johns Hopkins University Baltimore (1958).¹²

“The mark of the immature man is that he wants to die nobly for a cause, while the mark of a mature man is that he wants to live humbly for one.”

– Wilhelm Stekel

“The tyrant dies and his rule is over; the martyr dies and his rule begins.”

– Søren Kierkegaard, Journals, 1848

Endnotes.

¹ Commentary & Citation: I have heard since I was young that the U.S. Government had some plan to preserve the U.S. Constitution and Declaration of Independence in case of nuclear attack (for national government continuity).

- ✓ “Despite [David] Ferriero’s best efforts to conceal the government’s plan from America’s citizens ... we do have a pretty good idea of how the Charters would be protected.... Line of defense No. 1: the ‘Charters Vault.’ In 1953, during the Cold War, a ‘Charters Vault’ was built and installed at the National Archives. ‘At the closing of the building each night, the documents and their protective display cases were lowered into the vault,’ according to Atomic Audit: The Costs and Consequences of U.S. Nuclear Weapons Since 1940. ‘This was also done in the event of a nuclear attack.’” – Dan Amira, “How the Government Would Protect the Constitution and the Declaration of Independence During a Zombie Apocalypse,” *Intelligencer*, June 25, 2013.
 - Although this article was written in relation to the release of the movie *World War Z* (as the tongue-in-cheek title suggests) it is clearly talking about a Nuclear Holocaust. I had heard there was a subterranean vault when I was young. I was an intensely strange youth, things that others would hear and immediately forget, stuck in my mind, national continuity was important to me.
- ✓ “As *Time* reported in 1992: ‘One of the most difficult challenges facing doomsday planners was deciding what cultural treasures should be saved ... Between 1979 and 1981, a government task force called the Cultural Heritage Preservation Group met to draw up priority lists. The Library of Congress’s ‘Top Treasures Inventory’ includes a Gutenberg Bible, the Gettysburg Address and various papers of James Madison, Thomas Jefferson and George Mason. For the National Archives, which is seven blocks from the White House, the single most precious item would be the Declaration of Independence, followed by the Constitution and the Bill of Rights. Though the National Archives building has a 55-ton steel-and-concrete vault on the premises, the scenario calls for the evacuation of these and other documents, probably by helicopter, to an underground facility, if there is adequate warning time.’ According to *Time*, the art, at least – and presumably the Charters as well – would be sent to Mount Weather, a Virginia complex known to include a bunker that would serve as one of the sites the government would retreat to in the case of a nuclear strike. Whether this is still the plan, we can’t say for sure. ‘When I was at the Archives in the eighties and first half of the nineties, we had a list of the highest-priority items (including the ‘Charters’) that would be protected in case of a national emergency,’ Trudy Huskamp, a former Archivist of the United States from 1993 to 1995, e-mailed from the Marshall Islands. ‘I assume there is still such a list; however, I don’t know where the items would be relocated.’” *Id.* – citing Ted Gup, “Grab that Leonardo!” *Time*, August 10, 1992.

² Citation: “The Church of Jesus Christ of Latter-day Saints (LDS) has a deep and doctrinal devotion to the U.S. Constitution, which it considers to be divinely inspired.” – Max Perry Mueller, “Mitt Romney’s Mormon Mission,” *Slate*, February 20, 2018 (see 3 Government Titles, EN 5, p. 622, *supra*, for full quote).

³ Commentary & Citation: In the *Babylon 5* episode, “The Long Night,” (1997), future Centauri Emperor Vir Cotto muses, “What was it all for, I wonder? What was any of it for?” as the Centauri evacuate Narn, ending their destructive occupation. This comment ideologically links Vir Cotto to Emperor Turhan and separates him from his predecessors Emperor Cartagia and future Emperor Londo.

⁴ Citation: “The Event is a shorthand term given to the moment in time that the Lost Room was created. It occurred at 1:20:44 p.m. on May 4, 1961, and erased the room and all of its contents from history. The reason behind this and the ultimate purpose of the Objects is unknown, though two primary hypotheses have been postulated. Even the

man occupying the room at the time of the event doesn't seem to know what happened, so the truth remains a mystery. Both hypotheses essentially lead to the same conclusion, but attribute the event to different causes.” – from Wikipedia article, “The Lost Room,” February 5, 2019.

✓ Would like to see a movie about the man who was in the room when the Event happened, *is he lying?*

⁵ Commentary: This line of thought also relates to something I read that alleged that change comes from the desert; possibly relating to either the story of Moses or that Jesus hailed from semi-arid lands, or that the cultural accumulation of ancient invaders of Mesopotamia, Mexico, and the Indus, Nile and Yellow River valleys came from the deserts and mountains.

⁶ Commentary: In the movie *Excalibur* (1981), Arthur pulled the sword from the stone without anyone noticing. When he was required to demonstrate it again, the hurried official blessing of the priest made no difference, because he had already done it once! Thus, at the beginning of the story, Christianity had little power (or perhaps this was just a general comment on ritual religion by the writers) but by the end of the story, it was all powerful.

✓ In fact, the entire jousting to ‘win’ the right to try to draw the sword from the stone turned out to be an amusing farce (but it gave the warriors something to do and cleverly kept anyone from claiming to be king as long as that was the sole measure of legitimacy in that place); like modern quantum physics, they were perhaps asking questions in the wrong framework of understanding (i.e. physical strength vs. destiny).

⁷ Commentary: Guinevere had no children by Arthur, perhaps she was barren, she also did not become pregnant by her tryst with Lancelot (that would have complicated matters!). Arthur, like Napoleon, had children – an heir, Mordred – by another woman, Morgana, his half-sister. Or perhaps it was because an age of the world was ending – as the film told us several times – and everyone had to die at the end, Arthur and his son killed each other, Morgana was killed by her son, all the knights were dead, Lancelot forgiven and reinstated for his eternal salvation, Guinevere forgiven and queened again, Merlin was imprisoned but escaped in dreams, and the sword was returned to the water spirit. Only the widow Guinevere survived in a convent and Perceval, the last, most faithful knight, rode away.

⁸ Commentary: One does wonder what might have happened if early cult-like commune Christianity, especially monastic Christianity, had been held to the same standards as NXIVM? Do you think there aren't similarities?

✓ “That a world religion should have emerged from an oriental cult in a tiny and peculiar corner of Roman Palestine is nothing short of extraordinary. Jesus of Nazareth was a Jew, though an eccentric one, and here the concern is not what the historical Jesus did or did not believe. We know that he was executed for disturbing the Roman peace during the reign of the emperor Tiberius, and that some of his followers then decided that Jesus was not merely another regular prophet, common in the region. Rather, he was the son of the one true god, and he had died to bring salvation to those who would follow him.

Jesus's disciples began to preach the virtues of their wonderworker. Quite a few people believed them, including Saul of Tarsus, who took the message on the road, changing his name to Paul as a token of his conversion. Paul ignored the hardscrabble villages of the Galilee region, looking instead to the cities full of Greeks and Greek-speaking Jews all around the eastern Mediterranean littoral. He travelled to the Levant, Asia Minor and mainland Greece, where he delivered his famous address to the Corinthians.” – Prof. Michael Kulikowski (Pennsylvania State University), “Christians were Strangers: How an obscure oriental cult in a corner of Roman Palestine grew to become the dominant religion of the Western world,” *Aeon*, January 30, 2017.

- Characterization of Christianity's origin as an ‘oriental cult’ seems to have gained acceptance in the late 20th Century (e.g., Jerome Bixby's *The Man from the Earth* (2007) but the script was begun in the late-1960s and finished in 1998 just before he died) – which first required the West to accept that a major part of their cultural heritage originated in the East. *East is East and West is West and the twain did meet*, when East slipped in through the side door and changed costumes!

⁹ Citation & Commentary: The 2017 crowd-funded, faith-based movie *Testament* (dir. Tom Ritter – not to be confused with the 1983 nuclear holocaust mini-series) attempts to recreate the post-Crucifixion slow ascent of Christianity in a near-future dystopian setting. I watched the entire movie in several tries over two days. I am not sure the writers and directors understood what they were trying to emulate; they may not have seen the movie in the same lens through which I viewed it. The movie implies that the ‘Second Coming’ has occurred recently (he was killed again, by a rival gang), but spends most of the screen time on the main character's faith, doubts, and tribulations, it never really explains why ‘The Movement’ might succeed (the movie did not have any miracles or wonders) or why

everyone opposes it. The writers seem to assume that the martyrdom of the main character at the end was both divinely required/orchestrated and important to the success of ‘The Movement.’ But the movie ended there because they had no clue and were out of screen time.

- ✓ I think this is probably symptomatic of the larger problem: For those who know the New Testament and have the faith, the meaning of the main character’s death in the end and the expected wondrous results stemming therefrom are obvious. And do not need to be stated or shown, which is fortunate for the movie writers. *It has the symptoms of magical thinking.* But for the rest of us, there is no connect. This is why Christianity is treading water and slowly drowning in the West; their attempts at spreading the faith are trite (give the filmmaker credit for trying something-sort-of new) and increasingly disconnected from the worldview of the population. They are either engaging in magical thinking or ‘faith’ in some unseeable dynamic process through a lens we cannot see (i.e. Albert Camus’ ‘philosophical suicide’).

¹⁰ Citation: “Paul was a Christian, perhaps indeed the first Christian, but he was also a Roman. That was new. Even if the occasional Jew gained Roman citizenship, Jews weren’t Romans. As a religion, Judaism was ethnic, which gave Jews some privileged exemptions unavailable to any other Roman subjects, but it also meant they were perpetually aliens. In contrast, Christianity was not ethnic. Although Christian leaders were intent on separating themselves physically and ideologically from the Jewish communities out of which they’d grown, they also accepted newcomers to their congregations without regard for ethnic origin or social class. In the socially stratified world of antiquity, the egalitarianism of Christianity was unusual and, to many, appealing.” *Id.*

- ✓ “The promise of salvation, vouchsafed in the miracles of Jesus and/or his divine father also drew in followers. Miracles and the immanence of the supernatural abounded in the Roman world. Powerful miracles were powerfully persuasive. Stories circulated about the Christian god (or the son of god – theology was a work in progress for a very long time), far more stories than today’s canon acknowledges. It used to be said that women, slaves and the working classes took to Christianity first but, in fact, the miracle stories and the promises of salvation attracted a wide cross-section of society. Christianity offered eternal life in exchange for belief – no complex initiation rituals, no hieratic pyramid of occult revelation.” *Id.*
- ✓ “By the third century, Christian communities had grown. One would have been hard-pressed to find even a modest town without a Christian household or three. From a fringe movement, Christianity had become a central fact of urban life. Yet the religion’s normalisation made it suddenly vulnerable in the middle of the third century, when – thanks to dynastic instability, epidemic disease and military incompetence – imperial government went into a potentially terminal decline.” *Id.*
- ✓ “His son and successor Gallienus immediately ended persecution and restored the legal rights of Christian churches. That legal measure demonstrates something significant. Churches had become prosperous, socially integrated corporate entities, able to possess and dispose of property. Christianity was no longer a clandestine and minority religion.” *Id.*
 - As commented previously in GGDM, generally, knowledge of the Roman Empire and classical and ancient history has declined in the West with the decline of Christianity or secularization – which indicates, in agreement with Prof. Kulikowski’s opinion above, that it has lost relevance. Not much is taught in public schools because at first they assumed that what was needed would be learned through youthful religious attendance; now not much is taught because it is not important.

¹¹ Commentary & Citation: As usual, Rome had the last laugh, long after the last vestiges of the Western Empire were erased: Medieval Christianity developed an Anchorite tradition that mimicked the Vestal Virgins. According to Merriam-Webster online dictionary, the first use of the word *Anchorite* in English is in the 15th Century but the word ‘anchor’ for a religious hermit was being used almost 450 years before then. Several articles on the subject place the first *Anchorites* in the 11th or 12th Centuries, so the tradition may have developed over time in stages before being officially recognized and defined. And although the records are incomplete, it appears that female Anchorites vastly outnumbered male Anchorites, especially during the peak period of the practice. Probably the term wasn’t genderized in English (e.g., anchoress/anchorite) until modern times, and that may explain why the gender of many anchorites is unknown. Within 700 years, the Vestal Virgins had returned in a Christian-acceptable guise.

¹² Commentary: This is why it is a problem when the enemy’s propaganda is more truthful than the information the troops are receiving from their own command or politicians. It is taught in contact sports that the ‘low man wins,’ that is, the one who can go lower to the ground can out-leverage their opponent; in propaganda, this can be analogized to the ground being the truth, he who stays closer to the truth can out-leverage his opponent.

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See Appendix DE&A – Disruption Events, Inactive Constructural Elements & Apostasy

See Appendix KM – Kairotic Moment Example

“As the water tumbles and foams, the world’s most famous chimpanzees sway rhythmically in a state of high arousal. First hurling rocks into the spray, the apes then quiet themselves and sit calmly, gazing at the waterfall before them. Jane Goodall, who knows these apes from 55 years of observation at Gombe, Tanzania, interprets these compelling images of our closest living relatives in a spiritual framework. The chimpanzees’ behavior, she says, are ‘perhaps triggered by feelings of awe, wonder’ for magnificent natural features or events. Chimpanzees are so similar to us, she asks, ‘Why wouldn’t they also have feelings of some kind of spirituality?’ That question – rooted in Goodall’s definition of spirituality as the experience of appreciating magnificent, unknowable powers at work in the world beyond ourselves – has taken on a new urgency.”

– Barbara J. King, “Seeing Spirituality in Chimpanzees,” The Atlantic, March 29, 2016

“For me, when I say spiritual, I’m referring to a feeling you would have that connects you to the universe in a way that it may defy simple vocabulary. We think about the universe as an intellectual playground, which it surely is, but the moment you learn something that touches an emotion rather than just something intellectual, I would call that a spiritual encounter with the universe.”

– Neil deGrasse Tyson on The Paul Mecurio Show ¹

There are Three Paths You Will Go By: When a Kairotic Moment is triggered in a game of GGDM – how it is triggered will be discussed later – a set of game processes is launched which positions can resist or ride. A Kairotic Moment always has a specific location (i.e. colony, see Terra Sancta, 1 Kairotic Moments, p. 1420, *supra*) and a specific point in time (i.e. Regular Turn of the originating position) where it begins.

- **Sojourn:** On the Regular Turn that the KM is triggered, a blue marker appears on the *Terra Sancta* chosen by the Concierge and a red dot appears on the position’s current Capital Colony. The color dots have no game effect and no meaning that the position players do not assign to them. Each time the position’s Regular Turn is processed afterwards, the dots will move along the Pathways connecting each of the colonies to a Government Title (see All Roads Lead To..., *et seq.*, 2 Government Titles, p. 595, *supra*) until they reach the opposite colony. When a color dot reaches the Government Title via Pathway, it will pass through the Title as if it were one Monad, and proceed up the Pathway from the Government Title to the opposite colony.
 - ✓ Each color dot will move 1-3 Monads per Regular Turn, equaling the current Intensity Level of the Kairotic Moment.
 - ✓ There is no non-interpretative effect from the color dots passing through the Government Titles, it is merely as symbolic as the participants think it is.
 - ✓ If the Terra Sancta colony and the Capital Colony share the same Pathway, the dots will simply move along the Pathway toward each other, passing at some point, and reaching their opposite colonies directly.
- **Intensiteit:** At the time the Kairotic Moment is triggered, an ‘intensity level’ of either 1 or 3 is randomly determined, with three being very intense, and one being somewhat anemic; some movements start small and languish in the corner then grow big and explode, some

movements explode onto the scene and run their course with a short shelf-life. At specific points determined by the Concierge – possibly based on the progress of the dots – the intensity level will move up one notch if it started at 1 or down one notch if it began at 3, until it reaches the opposite end, where it will remain at its final intensity level for 0-2 Turn Cycles (Turn Cycle is not the same as Regular Turn, see definition in *Buzzing Lightyears*, 4 The Streams of Time, p. 101, *supra*). Afterward, the Kairotic Moment has passed.

- ✓ The Turn Cycle distinction being made here is that the colored dot only moves on the KM position's Regular Turns, not on the next or subsequent positions' Regular Turns.
- **Convictions:** When both moving color dots have reached their destinations, they disappear and are replaced by a single dot (of whatever color, it doesn't *matter* unless participants think it does), on the Capital Colony. On the next Regular Turn processed by the position, the dot will pass onto the First Space of each Diplomatic Space (even if the Capital's status is suspended, see *Waving the Flag*, 2 Constructural Elements, p. 190, *supra*) and thereafter, proceed in the same way across each Diplomatic Space to the opposite First Space, and then on the next Regular Turn, end on the alien position's Capital Colony where it will remain until the end of the alien position's next Regular Turn. There is no direct effect on the alien Capital Colony from this except perhaps timing of Intensity changes in the Kairotic Moment which should be in its final stage at that point (but timing is always up to the Concierge).
 - ✓ It is up to the participants to decide if the color dot can cross Diplomatic Spaces where there is no connection between the First Spaces, i.e. the positions have had First Contact but have not developed any Diplomatic Space. But it seems unlikely to occur unless some valid reason can be given for bridging such a gulf (that is, something emergent). A color dot that cannot move due to no connection between First Spaces will remain on the First Space until the phenomenon has run its course.

So basically, at this point, you think you have read a bunch of nothing, about color dots moving across the Public and Diplomatic Spaces. Intensity numbers might be more interesting, because at least there is a concrete seeming value to latch onto the mind.

[Minbari Rathenn, carrying an ornate ancient chest, chases down Ambassador Jeffrey Sinclair and confronts him]

"I was sent to find you. The ancient books told us on this day, no sooner or later, we were to enter the sanctuary and open this. We did not know what was inside; it has waited, locked and sealed, for over 900 years. We do not understand how or why, we know only that it is."

[The box contains an envelope addressed to Jeffrey David Sinclair]

"How did he know that you would be here? How did he know your name?"

– Babylon 5, "War Without End, Part 1" (1996) opening scene

Undecidabilities: Beginning on the position's Regular Turn after the Kairotic Moment is triggered, at the end of each turn processing, one of three Constructural Elements (Epistemological, Symbolic, or Ideological, see 1 Constructural Elements, *supra*) will be randomly chosen.

Every active Constructural Element of the type chosen on sovereign colonies or ships will be ‘tested’ to see if it becomes inactive. This is not a Disruption Event nor is it considered an *apostasy* (see GGDM Disruption Event in Stewed, Brewed, Boiled, Baked & Fried, *et seq.*, 1 Disruption, pp. 258-259, and *apostasy* in Alieny Apostasy, 3 Disruption, p. 283, *supra*).

- ✓ “Deconstruction is a mode of reading that can be useful to point out the undecidabilities of any text, including the literary text. Undecidabilities are the moments of a text when it is impossible to crystallize one single meaning precisely because a multitude of meanings emerge in a single time.” – Aparecido Donizete Rossi, São Paulo State University, 2012.
 - ✓ “Such being the case, there might be a time when it is impossible to decipher by the grammatical structure of this sentence which meaning is intended by the speaker. Undecidability or indeterminacy characterizes the linguistic system.” – Jacques Derrida, “Deconstruction and Literary Interpretation,” article posted by C Vairavan, Anna University, Chennai, 2012. *Id.*
 - ✓ “In computability theory and computational complexity theory, an undecidable problem is a decision problem for which it is proved to be impossible to construct an algorithm that always leads to a correct yes-or-no answer. The halting problem is an example: there is no algorithm that correctly determines whether arbitrary programs eventually halt when run.” – from Wikipedia article, “Undecidable problem.”²
- What’s in the box?: There is a 5% chance *times the current Intensity Level* for each active Constructural Element of the type chosen to become inactive. Inactive Constructural may be returned to active status normally by activations of the Culture Power for the purpose of Cohering (see 5 Culture, p. 421, *supra*), or on ships by being located at colonies at the end of the Regular Turn (see Mutiny on the Bounty, 3 Disruption, p. 282, *supra*). These checks continue each Regular Turn until the Kairotic Moment has run its full course.
- ✓ If the Symbolic Constructural Element of the Capital Colony becomes inactive, it loses its Capital Status (see Waving the Flag, 2 Constructural Elements, p. 190, *supra*). This will not prevent passage of the colored dot through the Capital into Diplomatic Space (*ut supra*). If the Epistemological Constructural Element is inactive, the colony or ship may not receive the benefits of Enlightenment (see Skool Tyme, 2 Constructural Elements, p. 190, *supra*).
- Gom Jabbar: When 25% or less of any Constructural Element remains active after being ‘tested’ on the turn it is chosen (not if the condition exists on a turn it is not chosen), *all Constructural Elements of that type will become active and may not become inactive* (by any means, including testing) for one to three Regular Turns afterward (an immunity period). This process ends when all three Constructural Elements – Epistemological, Symbolic, and Ideological, have passed through to immunity (or the Kairotic Moment expires, *ut supra*, previous pages), however, it is possible for one Constructural Element to pass through twice (after the first immunity period) if the process lasts long enough.
- ✓ Positions can fight this process by Cohering or they can surrender and let it run its course. It’s hard to say which is right, because it depends on circumstances turn by turn, having only 25% of a Constructural Element active can cause massive Power Activation failure problems, government Conflict Check failures, etc. Some positions may begin with a lot of inactive Constructural Elements and it may be beneficial and

quick to let the percentages go down and come back up. There are *many moving parts* in any GGDM Turn Cycle, e.g., News Events, Disruption Events, Patents, Writs, wars, colonization, Corporations expiring.

What is being represented here is a complete change in worldview of a civilization, *without specifying what changed*. Whether this is religious, secular, epochal, and what changed, is for the participants to decide, if they choose to look.

Joe: *What happened in that motel room? Wally?*

Wally: *Something terrible. Look... Detective Miller, do you ever feel that there's something wrong with the universe?*

Joe: *Yeah, sure.*

Wally: *Well, you're right. Things like this shouldn't happen. But in that motel room, they did.*

Wally Jabrowski: *Sometimes when you start getting Objects together weird things happen. New things. New properties. Totally unpredictable. Take the Watch. Useless right? ... Wristwatch Cooks eggs. Nothing else just eggs. Put an egg in the middle – hardboils it. I don't know how somebody figured that out but they did. Anyway nobody used to care much about the Watch until one day somebody found out that if you put the Watch and the Knife together you get a kind of telepathy.*

– The Lost Room (TV miniseries, 2006)

Heteropathic Effects: “Homopathic effects arise where causes acting together are identical to the sum of the effects of those causes acting in isolation. For example, forces acting on an object can have the same effect when applied in combination or separately. In contrast, heteropathic effects describe emergent properties seen in complex biological and chemical systems. These conjoint actions cannot be characterised by the sum of any individual causes. For example, the addition of sodium hydroxide to hydrochloric acid produces sodium chloride and water. It is unclear how such a reaction could be characterised as the sum of individual components.” – Christopher W. Johnson (University of Glasgow), summarizing J.S. Mill (1844), “What are Emergent Properties and How Do They Affect the Engineering of Complex Systems?” 2005.

- ✓ “At the other end of the spectrum is a more prosaic view in which emergence means little more than properties that are possessed by a ‘whole’ and not by its parts. In this view, almost every non-trivial object possesses emergent properties, including filing cabinets and chairs.” *Id.*

Wave Motion: During the time that the Kairotic Moment is in progress, any alien ship “that Unloads, Loads or Transfers Cargo, Population, Supplies or any Enhancements (including Looting and Trucking)” (quoting Aliency Apostasy, 3 Disruption, p. 283, *supra*) at a Friendly or Naturalized colony (not just the Terra Sancta) owned by the position undergoing the Kairotic Moment has the normal chance of *apostasy plus* the current intensity level expressed in a percentage.

This effect cannot occur if the Power Activation failed due to already inactive Constructural Elements because the Load, Unload or Transfer never occurred (you know it already, Power Off, 2 Constructural Elements, p. 193, *supra*). In this case, you may be saved by incompetence.

- ✓ For example, a One and Only True Earth Cargo Ship Unloading at a Aliency Aliens Friendly Colony who are undergoing a Kairotic Moment at Intensity Level 3, will

- have a 13% chance of each active Constructural Element on the Cargo Ship becoming *inactive* and the resulting inactive Constructural Elements (*apostasy*) cannot be made active until after a Census Power activation by the One and Only True Earth.
- Brash Youth vs. Self-Doubt: One of the defining differences between the Roman Republic and Empire and European global domination of four centuries; the version of the Romans that comes to us is one of brash youth, no-doubt confidence, and a willingness to go all in to win. Conversely, self-doubt is a feature of Abrahamic religions and especially, Christianity (e.g., G.K. Chesterton furious opposites feature quote, 4 Government Titles, p. 629, *supra*).
 - ✓ “Not only did the Jesuits bring Christianity to China, but they also brought China to Europe. In doing so, they impelled an intellectual mutation that had been taking root since the Thirty Years War. To the troubled European society of the late seventeenth century, the Jesuit image of a near utopian civilization governed by moral sages uncorrupted by intolerance, passion, or material desire, offered a refreshing contrast. Kangxi was viewed as a philosopher king whose sense of justice and virtue made Leopold I or Louis XIV seem like moral pygmies. Europe swallowed fact and fancy about China. For the first time, a significant body of Western intellectuals cast doubts on the ethical superiority of their own civilization. Paradoxically enough, this was occurring at the moment when the very same thinkers were producing rational explanations about the physical universe that Eastern sages could not hope to match.” – Raymond Birn, Crisis, Absolutism, Revolution: Europe 1648 to 1789, 2nd Ed., p. 169.
 - A ‘Total Gurgler’: A ship belonging to a position that is undergoing a Kairotic Moment, may affect Constructural Elements of Friendly or Naturalized **alien colonies** with which they interact – as if the colony were a ship – as described above. That is, a ship from a position undergoing a Kairotic Moment can inflict *apostasy* on an **alien colony**; this is the only time this can happen (e.g., Christians in shōgunshoku era Japan). If the **alien colony** is the same Native Population Type as the Kairotic Moment position, the Intensity Level is squared before being added.
 - ✓ Continuing the Previous Example: An Alieneity Aliens Log Ship makes a delivery of the goods paid for by delivery of RPs by Cargo Ship in the previous example. During the Transfer from the Alieneity Aliens Log Ship to the One and Only True Earth colony, there is a chance that active Constructural Elements on the One and Only True Earth colony will become inactive as if the colony were the ship at an Alieneity Alien colony (in the previous example).
 - ✓ If the **alien colony** was the same Native Population Type as the ship’s position, and the Intensity Level was 3, the 3 would be squared before being added to the base chance, i.e. 9% would be added to the chance of each active Epistemological, Symbolic or Ideological Constructural Element at the colony becoming *inactive*. Inactivation is still not a sure thing because the best possible chance would be 19% that each active Constructural Element will become inactive (see Alieneity Apostasy, 3 Disruption, p. 283, *supra*).
 - ✓ Constructural Elements made inactive in this way cannot be activated by any means until a Census Power activation has occurred in their owning position.

- Pseudo-Physics of the KM: Normally, alien ships interacting with colonies do not affect the colonies based on the pseudo-physics idea of the difference in population masses (like Earth and the Sun), even the smallest colony has many times the population and closer local government control than the alien ship with which they are interacting. Thus, it is the alien ship that normally might be affected (see *Alieny Apostasy*, 3 Disruption, p. 283, *supra*). These rules give the Kairotic Moment transcendent power, like the alpha particle that finds itself ‘instantly’ outside a gravity well that it could not normally escape (see similarly, Lynn Montross quote regarding “explosions of human energy,” 6 Diplomacy, p. 1177, *supra*).³
 - ✓ Pseudo-physics is often employed in political and sociological imagery, e.g., political or social ‘inertia,’ ‘critical mass,’ ‘decay’ or the ‘body politic’ or even ‘organs of state,’ equating the state to a living body, or the ‘collective id’ or ‘narcissistic Romanicism’ of a society, describing *fourth order natural phenomenon* in familiar *first-second-third order terms*.
 - ✓ Physics and biological sciences terms are available to analogize third and fourth order phenomenon precisely because first- and second-order facts are still facts (sort of) in the third and fourth orders of natural phenomenon, but the reverse is not true. The arrow of facts/truth in natural phenomenon flows in one direction, like time, suggesting the successive ‘fracturing’ of the universe as discussed in *Order of Genesis*, 1 Order, p. 522, *supra*; *Fourth Frame*, 1 Entropy, p. 226, *supra*. Because the reverse is not true, fourth-order facts need fourth-order language/terminology to describe them.
 - ✓ Even Joseph Tainter’s *The Collapse of Complex Societies* (1988), quoted much throughout GGDM, is pseudo-physics, it describes the movement of civilizations/societies between lower and higher entropic states; the high entropic state of human civilization would be *no civilization*, which is the favorite subject of post-apocalyptic fiction. A word search of an electronic copy of Prof. Tainter’s book shows that neither ‘entropy’ nor ‘entropic’ are used in the book, though certainly they could have been, suggesting a conscious effort to avoid first- and second-order terminology.

GGDM attempts to describe *fourth order phenomenon* in *fourth order terms*, and thus invents or appropriates a few terms along the way, *à la* Edward Soja, Nick Bostrom, but largely fails. See discussions 1 Constructural Elements generally, *Aspects of Sociology*, 2 Culture, p. 371, and *Order of Genesis*, *et seq.*, and *Frame It*, 1 Order, pp. 522, 526 respectively, *supra*, as opposed to others such as Prof. Kenneth Bailey’s (UCLA) Social Entropy Theory (SET) who uses *first order natural phenomenon terms* to describe macrosocial processes – not saying this isn’t useful, but it is limited. We need, like our scientific ancestors, to invent or adapt terms to describe fourth order phenomenon *ipso facto* and *eo ipso*.

- ✓ See FOURTH ORDER LANGUAGE discussion, 3 Fallen to Earth, p. 1544, *infra*.
- Tsunami: It is possible that all Constructural Elements on a ship or colony might become inactive by the preceding exposure to the Kairotic Moment either because the ship or colony had only one active Constructural Element or because more than one active Constructural Element was ... converted ... to an inactive Constructural Element that cannot be made active. What to do, what to do? These situations are more aligned with emergent storytelling than firm GGDM game mechanics, there are several possible paths the story could follow:
 - ✓ The most obvious (and Norman Spinrad ‘Emperor of Everything’ pulp fiction) result is that the ship or colony completely goes over to the other side, the likelihood of this

- being measured by how many inactive Constructural Elements (1, 2 or 3) are unable to be reactivated and the current Intensity Level of the Kairotic Moment (1, 2, or 3). This is akin to the classic (unforced) religious conversion.
- ✓ Kairotic Moments in GGDM, however, despite the religious undertones due to our Western milieu, are not strictly cast in religious terms and do not need to be religious, but are likely at least philosophical/spiritual on some level. For example, practices that were considered religious by Westerners were considered civil customs by the Chinese (supported by their philosophy, worldview), e.g.:
 - “In 1707 Pope Clement XI declared the Chinese rites idolatrous and ordered the Jesuits to repudiate them. Kangxi was infuriated that Europeans who could not even read Chinese characters were condemning practices the he himself considered to be civil, not religious, customs.... By now, however, the Chinese themselves were questioning the compatibility of Catholic orthodoxy with their traditions. ... Moreover, the dualism of Christian theology was unintelligible to them; the exclusiveness of Western religion was repugnant; its glorification of poverty presented a danger to society.” – Raymond Birn, Crisis, Absolutism, Revolution: Europe 1648 to 1789 (2nd Ed., 1992), p. 170.
 - ✓ Thus, between truly alien cultures, even of the same species, much may be lost in the translation (and some odd things might occur).
 - Although science-fiction literature loves a little ‘jihad’ here and there to kick over some applecarts, e.g., Dune or the Word of Blake in the Battle-Tech Universe, these are almost always between populations of the *same species*, i.e. humans in 99.999% of cases. Thus, the alien-owned colonies and ships most susceptible to the Kairotic Moment are those whose population matches that of the position undergoing the Kairotic Moment (i.e. non-Friendly alien sovereign colonies). Rarely are we shown true cross-cultural exchange of important ideas with non-humanoid (‘Americans in rubber suits’) aliens, which is what makes the movie Arrival (2016) so remarkable – truly alien aliens communicating something important to us instead of shooting at us (cf the Arachnids in Starship Troopers or the Formics in Ender’s Game).
 - Even Lost Colonist Positions (see 6 Beginnings, p. 63, *supra*), having the same Native Population type as the position undergoing the Kairotic Moment may not fully understand, e.g., Catholicism in China, *ut supra*.

“IN THE MINDS of the mortals of Urantia – that being the name of your world – there exists great confusion respecting the meaning of such terms as God, divinity, and deity. Human beings are still more confused and uncertain about the relationships of the divine personalities designated by these numerous appellations. Because of this conceptual poverty associated with so much ideational confusion, I have been directed to formulate this introductory statement in explanation of the meanings which should be attached to certain word symbols as they may be hereinafter used in those papers which the Orvonton corps of truth revealers have been authorized to translate into the English language of Urantia.”

“It is exceedingly difficult to present enlarged concepts and advanced truth, in our endeavor to expand cosmic consciousness and enhance spiritual perception, when we are restricted to the use of a circumscribed language of the realm. But our mandate admonishes us to make every effort to convey our meanings by using the word symbols of the English tongue. We have been instructed to introduce new terms only when the concept to be portrayed finds no terminology in English which can be employed to convey such a new concept partially or even with more or less distortion of meaning.

In the hope of facilitating comprehension and of preventing confusion on the part of every mortal who may peruse these papers, we deem it wise to present in this initial statement an outline of the meanings to be attached to numerous English words which are to be employed in designation of Deity and certain associated concepts of the things, meanings, and values of universal reality.” – Forward to the Urantia Book

Lost in Ludibriums: The Urantia Book was discussed in 2 Dreamtime, p. 154, *supra*, as an amazing example of prolonged group storytelling and collective religious writing.

The foregoing quotes were copied from Wikiquote, however, I recognize them as I did read several pages of the Forward and sampled around various sections of the book. That was all I could handle; I found the book’s tone condescending and the writing tedious, repetitive and confusing, it is not something of such interest to me that I would take the effort to figure it out. But clearly the massive work had an effect of showing later generations how UFOs and alien spirits could become new religions. And how the Bible was probably written.

If humanity has been externally guided toward maturity and technology as some believe – the classic Abrahamic and modern Western ludibriums, whether couched in religion or UFO theories, and always immune to testing – this is the reason why it has been done from a great distance: The ideas need to be translated into human terms by humans (human agents) and accepted as valid or at least, unable to be disproven by humans.

- ✓ If I think I am being directed or coached by aliens, you would be hard pressed to prove me wrong and I would be equally hard pressed to prove it. It is neither provable nor falsifiable. It also wouldn’t be a criminal defense unless some psychiatrist testified that I was so nuts that I didn’t know my actions were wrong. But this is nothing really different than people who claim the same of God (including in criminal trials), except that such claims receive slightly more sympathy because “God” is accepted as real (and as the ultimate objective reality) by most of the world whether they know it or not, and there is a religious tradition, broadly accepted, of God speaking to chosen people in history. So what if you claimed your helpful communicative aliens were spirits or were God or agents of God? It has been done. Already.
- ✓ Consider the issue this way: If we were to try to do the same for our pets, the challenge would be made near impossible due to both their short lifespan and limited cognitive ability (and our limited cognitive ability and patience). We would need to resort to some sort of technology or biological enhancement. We have tried, with marginal success, to provide technology for apes to communicate with humans. But, even within the game of GGDM, there may be considered to be vast differences between Native Population Types that are the Major Races of the game, even though they occupy the same ‘shelf’ of galactic intelligence (see 5 Beginnings, p. 51, *supra*).

- “I don’t practice what I preach because I’m not the kind of person I’m preaching to.” – quote attributed to J.R. “Bob” Dobbs on Goodreads, the probably fictional founder of the parody Church of the Subgenius.

“Last month, a team of 80 scientists led by Hjalmar S. Kuhl and Ammie K. Kalan ... published a paper in Scientific Reports raising the possibility that chimpanzees at four field sites in West Africa may perform a ritual when they repeatedly throw stones at trees in the forest. The apes take aim at the trees with stones they have accumulated (or cached). This behavior, with its striking patterns of re-use of the same stones and trees, has never been observed at Gombe or the other best-known chimpanzee study sites. ...

Given his broad view of religiosity, I asked [Donovan] Schaefer if he sees the West African chimpanzees’ stone-caching and throwing behaviors as religious. He replied this way: ‘People will always debate what is and isn’t sacred, what counts and what doesn’t count as religious. But if we encountered a group of humans who returned to the same trees over and over and performed the same inexplicable action near them and didn’t seem to have any practical reason to do so, there would be lots of people who would interpret it through the prism of religion.’ ...

For now though, I’m still a firm skeptic when it comes to invoking spirituality or religion in these close kin of ours. I’m uneasy with making 1:1 comparisons between the meaning of human behaviors performed at trees in the forest and similar chimpanzee behaviors performed there. After all, even if we unbind religion from language, texts, and beliefs – as I think we should – isn’t it incredibly anthropocentric of us to expect other species to think and feel the way we do?”

– Barbara J. King, “Seeing Spirituality in Chimpanzees,” The Atlantic, March 29, 2016

Endnotes.

¹ Commentary: Note that Mr. Tyson does not define any specific emotion, therefore, it may be a ‘good’ or ‘bad’ emotion (are there neutral emotions?). For me, this ‘spiritual’ is usually frustration, annoyance, and sometimes, sublime. However, as I can describe it in simple vocabulary, it must not be what Tyson is talking about. I’m shallow.

² Commentary: I was possibly involved in a halting problem once, but might also be completely wrong because I am the ignorant sort: Back in 1998-1999, our firm IT person who was a former TV broadcast engineer, and also a MSCE, tried to write a MS server file-manager program that the firm was attempting to develop internally as proprietary software. It had a problem – it would freeze, apparently randomly.

- ✓ This sort of problem is infuriating in IT, medicine or anywhere else because it is non-repeatable in any predictable way and is thus difficult to solve (sort of the same problem experienced in investigations of UFOs, telepathy and occult phenomenon, and also sociology and psychology studies).

I was sat down in the law library at a computer and ran 200 manual tests on the proto-file manager and recorded the results of each test until crash, I never made it to 200 execution tests without a crash. I did this several times over six months, the crash seemed to be random, sometimes it would crash after five tries, sometimes it would be after 90 tries, with no consistency, I must have done the process about eight to ten times. Our IT person travelled (at firm expense) to a MS IT research facility and met with top-level people there. No one could solve the issue, eventually the project was dropped and the firm purchased a file manager system from a vendor, which I helped install on all of the workstations (about 80+) over one weekend in several steps.

³ Commentary: Compare Lynn Montross quote cited to Martin Luther who witnessed the German Peasant’s War and the Münster Rebellion which were unleashed by his rhetoric. Martin Luther also released a transcendent human explosion, but of a different character; the early Protestant revolts were easily defeated by conventional military force but also wouldn’t just go away. The Protestant movement I think changed the nature of modern revolutions, possibly first exemplified by the way the American Revolution was not crushed by conventional military defeats.

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See Appendix DE&A – Disruption Events, Inactive Constructural Elements & Apostasy
See Appendix KM – Kairotic Moment Example

“History in its day to day is not a morality play. But sometimes there is a clear chastisement, a moment when the judgments of providence seem stark.... They may find out soon enough that all this bargain bought them was an even harsher reckoning, and that all they will inherit is the wind.”

– Ross Douthat, *New York Times*, October 12, 2016

Critical Mass: All Aspects from the Aspect List of all positions are collected into a master list for the purposes of Kairotic Moments (the list could be called ‘The Fall’ or the ‘Tome of Doom,’ etc.) It is important to remember for Kairotic Moment purposes that several positions may have the same Aspects on their List, though no two Aspect Lists should be identical.

The ‘percolation point’ that triggers a Kairotic Moment in GGDM is determined by Exposed Aspects. At the beginning of the game, a critical mass number is determined. At the end of each Turn Cycle (see *Buzzing Lightyears*, 4 *The Streams of Time*, p. 101, *supra*), all current Aspects are counted (a snapshot) and the Aspect that has the greatest total presence on *all* Public Spaces, ‘wins’ the Turn Cycle (a sort of zeitgeist).

- ✓ In addition to the normal cycle of Exposing Aspects, Aspects from Trucking Transactions also increase the number of Aspects on Public Spaces. See *Fairies Wear Boots*, 4 *Commerce*, pp. 122-1228, *supra*.

If two or more Aspects are tied, both ‘win.’ When one Aspect has been dominant a number of times in the game equal to the critical mass number, a Kairotic Moment is triggered for *all* positions that have that Aspect currently on their Aspect List.¹

- ✓ This is *not the same as counting the number of times an Aspect has been Exposed in the game*, which was another possible mechanic for Critical Mass that was rejected because it aligns less with the idea of zeitgeist.

The Critical Mass number is effectively, the minimum number of Turn Cycles the game will run before a possible trigger of a Kairotic Moment (assuming the same Aspect wins every cycle, which is not likely). Each Turn Cycle won by a different Aspect will stretch the time before the occurrence of a Kairotic Moment. It is suggested, therefore, that Kairotic Moments are better in the mid- to late-game than the beginning (unless part of a big story plan by the Concierge), and thus the Critical Mass number should be greater than or equal to ten (or six), with the bottom parameter adjustable to participants’ tastes. It could also be set so high as to be unlikely to occur in the game, see shelf-life discussion, *It was the End of History*, 1 *Resolution*, p. 1456, *infra*.

- Meditations of the Overmind: If the game is being run manually, the Concierge will have to generate the Critical Mass number and track Aspects ‘wins’; if, as I assume, the game is being run with computer assistance, there is no need for the Concierge to either know the Critical Mass number or count Aspects at the end of each cycle and track wins. Let it be a surprise! Additionally, when a Kairotic Moment is triggered and the Concierge becomes aware of it, the Concierge is not required to allow it to occur or proceed, Kairotic Moments are at the discretion of the Concierge and should be used as a storytelling tool or maybe just to shake up a dull game position. However, if a computer assistant is used to run the game and track the data, a Kairotic Moment cannot be triggered until the requirement is fulfilled, thus the Concierge would not be able to create one that doesn’t exist.

- ✓ Since the Concierge is the gatekeeper – like a Judge is the gatekeeper of evidence and instructions presented to a Jury at trial – it is possible that a triggered Kairotic Moment may never occur in the game (and there is no appellant court!). This is a waste of a good storytelling potential; a good overmind is a terrible thing to waste!

As noted in Aspects A to Z, 2 Culture, p. 324, *supra*, each position has its own secret list of Aspects that are available to the position; this helps to reduce the effectively infinite list of possible Aspects to a manageable number (dominant in that species) for the game. It is possible that the same Aspects may appear on two or more lists and because of that, those Aspects may dominate the game and trigger the Kairotic Moment. It is also possible that a position that Exposes (not to be confused with the Expose' News Event, 4 Writs generally, *supra*) the same Aspects repeatedly (an unrealistic mechanic, but necessary for the game) could somewhat manipulate the Kairotic Moment.

- ✓ The possibility of player manipulation is considered negligible, as during the game, other concerns and circumstances – not the least of which are Conflict Checks for Government Titles, will push and pull at Power Activations and resources. It would require an extreme effort with results of questionable value to manipulate a Kairotic Moment trigger. Since the Aspect lists are secret (unless shared privately), participants may also be surprised by the sudden trigger of a Kairotic Moment if two positions share the same Aspect.
- ✓ If the term 'Kairotic Moment' reminded you of 'erotic moment,' well, I wouldn't bet the Ancient Greeks weren't thinking of that too, since *eros* is a Greek word and the root of erotic (and used in psychiatry). And if 'critical mass' makes you think of something else related to the sexual encounter, you need to stop reading now!

“In social dynamics, critical mass is a sufficient number of adopters of an innovation in a social system so that the rate of adoption becomes self-sustaining and creates further growth. The term is borrowed from nuclear physics and in that field it refers to the amount of a substance needed to sustain a chain reaction. Social factors influencing critical mass may involve the size, interrelatedness and level of communication in a society or one of its subcultures. Another is social stigma, or the possibility of public advocacy due to such a factor.

Critical mass may be closer to majority consensus in political circles, where the most effective position is more often that held by the majority of people in society. In this sense, small changes in public consensus can bring about swift changes in political consensus, due to the majority-dependent effectiveness of certain ideas as tools of political debate. Critical mass is a concept used in a variety of contexts, including physics, group dynamics, politics, public opinion, and technology.”

– from Wikipedia article, “Critical Mass (sociodynamics),” January 29, 2019

Unpublished Book: Assuming for the sake of argument that GGDM is an ‘innovation,’ what is its critical mass? How many readers, how many players, how many mentions on social media? Fifty players is probably not sufficient, but does that depend on the social position and education level of those players? A game with fifty professors? Is critical mass synonymous with ‘success’ of my little project? See also RELIGION SUBLIME discussion, 1 Fallen to Earth, p. 1504, *infra*.

- ✓ My accounting instructor, Ms. Mary Oliver Weaver, always reminded her classes that ‘assume’ makes an ASS of U and ME. That’s good advice for accounting students, accounting is based on actual records and math.
- ✓ Most people (and I mean 99.9999%) won’t spend half an hour reading any part of GGDM (that leaves just 3 people in America out of 300M who will read it). We are not interested in our civilization unless threatened with extinction.

As Oliver Emberton reminds us (see *The Universe Doesn’t Care About Your Purpose* excerpts, *Dreamtime*, *supra*):

- ✓ “Write an unpublished book, you’re nobody. Write Harry Potter and the world wants to know you. ... You may hate this. It may make you sick. Reality doesn’t care. You’re judged by what you have the ability to do, and the volume of people you can impact.” (oliveremberton.com, 2014)

GGDM will be little more than an unpublished book when I am finished and upload it to my web domain. Whatever delusions I may have had 20 years ago, and whatever you may think of my particular neurosis, work in the legal profession has provided me with a very realistic (if sickening²) appraisal of reality – and I have evolved an understanding over the decades of the meaningless of my life project to anyone but me. But, from religion, and history, we have come slowly to understand that the things that make the smallest initial impact have the greater chance of long term effect, whereas the momentary, shallow things, are viewed by millions of people, make tons of money, but will pass like a surface ripple:

- ✓ “Unfortunately, the same rule applies to all talents, even unsavory ones: get naked for one person and you might just make them smile, get naked for fifty million people and you might just be Kim Kardashian.” *Id.*

The ‘critical mass’ for GGDM is therefore, temporal, not spatial. And in the millennial tradition of Western philosophy, this is the real deal: The sacrifice of fame, fortune, and happy life (or our illusion of it) for post-mortem effect.³

I have tried to imagine what sort of emergent end might arise from GGDM. I cannot, I never get far in that. I just have no imagination anymore. I am more prone to accept that nothing at all will happen, that my life work is worthless and pointless. Whatever result I might fancy is meaningless because I have no evidence, no reason to believe that it could happen. What reason or cause would you assign to that? That I am curmudgeonly and that the legal, military, and business world has made me cynical, shortsighted, angry, has crushed my childhood imagination (*à la* the Lancasterian reflected in Charles Dickens *Hard Times* (1854) and Pink Floyd’s *The Wall* (1979), see Gradgrind discussion, 1 Colleges, p. 463, *supra*). Or is it the Absurdity.

Or is it the problem and nature of emergence, that by the very concept it is unpredictable, beyond human imagination? Did Jesus or Buddha anticipate the emergent effects of their acts? To assert that they did, to assert that Christianity was the intent of Jesus or that Buddhism was the intent of Buddha or that Buddha intended both,⁴ is to suggest either that they could predict emergences or that such things were pre-destined, had already happened before they happened and the Legislators knew it.

- ✓ See also *The Core of Christianity*, 1 Kairotic Moments, p. 1423, *supra*.

And no, I don’t think I’m Jesus or Buddha. Don’t be ridiculous.

- ✓ “One big question is: what percentage of a population is necessary to create a critical mass? According to researchers at Rensselaer Polytechnic Institute, the answer is a mere 10%. Computational analysis was used to establish where the shift from minority to majority lies. According to director of research Boleslaw Szymanski: ‘When the number of committed opinion holders is below 10 percent, there is no visible progress in the spread of ideas. It would literally take the amount of time comparable to the age of the universe for this size group to reach the majority. Once that number grows above 10 percent, the idea spreads like flame.’ The research has shown that the 10% can comprise literally anyone in a given society. What matters is that those people are set in their beliefs and do not respond to pressure to change them. Instead, they pass their ideas on to others.” – Shane Perry, “Critical Mass and Tipping Points: How To Identify Inflection Points Before They Happen,” Farnham Street (blog), July 2017.⁵

Thirty million players/followers of GGDM? As Noah (Bill Cosby) said: “Riigggh! Who is this really!?”

“The average man may be capable of benefiting by initiation, or he may not; it also depends upon his capacity; but each individual should have the opportunity of advancing to the highest development of which he is capable.”

– Dion Fortune, The Esoteric Orders and Their Work (1928)

“You know after any truly initiating experience that you are part of a much bigger whole. Life is not about you henceforward, but you are about life.”

– Richard Rohr, Adam’s Return: The Five Promises of Male Initiation (2004)

Wells of Initiation: Down the spiral stairs... When the Kairotic Moment process is loosed upon the game by the Concierge, *a place must be chosen* as the location (see Terra Sancta, 1 Kairotic Moments, p. 1420, *supra*). There are many possible criteria for choosing a location, but the default might be the sovereign colony which is adjacent to the most pieces on the Public Space of the Aspect that triggered the Kairotic Moment. So much the better it is if the colony also fits other criteria or if it fits the story arc best (and if the Concierge has a great idea...).

It is possible that if two or more positions share the key Aspect of the Kairotic Moment on their Aspect List, that the game might experience simultaneous Kairotic Moments in two or more positions. This *might require separate target planets* for each position (lending perhaps a ‘Mormon-like’ mystery to the game) or if a single Balkanized or other suitable location is available on both Public Spaces, perhaps this is even better! It is also possible for the game to experience rapid fire consecutive Kairotic Moments featuring different key Aspects if several are near the Critical Mass and continue to be Exposed. That could be an interesting twist in the story.

- ✓ The Wells of Initiation are located at Quinta da Regaleira, Portugal, and are a UNESCO World Heritage site. Fortunately, Portugal has not involved itself in a European war since WWI and has otherwise escaped widespread destruction.

- Nine Landings: When the Kairotic Moment is triggered, all Aspects of the triggering position are immediately checked for ‘conversion’ to the Aspect that triggered the Kairotic Moment. There is a 25% chance that each Aspect currently on the Public Space will immediately change to the key Aspect of the Kairotic Moment. If converted, they will be replaced on their Monad by the key Aspect as if they were newly Exposed Aspects (see *A Bustle in Your Hedgerow*, 2 Culture, p. 365, *supra*) and will thereafter ‘age-out’ normally.

As this is not part of a Power Activation, and due to the nature of the event, it is not likely that Enlightenment should be applied to reroll Aspect conversions.

- ✓ While not ‘destroying’ Fuzzy Groups, the sudden change in Aspects might cause the Fuzzy Group to become unusable for the purpose for which it was formed. Likely, changes in Aspects will destroy a Zeitrice formation. During the time of the Kairotic Moment, Writs that use the key Aspect will be easiest to activate and most powerful.
- Winded: It is vaguely possible that no pieces of the key Aspect will be on the Public Space when the Kairotic Moment is triggered; this could occur if two or more positions share the same Aspect on their Aspect Lists (blame this mess on the other guy!). The more positions that share the same Aspect, the more likely and the sooner it will trigger the Kairotic Moment. If the Concierge allows the Kairotic Moment to trigger, *it is irrelevant if any pieces of the key Aspect are currently on the Public Space* of the target position(s), the ‘conversion’ process will still happen (which kind of solves the problem...).
- Rose of the Winds: During the course of the Kairotic Moment effect, there is a chance that each Aspect that is Exposed by the position will instead of the chosen Aspect become the key Aspect of the Kairotic Moment. The chance for each is equal to the current intensity level times 10%.⁶

This may constitute a ‘failed die roll’ that can trigger the use of Enlightenment if it has been dedicated to this Power Activation.

- ✓ If the key Aspect of the Kairotic Moment is Exposed by activation of the Culture Power for the purpose of Exposing Aspects, the chance of Exposing the Aspect is enhanced by the addition of the current Intensity Level times 10%, thus, at Intensity Level 3, the chance of Exposing the key Aspect is 80%.

“Beyond a certain point, the whole universe becomes a continuous process of initiation.” – Robert Anton Wilson

“Bereavement is the deepest initiation into the mysteries of human life, an initiation more searching and profound than even happy love.”

– Dean William Ralph Inge

“...spirituality alone will not take a man far in the Mysteries; he must have intellectual powers as well.” – Dion Fortune, What Is Occultism?⁷

Down the Rabbit Hole: Dion Fortune (d. 1946) was a prominent female occultist in England in the early 20th Century. Richard Rohr is an American Franciscan Friar and ordained Roman Catholic priest. Robert Anton Wilson was a self-described ‘agnostic mystic.’ William Ralph Inge was an Anglican priest, Professor of Divinity and Dean of St. Paul’s Cathedral in London.

Rhetorical Questions: When you read above that Dion Fortune was an early 20th Century female occultist, did her words suddenly have less impact? When you read that Richard Rohr and Dean William Ralph Inge were ordained Roman Catholic and Anglican priests, were you relieved? When you read that Robert Wilson Anton was a ‘self-described agnostic mystic,’ did your eyes roll? Do any of the feature quotes above intuitively strike you as ‘wrong’? You didn’t think this was going to be easy, did you?

Spirituality without intellect becomes superstition:

- ✓ “When you believe in things that you don’t understand, Then you suffer, Superstition ain’t the way” – Stevie Wonder, “Superstition” (1972).

Yet it will always persist, because much of what humans believe is unfalsifiable (“This isn’t right. It’s not even wrong.” – Wolfgang Pauli, see also *FOURTH DEGREE OF SEPARATION*, 3 Fallen to Earth, p. 1543, *infra*). Can you ‘prove’ or ‘disprove’ that you had seven years of bad luck because the 13-month old baby broke the mirror, no matter how farfetched? This is no different than religion and no different than the Minbari belief about human souls in Babylon 5.

Rhetorical Question: Is death a Kairotic Moment? How opportune and teachable is death?

Unfinished Well: There are four opportunities for a Kairotic Moment to affect (or infect) the Aspect pieces of another position (this does not apply to Constructural Elements, *ut supra*):

- 1) Balkanized colony planets,
- 2) Sharing the same colony system,
- 3) Ships returning with inactive Constructural Elements that cannot be reactivated (as described in *Wave Motion*, *et seq.*, 2 Kairotic Moments, p. 1433, *supra*), i.e. **apostasy** due to contact with another position’s Kairotic Moment, and
- 4) Shared Meanings and MegaCorporations (see 2 Corporations generally, *supra*).

As discussed in *Tsunami*, 2 Kairotic Moments, pp. 1434-1435, *supra*, it is quite debatable if a Kairotic moment for one species translates to another, but there are *possible emergent effects* on the subsequent recipients, and thus, it is possible, but limited in the game and serves mostly game-story purposes.

- ✓ “You’ll have some fun now with me and all the gang, Learning from each other while we do our thing...” – Fat Albert television show (1972-1985) theme song (performed by Michael Gray, Kim Carnes and Edward Fournier).⁸
- Frontier Outpost of Syene: Aspects adjacent on their owner’s Public Spaces to any **alien colonies** on a Balkanized colony planet or in the same starsystem with a Friendly or Naturalized colony of the position affected (afflicted) with a Kairotic Moment may be affected.
 - ✓ During the initial trigger of the Kairotic Moment described in *Nine Landings*, above, there is a 15% chance that each Aspect *adjacent to alien colonies* on their owner’s Public Space, may either be converted to the key Aspect of the Kairotic Moment (if it is on the alien’s Aspect List), or to a random Aspect (present on the alien’s Aspect

- List) or simply eliminated. Ten percent is subtracted if the **alien colony** is on a different planet in the same system, making the chances of effect negligible (5%).
- ✓ During the time that the Kairotic Moment is in progress, there is a chance equal to the current Intensity Level times 5% that an Exposed Aspect placed next to the **alien colony** will change to another Aspect or fail before being placed, if the **alien colony** is on a Balkanized planet with a Friendly or Naturalized Colony of the Kairotic Moment position. If the **alien colony** is in the same system, but not on the same planet, the chance is reduced to a percentage equal to the current Intensity Level of the Kairotic Moment (i.e. 1%, 2%, or 3%).
 - ✓ However, 20% is added to either of the preceding chances (after other adjustments) if the Kairotic Moment position's colony is also Terra Sancta for that Kairotic Moment.
 - For example, the M.A.N. position is undergoing a Kairotic Moment at **Intensity Level 3**: 1) during the initial trigger, **alien colonies** on the same planet as a Friendly or Naturalized M.A.N. colony have a 15% chance (this is not affected by Intensity Level) of each adjacent Aspect either changing to another Aspect or being eliminated, the chance is reduced to 5% if the **alien colony** is on a different planet; 2) during the alien's Regular Turn, there is a 15% chance that newly Exposed Aspects placed adjacent to the colony planet on the alien's Public Space will change to another Aspect or fail before being placed (this occurs after a successful roll to expose the Aspect) if the colony is on the same planet as a Friendly or Naturalized colony of the position undergoing the Kairotic Moment, or a 3% chance if on a different planet in the same system.
 - If the colony owned by the position undergoing the Kairotic (cathartic) Moment (e.g., "weeping martyrs" – Beowulf (2007)) is also the Terra Sancta of the event, 20% is added to each of the chances described above, so that the chances become 35%, 25% and 23%, respectively.

Players of alien positions probably should not get angry at players of another position due to the spreading effects of a Kairotic Moment. A Kairotic Moment, more so than a News Event even, is not caused by the position that is experiencing it. But historically, there have almost always been foreign repercussions in such situations, e.g., the Jewish-Roman Wars and the War of the First Coalition (these examples are offered in the loosest sense of major sociopolitical change combined with other factors drawing major foreign reactions).

- ✓ The ancient trading city of Syene (previously Swenett, now Aswan) is the "frontier outpost" mentioned in Carl Sagan's story of Eratosthenes at the Library of Alexandria in *Cosmos*, Episode 1. Syene was at the 'head of the Nile,' the southernmost reach of Egyptian civilization (generally), the southern gateway to Egypt just north of the Tropic of Cancer. It is now at the head of Lake Nasser to the south, one of the largest manmade lakes in the world, created by the Aswan Dams constructed in the 1960s.
- Ship of Fools: Each ship:
- 1) With an inactive Constructural Element that is blocked from reactivation due to **apostasy** from interaction with an **alien colony** experiencing a Kairotic Moment (see Wave Motion, 2 Kairotic Moments, p. 1433 *supra*),

- 2) That “Unloads, Loads or Transfers Cargo, Population, Supplies or any Enhancements (including Looting and Trucking)” at any Friendly or Naturalized colony owned by its position, (*Id.*)
- 3) Has a 25% chance, at the end of the Regular Turn, of causing any *Aspect* adjacent to the colony to either change to something else or be eliminated (this occurs after elimination due to aging).

This effect does not occur if the Power Activation fails, and may be subject to Enlightenment if Enlightenment was dedicated in the Power Activation and some rerolls remain unused.

This is different from the effects on colony Constructural Elements from interaction with Kairotic Moment position’s ships described in A Total Gurgler, 2 Kairotic Moments, p. 1433, *supra*. The effects described above come from *friendly ships* that have interacted with colonies currently undergoing a Kairotic Moment, then return to colonies owned by their position. The effects are also different because they effect Aspects on the Public Space, not Constructural Elements on a ship or colony.

- ✓ “Mad is the captain of Alpha Centauri, We must be out of our minds, Still we are shipmates bound for tomorrow, And everyone here’s flying blind ... Mad is the crew bound for Alpha Centauri, Dreamers and poets and clowns, Bold is the ship bound for Alpha Centauri, Nothing can turn it around!” – Crystal Gayle, “We Must Believe in Magic” (1977).
 - This performance is a Muppet Show classic, available on YouTube.
 - Sir Edward Coke (1532 – 1634) famously wrote something puerile about a ‘ship of fools’ in the front cover of his copy of Sir Francis Bacon’s *Novum Organum* (1620) for which he has been roundly ridiculed since.
- Diplomacy in the Hive of Scum & Villainy: Ten percent is added to all of the preceding chances (i.e. as described in *both* of the preceding sections) of changing or eliminating adjacent Aspects if the **alien colony** in question is located on a planet that is Hosting a MegaCorporation, regardless of the current ownership or Native Population Type of the colony that is Hosting. Additionally, five percent is added to all of the preceding chances if the alien position and the position experiencing the Kairotic Moment have a Shared Meaning.

*“Can’t stop falling
Heartaches calling
Finds you after the fall
Saints or sinners
Take no prisoners
What’s left after you fall
No not much no!”*

– Journey, “After the Fall” (1983)

After the Fall: When the Kairotic Moment has completed, run its course, passed – see Intenseit, 2 Kairotic Moments, p. 1430, *supra* – the Aspects Lists of all positions that had the Key Aspect on their List may change.

- ✓ As has been noted throughout GGDM, words and concepts such as smile, technology, emotion, are new to our culture and date from the 16th and 17th Centuries and later. The modern concept of divinity may have been shaped by sailing the vastness of the oceans. Even the modern concept of ‘evil’ is much different than it was before emotion entered our worldview (see discussion, *Modernity Machines*, 1 Technology, p. 696, *supra*). Similarly, the expectation of romantic love crept into marriage and reproduction during the Renaissance, which had before been the province of family alliances, business and practical utility. Other ideas have deflated, such as the ‘majesty’ attached to royalty. The process of pragmatic ethics has applied to our sense of right and wrong, evolution has affected religion, the Moon and Mars have become part of our Public Spaces. Ground Zero means now something much different than it did when I grew up in the Cold War. And if it weren’t for science-fiction imagination, the word ‘temporal’ would still mean now, and not reference time travel, and so on.

When the Kairotic Moment has passed, there is a 3% chance per Regular Turn Cycle elapsed since the trigger, that each Aspect on the Aspect Lists of the positions that had the Key Aspect – including the Key Aspect – may change to another Aspect. Any pieces of that Aspect on the Public Space at the time will simply change to the new Aspect. It’s messy, but necessary.

Thus, Aspect Lists may change throughout the game, and this may affect Writs, Fuzzy Groups and even Government Titles. Changes in Aspects should be also reflected on the master list for the next Kairotic Moment.

- ✓ It is possible that the Concierge may do this manually, with or without die rolls, plugging in new Aspects that fit the story.

“So what is a ‘cosmopolitan’? It’s a cousin to ‘elitist,’ but with a more sinister undertone. It’s a way of branding people or movements that are unmoored to the traditions and beliefs of a nation, and identify more with like-minded people regardless of their nationality. ... In the eyes of their foes, ‘cosmopolitans’ tend to cluster in the universities, the arts and in urban centers, where familiarity with diversity makes for a high comfort level with ‘untraditional’ ideas and lives.”

– Jeff Greenfield, “The Ugly History of Stephen Miller’s Cosmopolitan Epithet,” *Politico Magazine*, August 3, 2017

“Alexandria was the greatest city the Western world had ever seen. People from all nations came here to live, to trade, to learn. On a given day these harbors were thronged with merchants and scholars, tourists. It’s probably here that the word ‘cosmopolitan’ realized its true meaning of a citizen, not just of a nation but of the cosmos. To be a citizen of the cosmos.”

– Carl Sagan, *Cosmos*, Episode 13

Hitting the Bottom Well: Kairotic Moments in GGDM are disappointing;⁹ they are neither moments nor particularly kairotic. They are like the picture of the guy diving into an Olympic sized pool that has no water; they are like a hotdog with no bun or anything to put on it – unless you are starving, a hot dog is about the bun, cheese, chili and condiments for a quick guilty lunch or good times in the park with someone! Can you hear the music in your head?

- ✓ “Saturday in the park, I think it was the Fourth of July,” Chicago, “Saturday in the park” (1972).

Hot dogs by themselves aren’t very appetizing, and neither are Kairotic Moments in GGDM.

In an attempt to simulate deep social change, the game mechanics of the Kairotic Moment create extended chaos that has some power to spill over to other positions. But it does not create long-term change, only simulates that it might have happened through ‘conversion’ of Aspects and Constructural Elements. This is true generally of GGDM throughout, while much is said, little is accomplished, the parts and structure of civilizations are named and presented deductively, but mechanically, the game is an exercise in strangely named parts and numbers, pushing pieces around the Public and Galactic Spaces; without interaction and emergent storytelling, it is like a clown-car sized boiled hotdog.

- **Silence of Science Fiction:** Rarely does science fiction literature – at least the mid-20th Century stuff I read in my youth – dip into the (potentially explosive) discussion of organized religion; other than Canticle for Leibowitz, Dune and Battlestar Galactica – the latter skirted around organized religion, only showing a vague polytheistic religion and the priestess – Dr. Who’s Church of the Papal Mainframe (aka Church of the Silence) is definitely one of the oddest entries on the subject of spacefaring churches. Of course, nothing is as it appears in Dr. Who and further development of the Church’s back history would be interesting.

I am apparently not the only one who has noticed this:

- ✓ “Science fiction will sometimes address the topic of religion. Often religious themes are used to convey a broader message, but others confront the subject head-on – contemplating, for example, how attitudes towards faith might shift in the wake of ever-advancing technological progress, or offering creative scientific explanations for the apparently mystical events related in religious texts (gods as aliens, prophets as time travelers, etc.)....

Some science fiction works portray invented religions, either placed into a contemporary Earth society (such as the Earthseed religion in Octavia Butler’s Parable of the Sower), or in the far future (as seen in Dune by Frank Herbert, with its Orange Catholic Bible). Other works examine the role of existing religions in a futuristic or alternate society. The classic Canticle for Leibowitz explores a world in which Catholicism is one of the few institutions to survive an apocalypse, and chronicles its slow re-achievement of prominence as civilisation returns....

Orson Scott Card has criticized the genre for oversimplifying religion, which he claims is always shown as ‘ridiculous and false.’” – Wikipedia article, “List of Religious Ideas in Science Fiction,” captured August 9, 2018.

I really don’t see the point of science-fiction’s aversion to the issue. If science-fiction writers want to be literary – that is, talk about themes and issues universal to humanity – it cannot shy from religion. If science-fiction writers are afraid of offending someone’s religion – or

even their own – they should probably pursue another vocation. If science-fiction editors and publishers are afraid of offending the market – well most people who read sci-fi works are not religious fundamentalist, and science-fiction is notably not popular outside the West.

- ✓ Star Trek: The Next Generation occasionally wandered into Absurdity; Dr. Crusher and Data awaken a 20th Century ‘rock star’ Stan who is one of three people found cryogenically frozen in an old Earth ship:
 - **Dr. Crusher:** There was ... deterioration in every system of his body, probably from chemical abuse. Unbelievable! **Capt. Picard:** Sounds like he hated life. But he had himself frozen, presumably to go through it all again. **Dr. Crusher:** Too afraid to live, too scared to die. – ST:TNG “The Neutral Zone” (1988).¹⁰
 - In this episode at the end of the first season, the writers and producers tried hard to demonstrate how much the mental daily lives of 24th Century humans were different from those of the Cold War 20th Century. As usual, it was easier to say *what is not* in the 24th Century as compared to the 20th Century than *what is*; that is, exactly how people live day to day in the 24th Century existence. To do that would require answers to the Void.

“The sacrifice of the intellect ... is a concept associated with Christian devotion, particularly with the Jesuit order. It was the ‘third sacrifice’ demanded by the founder of the Jesuits, St. Ignatius Loyola ...

*The concept was taken up in a more individualistic sense by the Jansenist thinker Blaise Pascal, and particularly by the existentialist thinker Søren Kierkegaard, who thought that the act of faith requires a leap into the void, which amounts to a sacrifice of the intellect and reason. This was quintessentially expressed in the traditional dictum, **credo quia absurdum**, ‘I believe because it is absurd.’ This view of faith is rejected by the Catholic church, which regards reason as a path towards direct knowledge of God.*

The phrase is often used in a pejorative sense in writings on the psychology and sociology of religion – e.g.: Max Weber states: ‘There is absolutely no ‘unbroken’ religion working as a vital force, which is not compelled at some point to demand the credo non quod, sed credo quia absurdum – the ‘sacrifice of the intellect.’ According to Paul Pruyser, ‘Sacrifice of the intellect, demanded by a good many religious movements and blithely if not joyously made by a good many religious persons, is surely one of the ominous features of neurotic religion.’”

– from Wikipedia article, “Sacrifice of the intellect,” captured February 23, 2019
(emphasis in original)

Leap Into the Void: One of the color fillers that an astute observer might feel is missing is ‘faith.’ GGDM does not attempt to simulate ‘faith’ beyond the general function of loyalty (or perhaps disloyalty when the existing civilization or powers violate one’s faith).

It should be clear by now that the writer of this simulation has little faith (in a religious sense) and none to share (and is not here to dispense Peter Pan advice), and neither does much of science-fiction literature or empirical positivist science: Faith is a thing we use to voluntarily blind ourselves to the Existential Void.¹¹ How does one simulate faith?

- ✓ For example, character stats in many role-playing games include such attributes as intelligence and wisdom (or some other combination) reduced to numbers (reduced to the ontic) on whatever scale the game uses. Back when I was a player, there was endless debate about what is meant by the wisdom stat, which usually devolved into judgment-from-experience-type arguments – even though most D&D starting characters are teenagers (as opposed to Traveller RPG). But what character stat (or in GGDM, civilization stat) is going to indicate whether the player character is prone to *sacrificium intellectus*? Do most D&D players even know what that means? Is this the point then of the attempts at ‘Christian Dungeons & Dragons’ games?

One might assume that the group’s cleric and paladin must have faith of some sort, but then there is magic and spells they receive every day just for being ... whatever they are (from apparently low-hanging gods & divine petsitters), and that is rather empirical (factual, demonstrable, repeatable), even if fickle and not a matter of faith. Faith is not something that is clearly necessary for even clerics in D&D, it is more of a Roman-style *quid pro quo* religious transaction or *a divine grant of arms*, than religion. No, the players themselves, through the logic of their character (such as it is) must decide whether faith exists.

Sacrificium intellectus is related to anti-intellectualism, they are at least close cousins; one says we cannot know, the other that knowing and understanding are contemptable, both call it pretentious. Compare *sacrificium intellectus* to Voltaire’s “Those who can make you believe absurdities can make you commit atrocities.” See full feature quote in 1 Reformation, p. 1383, *supra*. Voltaire had absurdities long before Camus was born!

- ✓ “Now, from the point of view generally accepted in the sciences, that of an unbiased striving for truth, it is not clear why one should bring oneself to a *sacrificium intellectus*, to an abandonment of *critical* method, simply because traditional articles of belief might have to be jettisoned, even though they have grown dear to our hearts. Any scientist who is prepared to sacrifice the rules of the game when one of his pet convictions is at stake voluntarily excludes himself from the scientific enterprise, even if he is institutionally defined by it.” – Hans Albert, Treatise on Critical Reason (1985), p. 145 (emphasis in original) (found on Google Books).
- ✓ “No thank you. A God that would demand the sacrifice of the intellect or even the crucifixion of the intellect is not a God worthy of worship. Imagine moving at death from the shadow lands of this life into the divine presence only to find that God is nothing but irrational power personified, the apotheosis of arbitrariness. What could be more horrible? Far, far better would be to be annihilated at death.” – Bill Vallicella, “Sacrificium Intellectus,” Maverick Philosopher (blog), March 14, 2010.
- Simulating Faith: I have not really put my mind to the task, but it cannot be properly said that faith cannot be simulated because it is irrational, when we also consider *war* to be *irrational* and there are tens of thousands of war simulation games (as is GGDM), both commercial and official military training programs (e.g., ARTBASS in which I have participated) and computer modeling and projection (e.g., as in those used for nuclear war projections, as seen in movies such as *By Dawn’s Early Light* (1990) or *Wargames* (1983)). Whether, when, and where ‘faith’ enters into the game is color that is left for the participants to fill between the lines.

- ✓ “Faith is the belief in something for which there is no conclusive evidence. To demand concrete proof of God’s existence contradicts the very notion of faith, which requires a person to examine their interior world rather than anything on the outside. But faith does not preclude logic. Choosing to demonstrate faith in humanity’s ultimate goodness, despite all the evidence to the contrary, allows us to embrace certain religious teachings. But it does not relieve us of the responsibility of choosing which teachings express that faith and dismissing those that do not.” – Kareem Abdul-Jabbar, *New York Times*, January 11, 2017.
- Faith Aspects: Faith is probably part of supra-legitimacy and happiness meta-aspect. ‘Faith’ could appear as an Aspect in GGDM. Recall that Aspects are not, strictly speaking, emotions, but are more like (in one sense) glimpses of a civilization that appear under certain circumstances and at certain times. However, because Aspects can be Exposed regularly, they may also be considered part of the underlying ‘zeitgeist’ of the civilization. Thus, ‘faith’ as an Aspect could be regarded as either or both if the participants want to allow it in the game.
- Philosophical Suicide: Can one have ‘faith’ without *sacrificium intellectus*? Five centuries ago, the answer would probably have been in the negative, or at least a qualified negative. However, the term ‘faith’ has been secularized and disarmed, such that one can now express rational faith in something (even if ironically) like a friend, or an old reliable vehicle, without resort to religious meanings. In the view of some (a shrinking minority), ‘faith’ has been cheapened thus and I am certain Dietrich Bonhoeffer would have been one of those.
 - ✓ Thus if ‘Faith’ is an Aspect on the Aspect List of one or more positions, participants may eventually need to address whether it is taken in a current secular sense or in the sense of *sacrificium intellectus*?

Overlapping the life and times of Bonhoeffer was Albert Camus, who considered *sacrificium intellectus* a form of ‘philosophical suicide’ in which one gives up their reason, their volition, becoming – in the words of Yahweh in Robert Heinlein’s *Job: A Comedy of Justice* (1984) – “golems.” That places Camus in the Voltaire tradition, but a slightly different problem:

- ✓ “From this point of departure he proceeds to his critique of the different ways of ‘philosophical suicide,’ which he characterizes as so many ways of speculative evasion. All existential thinkers quoted by Camus have realized the futility of reason, all them are seen to have recourse to some transcendent entity as *raison d’être*: Husserl to his ‘extratemporal essences’ of innumerable phenomena, Chestov and Kierkegaard to a deity whose loftiness consists precisely of His incomprehensibility, indeed in His inconsistency, arbitrariness, inhumanity. Chestov is quoted as saying: ‘We address ourselves to God only to obtain the impossible; as to the possible, humans suffice.’ Such deity, to Camus, shows all the features of the absurd; He demands, in the old way, the *sacrificium intellectus*. In point of fact, it could be said that Tertullian’s *credo quia absurdum* has arrived, in the modern situation, at a *vivo quia absurdum*. ... Camus rejects the ‘philosophical suicide’; he refuses to accept any transcendent ... but seeks to remain within the pale of this world and to maintain himself on his scarce certitudes. He likewise discards ... physical suicide, because this also, in its ultimate consequence, resolves, dissolves the absurd, implying acceptance. ‘The point is, to die irreconciled and not of one’s own accord.’” – Erich Kahler, *The Tower and the Abyss* (1957) (emphasis in original) (available free on Google Books).¹²

- “Chestov” is Lev Shestov (1866-1938), Russian existentialist philosopher, b. Kiev (Russian Empire), d. in Paris, France.
- Compare, “...a deity whose loftiness consists precisely of His incomprehensibility, indeed in His inconsistency, arbitrariness, inhumanity.” (*ut supra*) to The Urantia Book:
 - “God is not hiding from any of his creatures. He is unapproachable to so many orders of beings only because he ‘dwells in a light which no material creature can approach.’ The immensity and grandeur of the divine personality is beyond the grasp of the unperfected mind of evolutionary mortals.” (Part 1, Paper 5 from Wikiquotes, but the book is free online).
 - Cf. to Robert Heinlein, Job: A Comedy of Justice (1984).

“The ending finally reveals the motive behind Ken Park’s suicide: he has impregnated his girlfriend who responds to his question asking if she wanted to keep it by asking if he wishes he’d been aborted himself. Realizing that he’d rather never have been born, he sets out to the skate park to kill himself.”

– from Wikipedia article, “Ken Park,” captured July 29, 2019

The Modern Spectre-rum: Absurdism is considered to be in a spectrum with existentialism and nihilism (Camus denied being an existentialist), anti-natalism is probably considered nihilistic. Most people think of nihilism as irrational, a teenaged attitude toward life, but anti-natalism has many rational arguments (e.g., Kantian imperative). The film ending of Ken Park (2002) is anti-natalist, but demonstrates a divergence from Camus’ absurdism: He commits suicide. Camus might ask, once you have been born – without consent and against your will – what is the point of committing suicide? The probably-not-accidental social implications of Ken Park is another teen pregnancy with the father dead – just like in any war. On the other side, the three remaining teens in the story have a threesome encounter – possibly a symbolic hedonistic act related to Camus’ early writings, demonstrating the opposites of anti-natalism and absurdism.

- ✓ The film was banned by the Australian government before it could be screened at the Sydney Film Festival. That’s always good publicity for a film. While the issue is explained in legalese, a maze of regulations, (<https://www.artslaw.com.au/article/the-banning-of-ken-park-a-brief-review-of-the-facts-and-issues/>) one is left to wonder if all of this is cover for any range of visceral objections to unsimulated sex (pornography), anti-natalism, hedonism, absurdism, or a general dislike of the entire disturbing, artistic subject treatment in the film.

Sebastian: *The city was drowning in decay .. chaos, immorality. A message needed to be sent, etched in blood, for all the world to see: a warning. In the pursuit of my .. holy cause, I .. did things, terrible things, unspeakable things. The world condemned me, but it didn’t matter, because I believed I was right and the world was wrong. I believed I was the divine messenger. I believed I was—*

Sheridan: *Chosen?*

Sebastian: .. I was .. found by the Vorlons. They showed me the terrible depth of my mistake, .. my crimes, my .. presumption. I have done 400 years of penance in their service. A job, for which they said I was ideally suited. Now, perhaps, they will finally let me die.

Sheridan: I think that might be wise.

Sebastian: Good luck to you in your holy cause, Captain Sheridan. May your choices have better results than mine. Remembered, not as a messenger, remembered not as a reformer, not as a prophet, not as a hero, not even as Sebastian. Remembered only .. as Jack.

– Babylon 5, “Comes the Inquisitor” (1995) (final scene) ¹³

Endnotes.

¹ **Citation:** “Critical mass, which is sometimes referred to as tipping points, is one of the most effective mental models you can use to understand the world. The concept can explain everything from viral cat videos to why changing habits is so hard. Sometimes it can seem as if drastic changes happen at random. One moment a country is stable; the next, a revolution begins and the government is overthrown. One day a new piece of technology is a novelty; the next, everyone has it and we cannot imagine life without it. Or an idea lingers at the fringes of society before it suddenly becomes mainstream.

As erratic and unpredictable as these occurrences are, there is a logic to them, which can be explained by the concept of critical mass. A collaboration between Thomas Schelling (a game theorist) and Mark Granovetter (a sociologist) led to the concept’s being identified in 1971. Also known as the boiling point, the percolation threshold, the tipping point ... critical mass is the point at which something (an idea, belief, trend, virus, behavior, etc.) is prevalent enough to grow, or sustain, a process, reaction, or technology. As a mental model, critical mass can help us to understand the world around us by letting us spot changes before they occur, make sense of tumultuous times, and even gain insight into our own behaviors. ... In sociology, a critical mass is a term for a group of people who make a drastic change, altering their behavior, opinions or actions. In some societies (e.g., a small Amazonian tribe), just a handful of people can change prevailing views. In larger societies ... the figure must usually be higher for a change to occur.

The concept of a sociological critical mass was first used in the 1960s by Morton Grodzins, a political science professor at the University of Chicago. Grodzins studied racial segregation – in particular, examining why people seemed to separate themselves by race even when that separation was not enforced by law. His hypothesis was that white families had different levels of tolerance for the number of people of racial minorities in their neighborhoods. Some white families were completely racist; others were not concerned with the race of their neighbors. As increasing numbers of racial minorities moved into neighborhoods, the most racist people would soon leave. Then a tipping point would occur – a critical mass of white people would leave until the area was populated by racial minorities. This phenomenon became known as ‘white flight.’” – Shane Perry, “Critical Mass and Tipping Points: How To Identify Inflection Points Before They Happen,” Farnham Street (blog), July 2017.

✓ See also Excerpt of Sweet Trial – Closing Arguments in Tribes in the Night Sky, *supra*.

² **Commentary:** It’s like wearing a military uniform – it’s not ‘supposed’ to be comfortable, your happiness and comfort are not the military’s first concern. Nor is it a concern of the universe or even the rest of humanity.

✓ A co-worker at the law firm once commented that our negative view of social media (and of the stupid things people say on social media) is due to the fact that we work in a law firm and handle employment cases.

³ **Commentary:** One of the very first points that I taught young attorneys who worked on our FINRA cases is that *in order to work in the financial industry, you must be obsessed with money*. If I were obsessed with money, I would have become a stock broker or CFA instead of a paralegal. This is the reason they are heavily regulated and the reason why FINRA is a corrupt, incompetent, and untrustworthy (or at least inherently suspicious, think about it) arbitrator of financial industry disputes.

✓ For example, the real reason why pre-hearing depositions are not allowed in FINRA arbitration is not cost or expediency, it is so that industry witnesses can lie, fudge, and change their story while testifying at the arbitration hearings, as long as there are not documents or other ways to catch them lying. This is also a

reason why regulations have made the documentation requirement heavy in the industry. Plaintiff attorneys in FINRA cases become good at catching the little lies and combing voluminous documents.

It is also the reason that employee forgivable loans (EFLs) are common recruiting tools and are the way in which the industry controls newly-hired brokers and financial advisors. To understand the financial industry, and FINRA cases, one must understand the industry's massive rewards, the heavy regulation, and neurotic obsession with money. People who work in the financial industry are not smarter than or do not work harder than people who work in a law office, and they are certainly not 'better people' because they make money out of other's money, but they earn (and spend) vastly more income because of where they work.

⁴ Commentary & Citation: And how about this: Some people have asserted that Jesus was influenced in his preaching by contact with Buddhist monks. This is reflected in the dialogue of the movie *The Man from Earth* (2007), though I had heard the idea previously, since we know little of Jesus life for the first 30 years and much of what we know might have been made up afterward by people who never knew him. It's almost like the second Big Bang.

⁵ Citation: "With exceptions so rare they are regarded as miracles of nature, successful democratic politicians are insecure and intimidated men. They advance politically only as they placate, appease, bribe, seduce, bamboozle, or otherwise manage to manipulate the demanding and threatening elements in their constituencies. The decisive consideration is not whether the proposition is good but whether it is popular – not whether it will work well and prove itself but whether the active talking constituents like it immediately. Politicians rationalize this servitude by saying that in a democracy public men are the servants of the people." – Walter Lippmann, *Essays in the Public Philosophy* (1955).

⁶ Citation: "The Rosicrucian manifestos heralded a 'universal reformation of mankind,' through a science allegedly kept secret for decades until the intellectual climate might receive it. Controversies have arisen on whether they were a hoax, whether the 'Order of the Rosy Cross' existed as described in the manifestos, or whether the whole thing was a metaphor disguising a movement that really existed, but in a different form. In 1616, Johann Valentin Andreae famously designated it as a 'ludibrium.' Some esoteric scholars suggest that this statement was later made by Andreae in order to shield himself from the wrath of the religious and political institutions of the day, which were intolerant of free speech and the idea of a 'universal reformation,' which the manifestos called for. ... By promising a spiritual transformation at a time of great turmoil, the manifestos influenced many figures to seek esoteric knowledge. Seventeenth-century occult philosophers such as Michael Maier, Robert Fludd, and Thomas Vaughan interested themselves in the Rosicrucian world view. According to historian David Stevenson, it was influential on Freemasonry as it was emerging in Scotland." – from Wikipedia article, "Rosicrucianism," January 31, 2019.

- ✓ The 'esoteric scholars' above may have seen parallels to The Grand Inquisitor by Dostoyevsky.
- ✓ The 'Rosy Cross' is part of the design of the Rose of the Winds at the bottom of the Wells of Initiation at Quinta da Regaleira, Portugal.
- ✓ Rosicrucianism is an example of "an intellectual mutation that had been taking root since the Thirty Years War" and the doubts sown by "the Jesuit image of a near utopian civilization governed by moral sages uncorrupted by intolerance, passion, or material desire" described by Prof. Raymond Birn in the quote in 2 Kairotic Moments, p. 1433, *supra*.

⁷ Commentary: What is Occultism appears to be a later book of collected writings by Dion Fortune that was gathered and edited by Garth Knight in the 1990s, approximately 50 years after her death.

⁸ Commentary & Citation: As discussed previously in *More Than a Feeling*, 1 Temporal Technology, pp. 808-809, *supra*, unless you are Peter Pan, you cannot refuse to grow up, it will just happen. *There is but one chance at parenting and educating children and it must be done right, there are no do-overs, and the consequences are profound for most of the next century.* It is thus a crime against our society when children are warming seats and being passed along in school, but it's also an inevitability because they cannot be held back for long and will eventually graduate or drop out, into adulthood. This very same reason is the only reason that might justify interference in the development or affairs of another alien sapient species (see discussion of Minor Races in *Mathó Thípila* 4 Diplomacy, p. 1140, and *Metalaw* in 3 Diplomacy, *supra*), because it *seems* inevitable that short of extinction (or because of impending extinction on Earth, as in the 2014 movie *Interstellar*), humanity will eventually break out into space colonization and possibly interstellar travel. But, if our history has taught us anything, we must be very careful, very suspicious of our intentions and hold sacrosanct the existential space of other species; there is simply *no way to retroactively construct European conquest and colonialism as anything intended to be beneficial to the natives or their civilizations or humanity* – and Christian missionary activities, conversion and evangelism makes the farce malodor.

- ✓ "If you would lift me up, you must be on higher ground." – Ralph Waldo Emerson.

⁹ **Commentary:** Kairotic Moments, even rewritten during the final edit, are disappointing to me as the designer. GGDM doesn't have the tools to explain in any meaningful way – without players to make an emergent story from game mechanics – the problem set out in the beginning: The emergent effect of early Christianity on the entire Western worldview coming down to the present day, was the early Church part of the mechanism of change, or did it just happen along when Classic Antiquity was collapsing of its own absurdities, when the Great Migrations were reaching Europe, when the European-Mediterranean world was changing? It has no ability to explain the ripple changes of Buddhism spreading out from the mountain tops of Nepal, or the transition from Brahmanism to Hinduism, or the effect of Confucianism (a non-religious example) along the coasts of China. There is obviously something missing or mismatched in this process, like having a lug wrench when you need a hex key. GGDM, without human players, has failed to turn one into the other, to take the outside in, and turn the inside out.

¹⁰ **Commentary & Citation:** Later Stan tries to get Dr. Crusher to give him recreational drugs, tries to get Data to have a party ... because he can't stand silence, being alone with himself and not doing anything. Stan is the type of 20th Century stock character Alanis Morissette sang about seven years later:

- ✓ “Why are you so petrified of silence? Here can you handle this? [music stops, moment of silence] Did you think about your bills, your ex, your deadlines, Or when you think you're going to die? Or did you long for the next distraction?” – Alanis Morissette, “All I Really Want” (1995).

¹¹ **Commentary:** Whatever ‘faith’ I have might be called negative or pessimistic faith: I am sure that somehow something stupid and annoying, and totally pointless except for the foregoing, will happen whenever I try to do anything (whether important or not), including GGDM. Except that, is it faith if it is based on living experience and repeated observation? I believe this is true for all of humanity, but we go about pretending it isn't so. How many times does *the* stupid thing have to happen before it is no longer random or coincidence or just bad luck? I would not be surprised if something inexplicably asinine occurred in relation to GGDM. Do I think the universe is malevolent toward us? It makes as much sense as any other explanation and is consistent with a lifetime of observation, especially those who claim oppositely that the universe is benevolent toward us because we exist, because life evolved on the Earth, because abiogenesis happened.

- ✓ The Existential Void is not Camus' “philosophical suicide”; it is not a benevolent deity or a substitute for one, it is not even a malevolent form, it is nothing, nothingness, the inherent meaninglessness of the universe against which emergent humans build meaning. If this makes it a benevolent thing to you, then so be it, but if you happen to be on an EVA in orbit, take off your helmet and see how benevolent the universe really is to humanity.
- ✓ Nor should Mr. Case's four orders of natural phenomenon (and my trumpeting of it) be taken as a case of “philosophical suicide” in the Camus' sense. Mr. Case's four orders are simply a matter of observation, the same as that of Tyco Brahe and Johannes Kepler, and appear to have been derived from Comte with adjustments for the updated knowledge of his time. If you believe they demonstrate a higher benevolence or the hand of a deity, so be it, that's your faith. I renew the invitation for you to take in the freshness of space helmetless while on an EVA to test the benevolence of your faith.

¹² **Commentary:** News media highlights suicides and unintentional-intentional suicide by drug abuse and prescription drug overdosing by ‘celebrities’ and there seems to be a special sense of *schadenfreude* when the victim is a pornographic performer or hated criminal (in the 80s, it was Fundamentalist playing up suicides allegedly related to Dungeons & Dragons). Studies have shown that certain professions – most notably, ambulance drivers and paramedics – have higher than average rates of suicide. The correct sociological question to ask with celebrity, porn performer and famous criminal suicides is whether the rate of suicide in that group is greater than the population average, and whether we perhaps feel some satisfaction as a society when famous people die by suicide or overdosing?

¹³ **Commentary:** Sebastian in Babylon 5 is Jack the Ripper, sent to test Captain Sheridan who is about to turn history. Babylon 5 explains the sudden disappearance or end of his murder spree in November 1888. Among the seven police suspects, six others identified by the press, and sixteen others listed as suspects identified by later authors, none are named Sebastian (from Wikipedia article, “Jack the Ripper suspects,” January 29, 2019). Thus, either J. Michael Straczynski was being careful to avoid historical figures or was saying everyone, all the theories, were wrong.

- ✓ From this scene, “you don't know Jack” acquired a special meaning for Babylon 5 fans.

Day Million

Excerpts from Short Story by Frederik Pohl

On this day I want to tell you about, which will be about a thousand years from now, there were a boy, a girl and a love story.

Now although I haven't said much so far, none of it is true. The boy was not what you and I would normally think of as a boy, because he was a hundred and eighty-seven years old. Nor was the girl a girl, for other reasons; and the love story did not entail that sublimation of the urge to rape and concurrent postponement of the instinct to submit which we at present understand in such matters. You won't care much for this story if you don't grasp these facts at once. If, however, you will make the effort, you'll likely enough find it jam-packed, chockfull and tiptop-crammed with laughter, tears and poignant sentiment which may, or may not, be worthwhile. The reason the girl was not a girl was that she was a boy.

How angrily you recoil from the page! You say, who the hell wants to read about a pair of queers? Calm yourself. Here are no hot-breathing secrets of perversion for the coterie trade. In fact, if you were to see this girl, you would not guess that she was in any sense a boy. Breasts, two; vagina, one. Hips, Callipygian; face, hairless; supra-orbital lobes, non-existent. You would term her female at once, although it is true that you might wonder just what species she was a female of, being confused by the tail, the silky pelt or the gill slits behind each ear.

Now you recoil again. Cripes, man, take my word for it. This is a sweet kid, and if you, as a normal male, spent as much as an hour in a room with her, you would bend heaven and earth to get her in the sack. Dora (we will call her that; her "name" was omicron-Dibase seven-group-totter-oot S. Doradus 5314, the last part of which is a color specification corresponding to a shade of green)—Dora, I say, was feminine, charming and cute. I admit she doesn't sound that way. She was, as you might put it, a dancer. Her art involved qualities of intellection and expertise of a very high order, requiring both tremendous natural capacities and endless practice; it was performed in null-gravity and I can best describe it by saying that it was something like the performance of a contortionist and something like classical ballet, maybe resembling Danilova's dying swan. It was also pretty damned sexy. In a symbolic way, to be sure; but face it, most of the things we call "sexy" are symbolic, you know, except perhaps an exhibitionist's open fly. On Day Million when Dora danced, the people who saw her panted; and you would too.

About this business of her being a boy. It didn't matter to her audiences that genetically she was male. It wouldn't matter to you, if you were among them, because you wouldn't know it—not unless you took a biopsy cutting of her flesh and put it under an electron-microscope to find the XY chromosome—and it didn't matter to them because they didn't care. Through techniques which are not only complex but haven't yet been discovered, these people were able to determine a great deal about the aptitudes and easements of babies quite a long time before they were born—at about the second horizon of cell-division, to be exact, when the segmenting egg is becoming a free blastocyst—and then they naturally helped those aptitudes along. Wouldn't we? If we find a child with an aptitude for music we give him a scholarship to Juilliard. If they found a child whose aptitudes were for being a woman, they made him one. As sex had long been dissociated from reproduction this was relatively easy to do and caused no trouble and no, or at least very little, comment.

How much is "very little"? Oh, about as much as would be caused by our own tampering with Divine Will by filling a tooth. Less than would be caused by wearing a hearing aid. Does it still sound awful? Then look closely at the next busty babe you meet and reflect that she may be a Dora, for adults who are genetically male but somatically female are far from unknown even in our own time. An accident of environment in the womb overwhelms the blueprints of heredity. The difference is that with us it happens only by accident and we don't know about it except rarely, after close study; whereas the people of Day Million did it often, on purpose, because they wanted to.

Well, that's enough to tell you about Dora. It would only confuse you to add that she was seven feet tall and smelled of peanut butter. Let us begin our story.

On Day Million Dora swam out of her house, entered a transportation tube, was sucked briskly to the surface in its flow of water and ejected in its plume of spray to an elastic platform in front of her—ah—call it her rehearsal hall. "Oh, shit!" she cried in pretty confusion, reaching out to catch her balance and find herself tumbled against a total stranger, whom we will call Don.

They met cute. Don was on his way to have his legs renewed. Love was the farthest thing from his mind; but when, absent-mindedly taking a short cut across the landing platform for submarinites and finding himself drenched, he discovered his arms full of the loveliest girl he had ever seen, he knew at once they were meant for each other. "Will you marry me?" he asked. She said softly, "Wednesday," and the promise was like a caress.

Don was tall, muscular, bronze and exciting. His name was no more Don than Dora's was Dora, but the personal part of it was Adonis in tribute to his vibrant maleness, and so we will call him Don for short. His personality color-code, in Angstrom units, was 5290, or only a few degrees bluer than Dora's 5314, a measure of what they had intuitively discovered at first sight, that they possessed many affinities of taste and interest.

I despair of telling you exactly what it was that Don did for a living—I don't mean for the sake of making money, I mean for the sake of giving purpose and meaning to his life, to keep him from going off his nut with boredom—except to say that it involved a lot of traveling. He traveled in interstellar spaceships. In order to make a spaceship go really fast about thirty-one male and seven genetically female human beings had to do certain things, and Don was one of the thirty-one. Actually he contemplated options. This involved a lot of exposure to radiation flux—not so much from his own station in the propulsive system as in the spillover from the next stage, where a genetic female preferred selections and the subnuclear particles making the selections she preferred demolished themselves in a shower of quanta. Well, you don't give a rat's ass for that, but it meant that Don had to be clad at all times in a skin of light, resilient, extremely strong copper-colored metal. I have already mentioned this, but you probably thought I meant he was sunburned.

More than that, he was a cybernetic man. Most of his ruder parts had been long since replaced with mechanisms of vastly more permanence and use. A cadmium centrifuge, not a heart, pumped his blood. His lungs moved only when he wanted to speak out loud, for a cascade of osmotic filters re-breathed oxygen out of his own wastes. In a way, he probably would have looked peculiar to a man from the twentieth century, with his glowing eyes and seven-fingered hands; but to himself, and of course to Dora, he looked mighty manly and grand.

He had, in fact, been traveling the starlanes with only brief leaves on Earth for pushing two centuries. But you don't care about; that, either. It is people that make stories, not the circumstances they find themselves in, and you want to hear about these two people. Well, they made it. The great thing they had for each other grew and; flowered and burst into fruition on Wednesday, just as Dora had promised. They met at the encoding room, with a couple of well-wishing friends apiece to cheer them on, and while their identities were being taped and stored they smiled and whispered to each other and bore the jokes of their friends with blushing repartee. Then they exchanged their mathematical analogues and went away, Dora to her dwelling beneath the surface of the sea and Don to his ship.

It was an idyll, really. They lived happily ever after—or anyway, until they decided not to bother anymore and died. Of course, they never set eyes on each other again.

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*“Oh very young
 What will you leave us this time
 There’ll never be a better chance to change your mind
 And if you want this world to see a better day
 Will you carry the words of love with you
 Will you ride the great white bird into heaven
 And though you want to last forever
 You know you never will
 You know you never will
 And the goodbye makes the journey harder still!”*

– Cat Stevens, “Oh Very Young” (1974)

The Million Year Panic: The Universe will probably end, but we mere mortals don’t have that long. And we probably wouldn’t want to be there to see it anyway. Gestalt Genesis-Day Million is a science-fiction sandbox, a vision of civilization, a model of historical and cultural process, but it is also a game and to be a game, there must be an objective end, a form of victory determination. Ideally, Gestalt Genesis-Day Million should continue until the players have ‘completed the story arc’ or, alternatively, until the players mutually agree that the game has been played to a satisfactory conclusion and/or the civilizations developed to a suitable end (or until the players have exhausted their collective creativity). As likely, the game will end because (this being the internet) players simply disappear or quit playing or quit responding or submitting Actions.

I would guess the attrition rate will approximate or exceed the attrition rate for law schools. The classic law school orientation adage goes: “Look to your left. Look to your right. One of these two people will not be graduating with you.” There is no career waiting for you when you graduate from GGDM. And no student loan bills either. Or Bar Exams.

- **What is a Game:** A game can be usefully defined as ‘a contest between two or more forces, within a set of rules and bounds, for a prize that only one can win.’ This definition I learned 30 years ago (while doing a college paper) adequately covers most things called a game.¹

Compare this with the concept of a puzzle, the terms puzzle and game are casually, carelessly used interchangeably; my favorite pastimes, FreeCell and Mahjongg on my computer are actually puzzles and likely not games. I do not know where I found this *probably academic* definition of a game, but I used it in a school paper long ago (around 1990). I memorized it then and it has been my framework definition of a game for the last 30 years. I have found it to be precisely on point in every instance where I have thought about games, even cooperative board games fit the definition as there is no requirement that the ‘forces’ be sapient or sentient or living, they can be game mechanical or even computer.

Cooperative board games have become popular because they seem to reflect our relationship to the universe; who can say that the universe is not a set of game mechanics designed to insure our individual (life) and collective (group) failure if we don’t timely solve the problem (or even if we do, actually)? But is the *game board or layout a ‘force’* within the definition, like game mechanics in a cooperative board game? If it is, then FreeCell and Mahjongg may be games, and all similar board deconstruction puzzles (but not construction puzzles, e.g. jigsaw puzzles) may be games.

A good test of this definition of a game is the 1990s fad POGs; is POGs a game under this definition? For a thin slice of humanity, POGs is a fond childhood or adolescent memory from 1993-1994; it was such a fad in the U.S. that game store owners reluctantly bought cases of POGs to cash in, only to be stuck with thousands of worthless cardboard bits when the fad dissipated in a flash. The question of whether POGs is a game will not be answered here, but many concerned adults characterized it as a form of gambling that required no skill (like a slot machine or the state lottery), and it was banned in many schools for that reason. This then leads to the question, when is gambling a game under this definition?

- **Teleological Exercises:** Stories, especially time travel stories, but any sort of fiction or historical dramatization as well, are a teleological exercise, the purpose of every event, every character, every object, every piece of dialogue, is the end of the story. Every event in a story can be described by the goal, objective, end purpose of the story – teleologically. This had to happen so that the end of the story could be thus, the purpose of this event is so that the story can end this way. It is hard to imagine a story otherwise; the author knows the end of the story at some point during its creation. Odysseus had to offend the gods...

I think it is difficult to be a pacifist and truly study history, because at some point you realize this is the way of history that the fate of nations and cultures hangs in the balance on the battlefield. For example, few Western people watching the movie about the Siege of Vienna in 1683 (the “Day of the Siege,” 2012) or listening to Sabaton’s “When the Winged Hussars Arrive” are rooting for Europe of our ancestors to be subjugated to the Ottoman Turks.

- ✓ If you were an Islamic time-traveler, you might go back and assassinate Polish King Jan III Sobieski in 1682? All time-travel stories are culturally subjective; like heaven.

This gives the historical student a vested interest in the known outcome of the engagement, as it led directly to their world and the world of their time, and it would be hard to imagine anything otherwise. So the pacifist studying history is forced to accept and embrace war as the way of human history, while being repulsed by this realization, and has sparse examples to look to about how it could have been different or otherwise without war.

- ✓ There is a very old theatre saying, nothing should be on the stage in the first act that is not used by the end of the third act. The Man in the High Castle series does this very effectively, I have not seen anything said, introduced, or done that did not have some later part in the story, did not resurface again, sometimes unexpectedly.

Londo Mollari: *It was a new age.*

Stephen Franklin: *It was the end of history.*

Susan Ivanova: *It was the year everything changed.*

– Part of the opening monologue to Babylon 5, Season 4

It was the End of History: When the game ends is mostly determined by the players. The game ends when one of the following events occur:

- ✓ There is only one position left in the game (for whatever reason).
- ✓ The majority of positions inform the Concierge that they wish to end the game.
- ✓ The Concierge ends the game for lack of player participation.

- ✓ The Concierge may also end the game due to extraordinary events, such as massive data loss, illness, and other entropy, like an alien invasion, disrupting the game.

The maximum shelf-life of a GGDM game is about 40-60 turns. I have played in free turn-based, strategic PBEM games that lasted over a year, about 30+ turns processing a turn every two weeks (e.g., Darkness of Silverfall, Empire Forge, Diplomacy, etc.). Epic wars were fought in those games; many wanted them to end after mid-game when they could no longer win.

- ✓ In life there are few opportunities to reset and start over; and most of those come at a high price. Most people want a reset and start over at or before halfway through life, feeling they can no longer win.

After 40 to 60 turns, various flaws in the simulation may assert themselves,² the participants may be fatigued, positions may have become too large or the Major Races may have drifted apart, out of contact as they expand outward from the initial Galactic Space, Government Title configurations may have become too stable, undisruptable, and/or the participants may want a reset, just want it to end (like too many Star Wars movies). Many PBEM players just dropped, vanished.

- ✓ Classically, any story can be told in three acts: Act 1 introduction, Act 2 crisis, Act 3 resolution. This is true of even extended television series as long as they have a story arc: Babylon 5 and Battlestar Galactica Season 1 was the Act 1 introduction, Seasons 2 and 3 in both series were Act 2, the growing crisis, and Season 4 in both series was Act 3, the resolution, the final conflict, the final confrontation. Season 5 of Babylon 5 (which Battlestar Galactica declined, and Earth the Final Conflict unwisely attempted) served as an extended final resolution and a good-bye as characters left.
- ✓ If participants think that a game of GGDM will probably last 45-60 turns, the game could be structured in the classical three-act format still used by television series and moviemakers, with the first and last 15-20 turns serving as Acts 1 and 3.
- Closure: Ideally, the game should end at the completion of a Turn Cycle – that is, the first position that submitted Regular Turn actions has processed a turn, and all other positions afterward have processed turns, until it is time for the first position to submit Regular Turn actions again. This closure may be important in any measure of victory that counts ship building or Colleges for example. This provides full closure of the game instead of foreclosure.
 - ✓ Free Play-by-email (PBEM) games and I suppose any sort of anonymous play online game, even free ones, is subject to inbuilt human imbalances. The game begins full, or with the minimum threshold of ‘enthusiastic’ players, but within the first few turns, many stop responding, stop submitting orders; they drop quietly because they don’t like the game, or there is too much drama in their lives, they don’t have time to play and enjoy it, or they get mad at someone else in the game. Experienced players know to look for dropped positions early in the game, exploiting their lack of activity and this certainly may happen in GGDM. Dropped positions thus provide uneven opportunities for other positions to grow unnaturally large and powerful early in the game. Short of locking all the players in a jail cell and only giving them food and water when they submit turns – an amusing, appealing idea that occurs to every game designer – there is nothing that can be done about this internet-created phenomenon.
- Historical Cycles: A possible play variation of GGDM: The participants could see how many civilizations they can buildup to collapse in the course of say, 40 Turn Cycles. Or who

can complete the biggest interstellar civilization collapse of ENRON, Roman Empire, global thermonuclear war apocalyptic proportions. Sadistic I know, but true.

- ✓ I think I intended to run games of GGDM back in the beginning. In fact I am sure of it, because much of the early ‘behind the screen’ parts of the rules, I intended to work out while actually running the game. Much of the final edit was a process of writing out the rules *so that a programmer, participants and any future Concierge could understand the concepts and what was intended in the game rules (even if I doubt that anyone will ever actually play GGDM).*

- In the language of writers, I had to sense my own mortality, I had to learn legacy. That happens when you are about 50. I had to write with the idea that I will not be here to modify, clarify, explain, expound, answer questions. There will be no Dragon magazine for GGDM, in endless need of articles to publish.

That is, GGDM divorced me. Thinking that I was going to run GGDM games and work out details (e.g., the flow of “Entropy Points” back when they were part of the game) was a huge conceptual error (like getting married), similar to when the monks in *A Canticle for Leibowitz* (1959) discovered how much ink and effort they had wasted for a millennia in slavishly manually reproducing the irrelevant and incidental blue background on old blueprints they had preserved. And I was a terrible GM when I was young, as well. As the years have passed and I have changed, I think now that I should not be the one to run this game, I no longer have the temperament for it. I know now that I would not hire me to do that job, I would not marry me.

- If a programmer is reading this, I suggest consulting the copious Appendices.

“The chapter has ended, swept away by the whirlwind. One door has closed, but another has opened and on the other side, our future.”

– Ghanima Atreides, *Children of Dune* (miniseries, 2004)

Training Ground for the Faithful: There are three types or criterion of victory: subjective victory, objective victory, and group victory. Objective victory is determined by the process described in the Lords Temporal section; and group victory is determined by the process described in the Lords Spiritual section.

- ✓ As mentioned in *Macrosocial Simulation*, 3 The Big Bang, p. 17, *supra*, GGDM is more of a simulation than a game, and thus, winning is not the point of playing GGDM exactly. Still, there must be an end point and a satisfactory conclusion.
- **Victory in the Desert:** The first criteria of victory, however, is subjective.³ Within three days of the end of the game, each position must send a message to the Concierge indicating whether the position desires to win the game. In the vast majority of cases, it is expected that players of the position will indicate that the position desires to win the game. However, there may be some instances where a position decides, for whatever reason, that it should not or does not desire to win the game, and if so, this criteria gives the position players the opportunity to so indicate to the Concierge. The information provided to the Concierge regarding the first criterion will be kept secret until the final determination of victory is completed, and then will only be revealed *if necessary* to explain the final results.

In other games, when players feel that they should not win the game or do not desire to win the game, such players will usually subordinate their interests to their allies or to whomever they think should win the game, and oftentimes, such games will witness strange ‘give away’ and ‘cave in’ behaviors and unrealistic endgame strategies. Such endings do not act well, and in them no honor lies. With subjective victory as the first criterion here (and a game ending not determined by artificial rules or Victory Point ceilings), such odd behaviors and endgame moves are not necessary, as the position can simply indicate in the end that they do not desire to win the game. Positions can act with honor to the end of the story.

- ✓ Here is my vote: There should be no rejoicing or mourning; in the end, I am a half-educated jackass – with head in space and feet shackled to my house – who made it his life purpose to write a game that turned into a philosophical work that no one will either read, play or care about; that is destined to settle to the sludge bottom of the ocean of media washing over our planetary civilization and be forgotten. Not even the prawn will be interested.⁴
- Victory in Space: Positions win victory in this game, victory does not go to individual players, but rather to ‘teams’ represented by the positions. A position that wins either the objective victory (Lords Temporal) **or** group victory (Lords Spiritual) *and* also has indicated to the Concierge that they desire to win the game, ‘wins’ the game.
 - ✓ It is possible in this system, if different positions win each of the criterion, for there to be co-winners of the game, if both positions have indicated to the Concierge that they desire to win the game.
 - ✓ It is also possible, though probably rare, for a position that indicated that they do not desire to win the game, to win the game anyway, by virtue of winning both the objective victory and group victory criterion.

So it is possible to win the game when the group votes against you (subjective victory plus objective victory) and it is possible to win the game even if you choose not to (win group victory and objective victory). It is possible to not win the game even if you have the biggest, baddest interstellar empire in the universe and Palpatine is your emperor and Darth Vader your loyal servant.⁵ It is also possible to be extinct (or nearly so) and win the game if the group votes for you (win group victory plus subjective victory) in which case, the story arc of the game is the story of your race’s extinction.

- ✓ This system does not directly violate the previous definition of a game and does not void the argument that GGDM is a game. But I sure made it complicated. 😊

“Germany’s army officers, with their aristocratic pretensions, were the victims during the late 1930s of a delusion that they could control the former corporal after he had served their purposes as a rabble-rouser. France could have cooked his goose when he took responsibility for occupying the Rhineland. But the bluff succeeded. And as success followed success, the officers of the General Staff found themselves under Hitler’s thumb. They dared not overthrow a leader whose seeming ability to win bloodless victories by sheer intuition made him adored by the German people.”

– Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 784

Night at the Kroll Opera House: Nazi Germany is a good historical example of various complex criterions of victory.

Bloodless victories are the weak spot of any military establishment, they gain the most glory when military victories are relatively bloodless (on their side at least), and can offer nothing comparable in promise (especially in view of the horrendous German losses in WWI) if those victories are gained politically and by clever economic aggression and propaganda manipulation instead. In this view, Hitler had retrieved German honor and gained far more than Germany had ever hoped in August 1914:

- ✓ “In less than three years, without firing a shot, Hitler had expanded the area of Germany from 181,500 square miles to 259,000, and increased the population from 60,000,000 to 80,000,000. Only one great hope, guided by wishful thinking, remained to comfort the radio listeners of democratic nations. They reassured themselves that the Third Reich and Soviet Russia must inevitably collide in the near future and fight it out to mutual destruction. This pleasing prospect was dashed on August 23, 1939, by the stunning announcement that Hitler and Stalin had signed a treaty of nonaggression! The shock would have been even more sickening had it been known that the two dictators also signed a secret protocol dividing Poland between them.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 787.

France surrendered on June 22, 1940:

- ✓ “As Hitler glanced at the rows of stiffly seated middle-aged men in dress uniforms, their chests blazing with decorations, he had no illusions about the opinion these military aristocrats had once held of the ‘Austrian guttersnipe.’ They had scarcely concealed their disdain for the World War I corporal when they thought they could use him as a rabble-rouser and cast him aside after he had served their purposes. Even as late as the Polish triumph they still retained enough authority to block his first plans for an attack on France and Britain. But now, less than a year later, it was another story. Hitler’s cheaply bought victories in Norway and France had established him with Germany’s industrial leaders and people beyond any prospect of the Wehrmacht officers daring to oppose him. ... Although Hitler had already acquired a retinue of sycophants, there were still Prussian officers of the old school who resented his debasing of military rank. They could do nothing but hide their feelings, for the servant of 1936 had become the master of 1940. The German officer corps had lost its honor in Poland, and it lost its pride on that July night in the Kroll Opera House.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), pp. 816-817.⁶

These sections do not appear in the 2nd Edition of War Through the Ages (1946), but were added to the 3rd Edition (1960) demonstrating the level of understanding that had evolved in the previous decades of prosecutions at Nuremberg and intense study of the Nazi rise to power in Germany. People wondered, how did this happen, can it happen again, to us? Many books had been published in the 1950s, including Hitler’s Table Talk (1951) and it is notable that Shirer’s The Rise and Fall of the Third Reich was also published in 1960, the same year as the final edition of War Through the Ages with its extensively rewritten and extended chapters on World War II.

I was however, generally acquainted with this theory of Hitler’s rise to power prior to reading Lynn Montross’ *opus* because my mother discussed it with me several times in my youth in the 1970s and early 80s, stressing particularly how certain people in Germany thought they could

control Hitler and use him (like the time in 3rd Grade that I thought I could take the St. Bernard for a walk, she walked me wherever she wanted to go, and I could only try to hang onto the leash). The Nazi rise was one of my mother's favorite historical subjects and its grave importance for the future of the world was imprinted on my youthful mind.

I do not think this is the version of Hitler's rise that is taught in public schools, I don't recall hearing it in school, but instead, only from conversations with my mother. This version of Hitler is problematic – it means that he was dangerously clever and outsmarted many men more educated and powerful than he was – it doesn't fit well with the cartoonish insane image of Hitler (see discussion, *Cartoon World*, 1 Diplomacy, p. 1106, *supra*) held by most of the population educated in public schools.

This is a dangerous educational omission. A false sense of security.

General Lefcourt: *We've heard that certain elements of their government want a meeting to discuss finding a way out of this war that doesn't involve the annihilation of Earth.*

G'Kar: *Most progressive of them.*

– *Babylon 5*, “In The Beginning” (1998)

The Unicorn Song: Extinction of humanity in the universe is one of the few conditions that would render Ludwig von Mises' axiom of human action refutable, as humans then would be like unicorns. And thanks to “The Unicorn Song” (1968), we know what happened to unicorns!

- ✓ “In his book *Reasons and Persons*, philosopher Derek Parfit posed the following question: Compare three outcomes: (1) Peace. (2) A nuclear war that kills 99% of the world's existing population. (3) A nuclear war that kills 100%. (2) would be worse than (1), and (3) would be worse than (2). Which is the greater of these two differences? He continues that ‘Most people believe that the greater difference is between (1) and (2). I believe that the difference between (2) and (3) is very much greater.’ Thus, he argues, even if it would be bad if massive numbers of humans died, human extinction would itself be much worse because it prevents the existence of all future generations. And given the magnitude of the calamity were the human race to become extinct, Nick Bostrom argues that there is an overwhelming moral imperative to reduce even small risks of human extinction.” – from Wikipedia article, “Nuclear Holocaust,” captured January 26, 2019.

I am not sure about the calamity part. Nick Bostrom, a professor at Oxford University, appears elsewhere in GGDM, on the subject of whether we live in a holographic simulation. In short, he publishes lots of work and was named a top global thinker by *Foreign Policy Magazine*.

- ✓ It seems that sci-fi shorts on YouTube have been more willing to directly imagine the total extinction of humanity (e.g., “Welcome to Earth,” and “The Last Day of War”), whereas the television I watched growing up in the Cold War only addressed significant catastrophic reduction of humanity, and sometimes near extinction (e.g., *Battlestar Galactica* (1976), *Ark II* (1976), *Twilight Zone*, “The Old Man in the Cave” (1963), “Two” (1961), or “Time Enough at Last” (1959)).

“Are we on? This is... this is the President. I have just been informed that the midrange military bases at Beta Durani and Proxima 3 have fallen to the Minbari advance. We’ve lost contact with Io and must conclude that they too have fallen to an advance force. Our Military Intelligence believes that the Minbari intend to bypass Mars and hit Earth directly and the attack could come at any time. We have continued to broadcast our surrender and a plea for mercy and they have not responded.

Therefore we can only conclude that we stand at the twilight of the human race. In order to buy time for our evacuation transports to leave Earth, we ask for the support of every ship capable of fighting to take part in a last defense of our home world. We will not lie to you, we do not believe that survival is a possibility. We believe that anyone who joins this battle will never come home. But for every ten minutes we can delay the military advance, several hundred more civilians may have a chance to escape to neutral territory.

Though Earth may fall, the human race must have a chance to continue elsewhere. No greater sacrifice has ever been asked of a people. But I ask you now to step forward one last time, one last battle to hold the line against the night. May God go with you all.”

– Babylon 5, In The Beginning (1998)

Countdown to Extinction: Extinction occurs whenever a position 1) no longer controls any colonies, or 2) when there are no remaining population factors of the position’s native population type and that position controls no colonies in the Galactic Space (i.e. 99% or 100%, *ut supra*). The former condition – when a position no longer controls any colonies or Homeworlds, is called *Political Extinction* (or more properly, Polity Extinction). The latter condition – when there are no remaining factors of the position’s native population type in the game⁷ (i.e. the Galactic Space) and the position controls no colonies or Homeworlds, is called *Total Extinction*. It is possible for a position to have no remaining population factors of its Native Population Type left in the game – even under the control of other positions – and still control colonies and/or Homeworlds filled with native populations of other positions; this would not be considered an extinction condition.

- ✓ “Most states, however badly the fortunes of war may turn against them, manage at least to retain their national existence.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 203.
 - This would be an interesting area for modern study and refinement. How many states have survived no matter what? Much would depend upon whether a polity is a state or when the former becomes the latter, because the great migration is filled with polities that were assimilated (e.g., the Huns, the Avars, the Pechenegs, the Cumans and vanished from history).
 - It would also be a tricky question because all states end eventually (including the United States of America) and it usually involves war, so the criteria would need to be established very carefully.
 - It is however, fairly certain from history that the original states (polities?) based on the personality of a local king, warlord, chieftain, likely did perish upon the death of that person. There was then, in prehistory, likely a constant churning of tribes and identities based on the rise, success, charisma and wealth of certain leaders and migrations, e.g., the Late Bronze Age collapse in

the Middle East and Eastern Mediterranean. Sovereignty, discussed much throughout GGDM, must be a matter of legacy, it must have become independent of the legitimacy and lifetime of individual rulers, it must have had a basis established beyond the sovereign person of the local ruler, and that basis was either the people (and their culture) or divine sanction, which was controlled by the priests and could be made to suit whatever current purposes were necessary.

- ✓ “As week after week passed without an allied blow to end the war, Frederick [the Great] realized that foes who could not profit from a Kunersdorf would never be able to defeat a resolute opponent.... Frederick had learned from despair that craft is a substitute for numbers, and endurance the strength of the weak.” – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), pp. 401-402.
- Into The Wastebasket of History: A position that is Totally Extinct has no vote in determination of the Lords Temporal and Lords Spiritual victory criterion, but may still inform the Concierge whether or not that position desires to win the game. A totally extinct position could still win the game.
 - ✓ “In one of the countless billions of galaxies in the universe, lies a medium-sized star, and one of its satellites, a green and insignificant planet, is now dead.” – Ending Narration, *Beneath the Planet of the Apes* (1970).
- Captive Honor: A position that is politically extinct from the game obviously will not be able to either vote for or compete in the Lords Temporal victory criterion, but may still vote for determination of the Lord Spiritual criterion. And, of course, the politically extinct position must still inform the Concierge whether they desire to win the game.
 - ✓ “Never bear more than one kind of trouble at a time. Some people bear three kinds; all they have had, all they have now, and all they expect to have.” – Edward Everett Hale.⁸
- Passive Extinction: It is possible, and unfortunate, that some positions may choose not to participate in the endgame/postgame voting (for example, the players of the position cannot agree on anything). An existing position which fails to timely send an email to the Concierge indicating that they either desire to win the game, or desire to not win the game, will be assumed to desire to win the game. An eligible position which fails to 🗳️ in the Lords Temporal or Lords Spiritual criteria of victory will be ignored and assumed to have ‘passed.’ An extinct position which fails to vote will simply be ignored and will not be able to win the game, though they may still win laurels and honors. In order for an extinct position to win the game or have any chance of winning the game, the position must at least ‘raise a hand’ and let the Concierge know that at least one player in the position is still interested in the outcome of the game.
 - ✓ “If we are superior, why are we extinct?” – Dalek Leader, Dr. Who.
- Da Vinci Cycle: It is possible, especially if it serves the overall purpose of the game’s story arc, and if players are still enthusiastic about the game, that some players from extinct or nearly extinct positions could find another role in the game, or could start a ‘new’ position, perhaps from a Minor Race, beginning the next generation of the game. This was the basis of the excellent and out-of-print game called Vinci (1999), where empires and civilizations

lasted only a couple of turns each, and thus play of the game was a progression of civilizations and players changing positions as new civilizations arose and old ones stagnated and faded. Vinci (and Union Pacific/Imperial) is the only game I have ever seen that approaches the “cline gaming” concept described in the next rules section.

- ✓ “Only a handful of sequels in cinema history have managed to live up to, let alone surpass, the quality of the first film in a prospective franchise. We all know the parameters of this debate – and also the examples – very well: *The Empire Strikes Back* (1980), *Aliens* (1986), *The Godfather Part II* (1972), and perhaps *The Road Warrior* (1982).” – John Kenneth Muir, “Cult Movie Review: Beneath the Planet of the Apes (1970),” July 27, 2011.
- ✓ History came full circle for the Romans when the Vandals captured Carthage in 439 C.E. (becoming *Vandalus Regnum*); the Vandals crossed the water and sacked Rome just 15 years later. Likewise, the Earth First Empire teetered on the brink of collapse in 2439 after the MAC (Modified Accessorized Cat) Fleet captured the RAD (Romanticized Aromatic Dogs) colony at Alpha Centauri. Thereafter, *Felis Boxes Regnum* (“Kingdom of Cat Boxes”) reigned supreme.

“The most dangerous creation of any society is the man who has nothing to lose.”

– James Baldwin, *The Fire Next Time* (1963) ⁹

“The point is, to die irreconciled and not of one’s own accord.”

– Albert Camus

Checking Out of Hotel Earth: Most of us are too stupid or cowardly to just take ourselves out of here (personal extinction). Life scientists talk about ‘survival instinct,’ and literaries talk about romance, adventure, life and procreation. But only humans commit suicide. So we make up minimalist excuses to either keep going year to year, putting it off until we can die and blame someone else for our death, or find reasons to die for a noble cause. And we have this thing called culture to provide meanings against which those excuses work. My made-up excuses for still being here are that it is somehow important that I finish this project, about which no one but me will care – that is, even my excuses are pointless – but it’s the only thing I will leave behind, and I must take care of my cats (a proxy for children), for whom I am solely responsible for bringing into my home, during their entire lives or for as long as I live. And that will do. ¹⁰

- ✓ “So you are asking me as a psychologist. ... Then as a psychologist, I’d say you are confusing suicide with self-destruction. Almost none of us commit suicide, and almost all of us self-destruct. In some way, in some part of our lives. We drink, or we smoke. We destabilize the good job or the happy marriage. But these aren’t decisions, they’re ... They’re impulses. In fact, you are probably better equipped to explain this than I am. ... You are a biologist. Isn’t self-destruction coded into us? Programmed into each cell?” – Dr. Ventress, *Annihilation* (2018).

- “So, when the day comes to settle down, Who’s to blame if you’re not around? You took the long way home.” – Supertramp, “Take the Long Way Home” (1979).
- Soto & Diego: The original animated movie Ice Age (2002) had a bit of an edge to it that was toned down in the second film in favor of slapstick comedy:
 - ✓ **Soto**: Aw, look at the cute little baby, Diego. Isn’t it nice that he’ll be joining us for breakfast? **Diego**: It wouldn’t be breakfast without him. **Soto**: Especially after his daddy wiped out half our pack. And wears our skin to keep warm. An eye for an eye, don’t you think? **Diego**: We’ll show that human what happens when he messes with sabers. **Soto**: Alert the troops. We attack at dawn. And Diego: bring me the baby, alive. If I’m going to enjoy my revenge, I want it to be fresh. *Id.*
 - ✓ **Diego**: Maybe we shouldn’t do this. **Sid**: Why not? **Diego**: If we save it he will grow up to be a hunter and who do you think he will hunt? **Sid**: Maybe because we saved him he won’t hunt us? **Diego**: And maybe it will grow fur and a long skinny neck and call you mommy! *Id.*

Now, what if the situation were reversed? Who’s the bad guy here? Can you blame Soto? Did you notice that all of the members of Soto’s pack of sabre-tooth tigers are adult males? That is not natural. The Neanderthal tribe may have killed all of the females and cubs; Soto certainly suggests this is true. Sand through the hourglass, countdown to extinction.

“What, Sir, would the people of the earth be without woman? They would be scarce, sir, almighty scarce!” – Mark Twain, Speech, January 11, 1868 ¹¹

“After all these years, I see that I was mistaken about Eve in the beginning; it is better to live outside the Garden with her than inside it without her.”

– Mark Twain, “Adam’s Diary” (1904) ¹²

Lords Temporal: Many years ago when describing my nascent game design to an attorney for whom I worked, he said to me, “So, it’s a science-fiction wargame?” I replied, “Well...no, I don’t quite think of it that way.” The attorney said, “Well, what is the object of the game?” I replied, “To build the biggest and best interstellar civilization, I guess.” The attorney replied, “So, it is a science-fiction wargame.” Well, I suppose he had a point there. So, that being established as at least one truth of this game, the objective criterion of victory determination is a calculation of who has the “biggest and best interstellar civilization.”

Temporal power is secular power, the power in the here and now. Not to be confused with time travel. This distinction is necessary only because this is a science-fiction game. Pre-20th Century people would not be confused by the term, which dates from the late medieval period.

- 13: The Lords Temporal, objective criterion of victory is determined by ‘measures’ of the objective quantifiable power, qualities and achievements of each position. There are thirteen Measures of Victory, detailed in the following section, of which some, most, or all might be used in determining objective victory in this game.

- 7: At the same time that each position indicates to the Concierge whether or not they desire to win the game, each position should also secretly vote for one of the thirteen Measures of Victory detailed below. A position might vote for a Measure of Victory which they think they can win, or they might vote for a Measure of Victory which they think their ally might win. *Each position, excluding extinct positions, gets one vote only.* Of the thirteen Measures, seven will be used initially. Duplicate votes for the same Measure will be disregarded; alliances of positions might consider coordinating their votes.

If there are more than seven different measures voted for (as might occur in a game where more than seven positions finish the game), the first seven received by the Concierge will be counted. If, through duplicate vote elimination and/or less than seven positions finishing the game, there are initially less than seven Measures chosen, the Concierge will choose the remaining Measures by a random means, until seven Measures have been chosen from the list.

- 1: The position which wins the majority of the first seven Measures, wins the objective victory. If no position wins the majority of the first seven Measures, the Concierge will randomly add one Measure at a time and determine who wins the Measure, until such a time as a position has won the majority of the Measures. The position that wins the majority of the Measures, wins the Lord Temporal criterion of victory.

*“Of the Avars, there’s not much to find:
One more empire that ravished mankind.
Then the Bulgars and Franks
Led attacks on their flanks
And they vanished – left little behind.”*

By Atticus Vere ¹³

Of Huns and Avars: The Huns suffered the same fate a few centuries earlier in essentially the same area of Europe (the Pannonian Basin aka the Hungarian Plains); after the 𐌆 of Attila on his wedding night in 453 A.D., revolts and infighting wiped the Hun polity off the map in two years. We know little about the Huns’ language and culture, history, genetics, traditions, ethnicity; they ‘vanished’ and were absorbed. No one knows what Attila looked like or where he is buried. They landed in the “wastebasket of history” – favorite line of military historian, Lynn Montross.

It appears that among contemporaries, the Avars were associated with (or confused with) the Huns, or at least, that the two may represent only a modern distinction:

- ✓ “Each year, the Huns [Avars] came to the Slavs, to spend the winter with them; then they took the wives and daughters of the Slavs and slept with them, and among the other mistreatments [already mentioned] the Slavs were also forced to pay levies to the Huns. But the sons of the Huns, who were [then] raised with the wives and daughters of these Wends could not finally endure this oppression anymore and refused obedience to the Huns and began, as already mentioned, a rebellion. When now the Wendish army went against the Huns, the [aforementioned] merchant Samo accompanied the same. And so the Samo’s bravery proved itself in wonderful ways and a huge mass of Huns fell to the sword of the Wends.” – Chronicle of Fredegar, Book IV, Section 48, written circa 642, quoted in Wikipedia article, “Pannonian Avars.” [Samo is the founder of Samo’s Empire, the first Slavic polity, 631-658]

But the Avars left behind them the legend of the Ring:

- ✓ “Charlemagne’s last expeditions brought about the annihilation of the Avars who had terrorized eastern Europe for two centuries. An Asiatic people, probably of Turkish origin, they had settled along the Danube in ‘rings,’ or great enclosures defended by earthworks, the largest of which has been described as 38 miles in circumference. Nevertheless, the Avars were a spent power at this time, having suffered severe defeats from the armies of Constantinople. The Franks merely completed the work of destruction, and after the capture of their chief ring the mounted raiders disappeared so dramatically that ‘to vanish like the Avars’ is still a Slavic proverb.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), pp. 97-98.
- ✓ “The gradual decline of Avar power accelerated to a rapid fall within a decade. A series of Frankish campaigns in the 790s, beginning in 791, ended with the conquest of the Avar realm after eight years. The 791 campaign ended successfully, although no pitched battle was fought. Avars had fled before the Carolingian army arriving by the Danube, while disease left most of the Avar horses dead. Tribal infighting began, showing the weakness of the khaganate. The Franks had been supported by Slavs, who established polities on former Avar territory. One of Charlemagne’s sons captured a large, fortified encampment known as ‘the Ring,’ which contained much of the spoils from earlier Avar campaigns. The campaign against the Avars again gathered momentum. It would take two massive hammer-blows, two major musters of the host, drawing upon levies from every part of the now great kingdom, before the robbers’ nest was exterminated. And at last, in the year 796, five years after the war began, the Avars cracked and lay utterly at the king’s mercy.” – from Wikipedia article, “Pannonian Avars.”
- ✓ “Although we know of no grave inventory from the Avar Empire of the 8th Century that, in terms of the quantity and quality, can compare to that of Kunbáony, we do know definitely that – at least in the Avar centre of power – there were fabulous treasures. In 791, Charlemagne began a large-scale pagan crusade against the Avars, whose primary goal was probably the reconquest of the former Roman Pannonia. But the mighty army was apparently quite cumbersome. It was supposedly Dux Eric of Friuli who had the idea, in 795, of using a raiding party under the leadership of ‘the Slaves’ of Woynimir to penetrate and plunder the Avars’ centre of power, the ‘Hring.’ He captured gold, silver, silken robes and weapons which, according to the Northumbrian Annals, were transported to Aachen in 15 waggons, each drawn by four oxen.

A second coup was achieved the very next year, this time under the leadership of Charlemagne’s son, Pippen and Eric of Friuli. The valuables taken from the ‘Avar Ring’ also came to the palace at Aachen. Einhard, the biographer of Charlemagne, regarded the Avar wars as the most successful ever waged by the mighty Franks. ‘All the money and treasure that had been years amassing was seized, and no war in which the brave Franks ever engaged within the memory of man brought them such riches and such booty. Up to that time the Huns had passed for poor people, but so much gold and silver was found in the Khan’s palace, and so much valuable spoil taken in battle, the one may well think that the Franks took justly from the Huns what the Huns had formerly taken unjustly from other nations.’ – Falko Daim, “The Gold of

the Avars. Three Case Studies,” trans. by Carola Murray-Seevert, Dalle Steppe Al Mediterraneo Popoli, Culture, Integrazione (2017), pp. 416-417.¹⁴

- Again, in the preceding quote by Einhard (b. 775 A.D., d. 840 A.D.), it appears that the Avars were considered Huns and had thus inherited the Western kingdoms’ revulsion against the Huns.
- As discussed in 2 Taxation & Census, p. 303, *supra*, position Treasuries are not location specific and thus cannot be captured or looted. Treasuries in GGDM are the opposite of the great Avar Ring.

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The demise of the Avars in the 790s precedes the first recorded Viking raid in 799 A.D. Historical whac-a-mole. But only for the ones who survived, in this case, the Franks. For the Avars, the first Slavish-Frankish raid on the main Ring from a lightly guarded frontier was the historical accident (*à la Tainter*) from which they could not recover.

- ✓ “Byzantine records, including the ‘*Notitia episcopatumî*,’ the ‘*Additio patriarchorum thronorumî*’ by Neilos Doxopatres, the ‘*Chronica*’ by Petrus Alexandrinus and the ‘*Notitia patriarchatum*’ mention the 9th century Avars as an existing Christian population. The Avars had already been mixing with the more numerous Slavs for generations, and they later came under the rule of external polities, such as the Franks, Bulgaria, and Great Moravia. The Avars in the region known as *solitudo avarorum* – currently called the Alföld – vanished in an arc of three generations. They slowly merged with the Slavs to create a bilingual Turkic-Slavic-speaking people who were subjected to Frankish domination; the invading Magyars found this composite people in the late 9th century. The *De Administrando Imperio*, written around 950, clearly states the presence of an Avar population in the region of modern-day Croatia.” – from Wikipedia article, “Pannonian Avars.”

“Our first glimpse of the legendary Vedrans answers a few questions and poses a lot more. Now we know for sure that the Vedrans made a choice to remove their world from the slipstream – and from contact with the rest of the Commonwealth – thus protecting their own people, but allowing the Nietzscheans and the Magog to kill millions elsewhere. On the positive side, they’ve been able to advance as a culture and their tesseract technology may ultimately enable the new Commonwealth to defend itself against a possible invasion. On the negative side, they seem to care more about a nature preserve than all the member worlds they chose not to cloak from the slipstream and the ravages of the post-Commonwealth galaxy. I assume there’s more going on at Ral Parthia than strip-mining – and I like the implications that the Kalderans are a more dangerous threat – but I still think the Vedrans have a lot of explaining to do, and probably some apologizing.”

– Michelle Erica Green, review of Andromeda episode, “The Fair Unknown,”
 littlereview.com, April 14, 2002

Endnotes.

¹ Citation: “The English Oxford Dictionary defines a game as ‘an activity that one engages in for amusement or fun; a form of competitive activity or sport played according to rules.’ While often depicting epic battles and legendary military campaigns, block wargames do so without foregoing a basic tenet of gaming: they should be fun. But since block games are also great representations of historic conflicts, there is still a necessary level of complexity inherent in any simulation of war.” – “How Block Games Get the Balance Right,” Wargame Blockhead (blog), February 11, 2020.

² Commentary & Citation: As noted in 3 Taxation & Census, EN 6, p. 324, *supra*, about 20 years ago, I played in a PBEM game called World of Kaomaris whose flawed over-simplicity was becoming apparent to the participants (in fairness, this was 20 years ago, and as noted, the game evolved and changed, it is still running). In WOK and other games, thus, I have seen situations where the flaws of the game (or shortcomings, perhaps) become apparent with play (it can happen to any game). The flaws of GGDM will not be that it is over-simplistic and boring.

³ Commentary: Happy endings are relative and come in different flavors.

⁴ Commentary & Citation: When it takes too long to solve a FreeCell board – and I have a very good idea by now how long it should take to finish a FreeCell game – I do not take that as a sign of my problem solving prowess, having just solved a difficult board, that yay, I solved the problem; rather, I take it as a sign of my stupidity and human inadequacy that I was not smart enough, fast enough, or good enough to solve the problem within an acceptable time (see Mediocrity for Most, 3 Colleges, p. 498, *supra*).

⁵ Commentary: Oddly, I have personal memory of the approximate time period in which I thought of this three part system – I remember sitting at my mother’s dining room table in summertime, probably 1993 or 1994, talking to her about subjective and objective victory as she moved around the kitchen and dining room doing tasks (she probably didn’t really know what I was talking about though) – but I don’t know the historical or background inspiration or precise reason I thought of this system, only that I was trying to create a system to defeat certain short term, unrealistic endgame behaviors I had observed in board games.

⁶ Commentary: In other words ... moving parts alert ... what would have happened if the invasion of Norway had bogged down in ice, snow and allied resistance? No 1940 invasion of Belgium and France? Perhaps a coup d’état?

⁷ Citation: “The secrets of evolution are time and death. Time for the slow accumulation of favorable mutations and death to make room for new species.” – Carl Sagan, Cosmos, Episode 2.

⁸ Commentary: *Inge Process*: Like most men, he wrote things in his time that would be distasteful to moderns; according to Wikipedia, he wrote in 1852 that Irish immigrants should be welcome because they are inferior and will raise Americans up by taking over menial labor. He was also a dichotomy (like most men): While writing this about immigrants, he also campaigned to abolish slavery! Thus, quotes of his writings are cherry-picked.

⁹ Citation: [Narrator] “A wanted man labelled as a rebel, with no Chieftaincy to defend and without the backing of [King] Dinuzulu, Bhambatha has only one option... To launch the impi alone.” – from Bhambatha: War Of The Heads (documentary, 2009).

¹⁰ Commentary: Before you go indignant, I am inviting you to a sort of dialectic. What in the preceding section is not factually true or is demonstratively false? It is possible that other animals (e.g., whales) commit suicide, but we don’t know. Without factual dispute, you are left with disputing my interpretation – opinion if you like. Opinions are facts in the third and fourth order of natural phenomenon. Am I to be blamed for expressing angst in a literary simulation game about human civilizations? Is not angst pretty much synonymous with literary?

¹¹ Citation: “God’s great cosmic joke on the human race was requiring that men and women live together in marriage.” – Mark Twain.

¹² Commentary: “Women” by Def Leppard is the late 20th Century musical successor to Mark Twain. Of course, it is not politically correct now, and YouTube music won’t play the song – it will play all of the other Def Leppard songs – *unless you specifically search for it*. Do you think that the algorithm isn’t engaged in some censorship?

¹³ Citation: “Vanished like the Avars” (an old Balkan proverb) by Atticus Vere (Larry Landsman), The Omnificent English Dictionary In Limerick Form (oedilf.com), May 27, 2011.

¹⁴ Citation: Previous German-language version of this article was published in 2016.

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“A true victory is to make your enemy see they were wrong to oppose you in the first place. To force them to acknowledge your greatness.”

– Gul Dukat, Cardassian Hero who resisted the imperialist Federation, ST DS9

“Institutions get the behaviors they reward.”

– Gen. Jim Mattis (USMC Ret.) op-ed, “Jim Mattis: Duty, Democracy and the Threat of Tribalism,” Wall Street Journal, August 28, 2019

Objective Measures of Victory: The question in designing victory conditions for GGDM or for any other game, is what behaviors does the game reward? In the objective criterion of victory in GGDM, the reward is for the biggest, bestest position in objectively measurable terms. So, who has the biggest and best interstellar civilizations? And how many worlds were destroyed getting there?

- ✓ “What was it all for, I wonder? What was any of it for?” – Vir Cotto, Babylon 5, “The Long Night” (1997) as the Narn celebrate the Centauri withdrawal.

The following are the thirteen Measures of Victory used in determining the objective victory criterion described in the Lords Temporal section (see Lords Temporal, *et seq.*, 1 Resolution, pp. 1465-1466, *supra*). Two or more positions can be tied for a Measure of Victory, in case of a tie, both are considered to win that Measure. The first seven measures chosen by the position votes and Concierge will be checked to see if any position wins the majority (even if tied) of Measures. For example, if two positions were tied at two wins each and three other positions had each won one, the next Measure of Victory will be randomly selected and checked until either a position wins the majority of Lords Temporal Measures of Victory or they are exhausted.

- Population Measure: It all starts with the people, your population. The Population Measure of Victory counts the *total population* on all colonies controlled by the position.
 - ✓ The value of Native Population factors of the position counts as double.
 - ✓ Naturalized alien population factors count as base value.
 - ✓ Population factors on Converted and Conquered colonies count as half value.
 - ✓ Population on Colony Ships at the end of the game counts as their political status.

Whichever position has the greatest total ‘population value,’ wins this “**Alien Hoarding**” Measure of Victory. Note that this measure does not address population density or distance.

- Resource Production Measure: The position (i.e. industrial power) with the greatest income (in RPs), if the Taxation Power were activated right now (without the use of any Writs or Enlightenment) and all sovereign colonies obeyed the Taxation Power Activation (regardless of the colony’s current state of Constructural Elements), is the winner of this “Scrooge McDuck” Measure of Victory.
 - ✓ This measures theoretical output, meaning that a position which has poor Cohering (significant inactive Constructural Elements, see When the Lights Are On, 2 Constructural Elements, p. 190 and Interesting Times, 2 Disruption, p. 272, *supra*) can still win in ‘measure of wealth.’

- ✓ This Measure does not count RPs in the Treasury currently. Those will age out (see Aging Resources, 2 Taxation & Census, p. 304, *supra*) and will likely not be inherited by the next generation.
 - ✓ Note that Conquered Colonies do not produce RPs (and do not have GDP for Construction Power activations), see The Taxman Cometh, 2 Taxation & Census, p. 306, *infra*. Thus, endgame conquest may not be helpful for this Measure.
- **Technology Measure:** The Measure of Victory in technology is calculated as the number of the position's current Era (i.e. 1st Era, 2nd Era, 3rd Era, etc.) *times* the total number of Patents of any operational type, *including Existential Patents*, held by the position. The position with the greatest technology value, or 'tech level' wins this 'geeky' Measure of Victory.
- ✓ Population, resources ... and technology. Technology is what sets the interstellar setting apart from medieval fantasy, population and resources are found in just about any pre-technological or fantasy setting.
 - ✓ This Measure tends to emphasize Era progression due to the multiplier effect, but having lots of Patents isn't a bad thing either. There is a dynamic between the two, see The Progress of Eras, 1 Eras, p. 759, *supra*).
 - ✓ This Measure also tends to favor COT Patents (see 2 Patents, p. 739, *supra*) as they are the easiest and cheapest. However, Era Progression requires that new Enhancement (EP) and Physical Item Patents (PIT) will be required each in the 2nd and 3rd Eras, e.g., 2nd Era Warship, 2nd Era Carriers, Fighter and Ship Missiles (see Era Warships, 2 Combat, p. 951, and Next Generation Fighters and Carriers, 1 Carriers & Fighters, pp. 1048-1049, and Torpedoes at Trafalgar, 4 Carriers & Fighters, p. 1079, *supra*). Thus, the utility of most COT Patents fades outside of their Era.
 - ✓ Research Pieces, Research Groups and Applications on the Matrix count for naught.
- **Faculty Check Measure:** The current Classes of all of the Colleges (whether active or not) are totaled and *multiplied* by the total number of Institutes currently on planets controlled by the position. The position with the greatest 'Faculty value' wisely wins this Measure of Victory.
- ✓ Note that a game should always end after a completed Turn Cycle if possible, so all positions with operating Colleges will have an equal chance.
 - ✓ The operation of Institutes using Faculties (see 3 Colleges, p. 487, *supra*) or ongoing combat(s) using Enlightenment for rerolls will adversely affect the position's chances of winning this Measure. Institutes thus are both good and bad for this Measure. Still, Faculties may be lost to aging if not used during the Regular Turn (see Tuition & Tenure, 2 Colleges, p. 474, *supra*) so ongoing use in Institutes and Enlightenment rerolls is expected.
 - ✓ Non-Specific Faculties (NSFs, see The First is Last, 3 Colleges, p. 493, *supra*) do not count for this Measure.
- **Fleet Size Measure:** The construction value in RPs of *all starships* plus *all Supplies*, enhancements (including Fighters and Ship Missiles) and cargo currently on ships is calculated, and the position with the greatest fleet value wins this "Big Stick" Measure of Victory. An interstellar culture without starships is not much of an interstellar culture.

- ✓ The value of System Boats (see 3 Construction, p. 677, *supra*) and anything on them does not count unless they are currently attached to a Tender Starship.
 - ✓ Ships that *might perish* for being beyond their supply limit if the game went one more Regular Turn (see Death Ship and The Cold Equations, 3 Movement, pp. 856, 864, *supra*) will be counted (their swan song).
 - ✓ Population currently on Colony Ships has no effect on this Measure, nor does population in Orbital Cities.
 - ✓ Obsolete ships which have not been Scrapped (see Junkyard Blues, 3 Construction, p. 682, *supra*) have value in this Measure of Victory. This might be a game strategy.
- Exploration Measure: The Exploration Measure of Victory counts the number of starsystems explored by each position (see Then Never Comes and Dead Before the Opening Credits, 3 Expansion, pp. 907, 910, *supra*) and the number of new stars ‘discovered’ (via the Looking Rules, see Horkeimer’s Rule, *et seq.*, 2 Expansion, p. 899, *supra*) by each position.
- ✓ Exploration means that the position has visited the system (regardless of the circumstances) and has full orbital information for the system, including maximum habitability and habitability class for the planets; only one visit during the game is required.
 - ✓ Discovering a new star via Looking and then exploring that star counts for both.

The two are added together, and the position with the greatest ‘exploration value’ wins this “Cartographer” Measure of Victory. The Truly Alien position has a head-start on this measure.

- Vitality Measure: The vitality of a position is measured by *multiplying* the number of undisrupted Government Titles currently held by a position:
- ✓ Times the current number of unexpired (i.e. current) Corporations operated by the position and MegaCorporations of which the position is a member (see 1 and 2 Corporations generally, *supra*),
 - ✓ Times the number of all possible Fuzzy Groups and Zeitrice formations (see Fuzzy Groups, 4 Culture, p. 404, and 4 Writs, p. 447, *supra*) currently on the position’s Public Space at the end of the game. Fuzzy Groups can overlap and share some of the same pieces, which may make counting tricky (like a picture where they ask how many triangles are in this picture).

The position with the greatest final ‘vitality value’ wins “The Roar” Measure of Victory.

- ✓ Fuzzy Groups on the Public Space suggests a position is ready to activate a number of Writs each Regular Turn, but this Measure does not count the number of currently active Writs or Special Writs of a position.
- Diplomatic Prowess Measure: The total number of Monads in Diplomatic Spaces currently between the position and all other positions is counted (see First Space, 2 Diplomacy, p. 1116, *supra*) and then *multiplied* by the number of First Contacts (see Bump in the Night, 1 Diplomacy, p. 1099, *supra*) the position has had during the game. The position with the greatest total ‘diplomatic value’ wins this “Mister Rogers Neighborhood” Measure.
- ✓ This Measure counts the position’s own First Spaces (see 2 Diplomacy, *Id.*), *but not First Spaces of other positions* in the Diplomatic Spaces. The maximum possible

- number of First Spaces a position can have equals the number of other positions in the game (plus possibly some Minor Races).
- ✓ Consistent with the ‘joint venture’ concept of diplomacy in GGDM, two positions are both scoring equally off of their shared Diplomatic Spaces.
 - ✓ A position which has only a couple of First Contacts, and one really good ally with a large Diplomatic Space is probably at a disadvantage in this Measure of Victory unless all positions have cloistered with one or two allies and not made many First Contacts or cultivated many relationships.
- Meanings Measure: The total number of Meanings and Shared Meanings (see *Between Mars and Venus and The Commonality, 3 Diplomacy*, pp. 1126, 1131, *supra*) held by each position is counted and *multiplied* by one plus the number of Expose’ News Events (see *Diary of a Madman, 4 Writs*, p. 449, *supra*) a position issued during the game. The position with the greatest ‘meaning value’ wins this “Babylon 5” Measure of Victory, as having done the most to (probably non-violently) shape the meanings of the relationships in the game.
- ✓ Regular News Events and Diplomatic Protests (see *No Noose is Good News and Diplomatic Protest, 2 Dreamtime*, pp. 143, 148 respectively, *supra*) do not count for any objective Measure of Victory. They are just the regular part of the game, News is the default Interpretation for Power Activations.
 - ✓ It is important to remember that Expose’ News Events are approved by the Concierge, and that Shared Meanings take two to tango. Meanings are unitary, but can be easily destroyed by unknowing violation. All three do take significant effort and risk by the position to create; so with all else going on in the game, it is unlikely that a position will abuse them just to win this objective Measure of Victory.
 - ✓ For an isolated or warlike position this will be a ‘meaningless measure.’ 😊
- State of Readiness Measure: For each position, the number of Acts currently on the Power Strip and the number of Scenes currently on their Public Space are counted and totaled. The position with the greatest number of total Acts and Scenes at the end of the game wins this “DefCON1” Measure of Victory when invoked.
- ✓ This Measure demonstrates ability to act, readiness to spring into action, and also strategic planning in terms of marshaling Acts and placing Scenes.
 - ✓ Positions in higher Eras may receive more Acts and Scenes, but not Power Activations, and thus Era progression is important to this optional measure (see *Player Pivano, et seq., 2 Eras*, p. 770, *supra*).
 - ✓ Note that a Scene can appear on more than one Public Space (thus allowing Scene Snitching), so can be counted multiple times for different positions. This could be slightly manipulated on the final turns of the game.
- Technological Devices Measure: The construction value in RPs of all currently owned by the position Technological Devices is tabulated and the position with the greatest RP value in Technological Devices wins this “Dr. Watchstop” Measure of Victory.
- ✓ Technological Device Patents are described in *2 Patents*, p. 741, *supra*.
 - ✓ This Measure does not count the number of Technological Device Patents a position holds, but rather, actual Technological Device enhancements and units controlled by

the position (i.e. on their colonies or ships) *whether or not they built it*. Thus, the ability to operate the Technological Device is irrelevant.

- Seeding Space Measure: The total number of *colonies* of the position's Native Population Type (see 5 Beginnings, p. 51, *supra*) currently in the Galactic Space. Sovereignty and Bal-kanization are irrelevant as is the *size* of the colonies for this purpose.

This is about presence, thus, populations in Orbital Cities (“one colony rule,” Lebensraum, 3 Taxation & Census, p. 321, *supra*) over **alien colonies** would be considered a colony at that location. The position with the largest number of colonies of their Native Population Type wins this “Genesis Mandate” Measure of Victory.

- ✓ Because this Measure specifies colonies (i.e. colony units), population on Colony Ships at the end of the game does not count as a colony.
 - ✓ This is an odd Measure of Victory that a *Politically Extinct* position could win (see Countdown to Extinction, 1 Resolution, p. 1462, *supra*).
- Cohering Measure: Checking the rust on the underside of the bridge. Will your Reich last a thousand Regular Turn Cycles? This Measure of Victory multiplies the number of active Epistemological, Symbolic and Ideological Constructural Elements on sovereign colonies, ships, boats, and Ground Units *by* the number of currently *passing* Conflict Checks (see Starch & Parchment, *et seq.*, 3 Government Titles, p. 613, *supra*) in the position's current Government Titles to arrive at a ‘stability’ value or Cohering Value. The position with the highest wins this “Don’t Rock the Boat” Measure of Victory.
 - ✓ Temporal Constructural Elements are not counted.
 - ✓ This Measure may favor big positions that have more ships, system boats and colonies meaning more potential active Constructural Elements. A large position may actually be in poor condition in terms of inactive Constructural Elements, but passing most of its Conflict Checks, and still win this Measure.
 - ✓ This Measure does not favor the ‘sit-n-spin’ strategy (see 2 Taxation & Census, p. 309, *supra*), unless the position has a lot of ships and system boats, but the sit-n-spin position could do well in other Measures. Sit-n-spin positions can be the ‘bestest’ at many things, but very rarely will be the biggest.
 - ✓ End game conquest may saddle a big position with Conquered Colonies that have inactive Constructural Elements as result, which is not helpful for this Measure, unless doing so helps pass Conflict Checks.

“The Islamic State was soon described by U.S. officials as being more dangerous than al-Qaeda. Yet despite being named caliph of an actual territory, Baghdadi never reached bin Laden’s status within the global jihadist movement, and is unlikely ever to do so. Baghdadi’s greatest achievement was the capture of physical territory he dubbed the Islamic State, but with that mostly gone, so goes his legacy. Bin Laden, on the other hand, will always be known as the man who took violent radical Islam and spread it across the world.”

– Rick Noack, “Osama bin Laden still matters. Islamic State leader Baghdadi not so much,” Washington Post, November 2, 2017

Lords Spiritual: In the same email where each *position* indicates to the Concierge whether they desire to win (subjective victory criterion) and their vote for the Measure to be used in the objective victory criterion (Lords Temporal), the position should also *vote for which position they think should win the Lords Spiritual* (group victory criterion) in this game.

The position receiving the most votes will win this criterion. Sort of like the Hugo Award and Nebula Award:

- ✓ “They are by nature determined by an electoral process. All electoral processes have a political component, and the outcome is determined by some form of numerical tabulation. So even in the best of worlds, the Hugos and Nebulas cannot be other than literal popularity contests, measurements of the numerical popularity of works among the paying members of a science fiction convention on the one hand, and the creators of those works on the other. Not surprising then that both of them are indiscriminately awarded to masterpieces and trivia, pace-setting works and cult-objects, as popular trends come and go.” – Norman Spinrad, Science Fiction in the Real World, p. 17.

This vote will be taken before the players are informed which position won the Objective or Lords Temporal victory in the game. Players may have an idea who probably will win the Lords Temporal, but will not know for certain when voting for Lords Spiritual, so the two are not necessarily linked. It is not impossible that the Lords Temporal position was also the best in whatever the Lords Spiritual vote measures, but it’s not guaranteed or necessarily so.

- ✓ Each position gets one vote; thus it is a vote of the positions and not a direct polling of the players.
- ✓ Every position (except the Concierge) must vote. This burden is imposed on the participants for completeness of the endgame resolution, representing the voices of all.
 - Unfortunately, it is possible that some positions may not respond, even if they won the Lords Temporal criterion; they may have stopped responding, don’t care who won anything, and not sent in the email with their votes and choices. They could still win if the group votes for them in Lords Spiritual and they won the Lords Temporal.
 - Political and Total Extinction positions can still vote, and should still vote because they could win the game if they desired to win, and the group voted for them in Lords Spiritual.
- ✓ Positions may vote for themselves. They may in fact be schizophrenic about it, voting for themselves in Lord Spiritual while declaring that they do not desire to win the subjective criterion. The two are not related except by interpretation.

Because there are three victory criterion, participants should endeavor to determine a winner for Lords Spiritual. If two or more positions are tied in votes, the first tiebreaker will be the position controlling the greatest number of planets that have been *Terra Sancta* to a Kairotic Moment (see 1 Kairotic Moments, p. 1420 *supra*). The second tiebreaker will be the position with currently the least number of un-Coalesced Thesis Statements lodged against the position (see Disputation, 2 Reformation, p. 1391 and A Soul from Purgatory Springs, 3 Reformation, p. 1401, *supra*), which makes endgame Reformations favorable.

- ✓ It is irrelevant whether the colony on the *Terra Sancta* planet was subsequently destroyed or whether it relates to any Kairotic Moment experienced by the position during the game. In short, having someone else's 'holy place' – even if just the ruins – is useful (e.g., the Dome of the Rock and the Al-Aqsa Mosque).
- ✓ The relative lack of Thesis Statements lodged against a position may be attributable to either a position that has been lucky to avoid Thesis Statements, or a game that has not featured a lot of barb trading (i.e. everything is peachy!) or that the position may have undergone a Reformation near the end of the game. It is somewhat a matter of luck and is thus the second tiebreaker after something that is more controllable.
- ✓ Only the number of un-Coalesced Thesis Statements is counted, not their assigned Ontic Number.

If after two tiebreakers the winner of this criterion cannot be determined (a very rare event) the Concierge may either call for a new vote, after a period of discussion on the forums, or may determine the winner by a die roll, depending on the Concierge's sense of how much the players actually care about who wins. Any position, *excepting extinct positions who fail to participate in the end game voting*, may win this criterion and this criterion is the only opportunity for an extinct position to win the game.

- ✓ From a design perspective in creating a holistic victory determination, there should be some way in which the Reformations and Kairotic Moments – the true inheritance of the next generation – play a part in the process, and Lords Spiritual was the most appropriate venue.
- Peer-to-Peer Learning: In this sense, GGDM is like a peer-to-peer learning experience or program, like the one operated by Xavier Neil's "42 program," except that GGDM is peer-to-peer learning in humanity. In this, everyone who participates wins!
- ✓ "You're missing the point. Enlightenment was not the diamond. Enlightenment was the choice." – Dr. Who, "Enlightenment, Part 4" (1983).

I have from time to time vaguely considered how GGDM might be used in a peer-to-peer learning program, but I have no specific ideas. A project-based learning system like the "42 program" would not work because GGDM is not objective, task-oriented like computer programming, additionally, playing GGDM will not contribute directly to getting a job or career in anything. And there would need to be enough interest to justify it, which goes back to the whole working-to-get-a-job angle of the "42 program" which GGDM cannot offer. Further, the "42 program" has no instructors or professors, whereas, in a peer-to-peer GGDM based program, it is likely that the Concierge would become an instructor *de facto*. So, it would have to be something different.

- ✓ See also discussion of GGDM as andragogy, 3 The Big Bang, p. 12, *supra*.

But if there were a Lords Spiritual victory for GGDM as a literary game, it might be measured in some sort of permanent peer-to-peer learning community.

- ✓ "Learning by doing, peer-to-peer teaching, and computer simulation are all part of the same equation." – Nicholas Negroponte.

- **Pure Postgame Politics:** Unlike the Objective or Lords Temporal criterion, the game does not predefine elements or criteria for voting for any position in the Lords Spiritual. That is up to the position players to determine what they will vote for and why.

There are many basis on which a position might decide who to vote for the Lord Spiritual criterion. Of course, each position might simply vote for themselves – resulting in a tiebreaker process – but it is hoped that some intellectual honesty will prevail upon the players of each position to vote for the team that really deserves to win this group victory criterion.

Some of the basis upon which players and positions might decide to vote in this group history criterion might be, for example, which position ‘played the best game,’ which position ‘role-played the best,’ which position’s play exemplified the spirit of the game (this may or may not be the same as the ‘biggest, bestest’), which position’s play was central to the story arc of the game, which position’s play controlled the ‘reality’ of the game, or even, which position ‘went down fighting’ the hardest, resisting heroically ‘to the end.’

It might also be possible that players of a position might decide to rally 🏳️ for a particular player in the game by voting for that player’s position. To the extent that this occurs, players should be aware that following the game, there is ample opportunity to give individual player honors separate from the positional victory criterion.

- **Postgame Wrap-up:** Ideally, the final determination of victory and honor should be completed within a week of the end of the game. The final determination will not be unduly delayed waiting for player responses, unless it becomes utterly impossible to proceed due to lack of player participation. In that case, the Concierge may eventually determine that there is no game winner and/or no honors, due to lack of interest, after a reasonable time has passed for player responses.

“Act well your part; there all the honour lies.”

– Alexander Pope, “An Essay on Man” (1732)

All Honor Lies: Honor is an estranged word, a tangled mass of social-linguistic history that now often comes out sounding rather hollow. Honor in some senses, refers to admirable character traits and internal aspects of personality which either no one can give you, or which society intentionally or unintentionally teaches the young through circumstance and education (it is notable that in many cases, literary characters have honor when no one around them does, and that they maintain such honor even when punished for it). Honor in other senses, refers to social praise and esteem, and fame or reverence which is earned and bestowed upon persons possessing and displaying honor in the first sense.

The third sense of the word “honor” refers to the dignity of office which flows from the sovereign office giver to the office holder, which reflects the respect or honor given to the sovereign power (in the second sense) which is conferred on the officers of the sovereign (typically now used to refer to judges). Theoretically, it should also reflect the honor of the office holder in the first and second senses, but not always; as military personnel quickly learn, there is a difference between respect for the rank or position and respect for the person holding the rank or position. Finally, in the fourth sense, honor can mean honor (in the second sense) which belongs to the

group, and which flows from the family or group to the individual members of the group independent of whether they are worthy of such honor.

In the fourth sense, such honor is usually tied to hereditary titles and feudal systems of nobility (and especially primogenitor – one of the most catastrophic ideas in human history, which is filled with bad ideas), and socio-centric societies in general (including tribal honor, clan honor), which sense has slowly disappeared in the transition of Western society to an egocentric society empowered by technological advances and industrialization, where individuality and individual empowerment are esteemed.

“Squint against the grandeur!” – from the movie Hail Caesar (2016)

Honors, Laurels, and Victory Points: Players like to keep running scores, and it is likely at some point after the first game finishes that there will be a ‘scores page’ on the game website, which will be kept current by the Concierge. All of the players who belong to a position that wins either the Lords Temporal or Lords Spiritual criterion of victory will receive one Laurel.

All of the players in a position that wins the game (even if they are co-winners) receives one Victory Point in the standings. Finally, each player that receives a postgame honor, in the following section, will receive one Honor.

- **Players of a Position:** As indicated back in the beginning of the rules, this game is based on positions and not on players, and it is encouraged that players form teams to play positions in the game. Some players may belong to more than one position during the course of the game (“defectors?”) and position-teams are subject to all of the shifts, turns, and vagaries of human relations. That being said, the Concierge will award laurels and victory points to the players of record for the position at the end of the game. Of course, the Concierge will know the players who regularly submit Patents, Writs, Regular Turn Actions, or otherwise send emails and post to the forums. However, it is not necessary for all players of each position to constantly communicate with the Concierge, so the participation level of some players and the extent of their contribution to their positions will be unknown to the Concierge.

At any point in the game, players of a position may inform the Concierge that some other player of the position is no longer playing or no longer responding. The Concierge will send that player an email and if the email is undeliverable, or that player does not respond in a reasonable period of time, the player may be removed from the team list. But generally, the task of managing which players are listed as members of each position-team is up to the players. The Concierge will not engage in micromanaging players or positions or refereeing player disputes or intra-position politics unless absolutely necessary to insure the game continues for the remaining players who still want to play.

“You are what your record says you are.” – Bill Parcells

Player Honors: After the winner of the game is determined, the Concierge will solicit player votes for the three Player Honors in the postgame.

The Player Honors process requires **individual players** to submit votes, it is not counted by position votes. Votes for Player Honors *should not be submitted with* the position’s votes for the victory criterion above. And it follows that the Player Honors are for individual players and not for

positions or teams. The player receiving the most votes for each of the three Player Honors wins the Honor and receives an Honor on the standings or scores page. If two or more players are tied for an Honor, the players share the Honor, and each receives the full Honor on the standings or scores page. It is the intent of the game designer and Concierge that this process not turn into a bitter, protracted argument. If no one can agree on the winner of an Honor or no one votes, then no one will win the Honor.

- Creator/NewsMaker: The Creator/NewsMaker Player Honor should go to the player who has shown the greatest or best creativity in the Interpretations during the game. Remember that the *player-generated* Interpretations are News Events, Writs, Patents, Meanings and Shared Meanings. Therefore, the player who wins this Honor might be the ‘propaganda master’ or the ‘patent king’ or the ‘writ lawyer’ of the game. As most of the Interpretations are kept secret during the game (at least by the Concierge), the overall impression of players as to the winner of this Honor relies heavily on News Events, and postgame show & tell time.

- ✓ “These preliminary moves were as much a part of the blitzkrieg as the final climactic dash of the tanks across the frontier. After the economic phase the Germans made their appeal to the prejudices which men esteem only second to their purses. With democracy weathering a crisis, every nation had its factions of malcontents who found relief from personal frustrations in such doctrines as Anglophobia, anti-Semitism and totalitarianism. By means of rewards and subsidies the invaders made allies out of the leaders – the Quislings, Henleins and De la Rocques who were to be used as local *Gauleiters*. Once the political breakthrough had been accomplished, Nazi propagandists attacked from the flanks and rear in an effort to create a minority large enough to call for ‘protection.’” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 785 (emphasis in original).

- Leader/Commander: The Player Honor for Leader/Commander should be awarded to the player who was the best overall leader in the game in the sense of being the best ‘team leader,’ ‘position politician,’ ‘military commander,’ and/or ‘position manager.’ A brilliant military victory might be the key, or building a good alliance might garner the votes. Perhaps foresight of exploration outside the main area, which leads to the survival of the position’s native population type against all odds might be considered the ultimate in leadership. Winning makes (almost) everyone happy, and it is likely (though not necessary) that the winner of this Player Honor (or any player honor) will be tied to the positions that won the game.

- ✓ “The leaders of the democratic nations, to be sure, did not have the advantage of hindsight, which constitutes the wisdom of historians. Nor did they appear to be any better endowed with foresight...” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 786.

- Hero/Bad Guy: The Hero/Bad Guy Player Honor reflects mostly the best and most consistent role-playing effort of the game, or perhaps the ‘best actor’ award.

This may be awarded both for individual role-playing and also for a player whose vision and leadership in the position-team helps to create a unique and consistent racial or species identity for the position’s Native Population Type. Or it might be awarded to the ‘best low-life’ of the game; as for every hero there must be a bad guy or evil empire. A large portion of this award then, will be related to communications and diplomacy, the player who wins this award might be considered the ‘master diplomat’ of the game.

- ✓ “But the Nazi propagandist had not been idle even in these last strongholds of parliamentary rule. Each had its surly little factions which took advantage of free speech to avow Fascist principles. Each had its larger groups of isolationists who could be taught to parrot such slogans as ‘England is ready to fight to the last Frenchman!’ or ‘England expects that every American will do his duty!’ Each had it still more numerous elements of the population which were honestly bewildered.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 787.

“You’re not happy with the way things turned out, I’m sorry to hear that... Personally, I like things the way they are. No more saving the world, just a nice pond with no pesky fish in it. And the single most pressing issue in my life is whether or not to get a dog... There’re a lot of pros and cons to consider...”

– Col. Jack O’Neill, Stargate SG-1 television series

Went to a Garden Party: Someone always complains about an ending, no matter what. Players complained about how the Traveller RPG civil war ended with no winner, the virus taking over known space; I thought it was a fitting and perfect ending, the story was about how Lucan and Dulinor destroyed the Imperium with their ambitions (instead, my criticism is of the beginning: Dulinor’s assassination plan never made any sense, was this to prove he was a madman?).¹

People complained about the ending of the reimagined Battlestar Galactica series, whereas others applauded it for a series that actually had an ending (many never do, they are dropped mid- or end-of-a-season, or are just trying to set up a spin-off to keep going). Sometimes, it is difficult to separate criticism of the ending from other issues, were the Battlestar Galactica fans mad that there was not going to be a fifth season? Were the Traveller RPG fans upset more about the new post-civil war, virus infested, long night setting?

Babylon 5 did some different things with the ending of the series in the fifth season, instead of a dramatic ending, the main characters all slowly wandered off to new lives, new adventures, with the final episode jumping 20 years into the future for the final departure of the main character, John Sheridan. The ending of Babylon 5 was a soft landing. How will yours end?

- ✓ There was a Stargate before SG-1. When I was in about 9th or 10th grade, I read Pauline Gedge’s novel, Stargate (1982) – you know, instead of what I was supposed to be reading for school – liked it very much and remembered it to this day. The two are nothing alike, of course, except that Pauline Gedge might be happy with all of the ancient Egyptian stuff in SG-1. Ms. Gedge’s book was republished in 2016 as a “rediscovered classic.” Similarly, in the winter of 2017, there is a box office movie Geostorm about a weather control satellite system that becomes a weapon. It reminded me of Ingo Swann’s book, Star Fire (1978) that I read about the same time I read Star Gate. I had no idea in 1983 who Ingo Swann was, but his novel would probably have made a much more interesting movie with the same general idea as Geostorm.

“But I have never been custodian of my legacy. When I’m dead and gone, I’ll either be sublimely happy or terribly unhappy.”

– U.S. Supreme Court Justice Anthony Scalia in 2013

Constitutional Originalism: Constitutional Originalism is at its root, a distinct distrust of youth and future generations to maintain a narrow vision of Federalism and exercise good judgment.

Certain brands of Constitutional Originalism approach judicial Salafism, assigning to our founders a divinely-inspired level of wisdom that is not to be disturbed by the lesser generations that follow, no matter how tempting. This is a similar ailment to Scholasticism as described by Loren Eiseley in *A Modern Dilemma* (1957) (see discussion *WHEN THE WORLD WAS NEW, WHEN THE WORLD WAS OLD*, 1 Fallen to Earth, p. 1497, *infra*).

- ✓ Revisiting this issue a couple of years later, *Star Trek 2009*, of which I have criticized in various parts of GGDM, might be an example of why founding intellectuals distrust later generations with their legacy. As pointed out by Roger Ebert in his review of *Star Trek 2009*, the movie has little to do with Roddenberry's vision and a lot to do with the way franchise movies are made and sold now (see quote, 3 Expansion, EN 1, pp. 918-919, *supra*). *Still, what choice do we have?* Someone might make GGDM into something I would not approve or envision (as the Nazis cherry-picked Friedrich Nietzsche, see *Cartoon World* discussion at the end of 1 Diplomacy, p. 1106, *supra* or how religious groups, like ISIL, cherry-pick their holy books) but I have to trust that some redeeming value will eventually emerge, even if just a lesson in what not to do. That is as close as I come to faith in humanity or anything in this asinine universe.

“As with all creative ventures, there comes a time to pull the plug before things get stale. All great shows – Mash, Seinfeld, Boston Legal, Game of Thrones, Big Bang Theory, Prairie Home Companion – come to their appointed end, hopefully before they run out of steam and descend into self-absorbed tedium.”

– Rev. Craig Donofrio and Rev. Bill Cwirla (“The Manly Doctors of Divinity”), from godwhisperers.org

GGDM is long past that road marker: GGDM is a self-absorbed tedium and my self-indulgent fantasy that a game design can have redeeming intellectual value

Endnotes.

¹ Commentary: Dulinor and Lucan, the main antagonists in the Imperium Civil War (Traveller RPG) were essentially Roman characters; historians have identified as central to early Roman success (and virtue) in the Punic Wars and Gallic Wars, an unusual willingness by Roman commanders and politicians to gamble all for victory. This set Rome apart from its opponents in a time when Rome was not the massive power it became later, when Rome did not yet have great material advantages over the opposition. A corrupted continuation of this Roman ‘virtue’ can be seen in the constant and spiraling internal strife and power struggles in the Empire as generals and politicians gambled all to wear the purple (and usually died in battle, were executed, or assassinated). Dulinor in particular, but also Lucan, gambled all to become the Emperor of the Third Imperium and the Imperium was destroyed as a result.

Cosmic Cycles

Excerpt from Paul Halpern, “When the End is Just the Beginning: Exploring Cosmic Cycles,” NOVA Newsletter, August 12, 2014

This is how it all could end: heat death, the moment when the universe expends its last drop of usable energy and settles into lifelessness. Like the ultimate junkyard, only relics of once-burning stars and their planetary companions remain. Wait long enough and even black holes vanish through the slow trickle of Hawking radiation.

That is a bleak and humbling thought. But might nature enjoy an encore or even a revival? A second act for the universe, even if it were many billions of years from now, would offer a source of comfort. We’d know that even if our own civilization – and indeed all possible living worlds in space – blew out like a flame in the wind, flickers of new life could eventually relight.

In the olden days of cosmology – that is, before the 1998 discovery that the universe’s expansion is accelerating – there was hope that the universe might bounce back from a “Big Crunch.” In that scenario, the universe’s sheer heft would eventually cause it to stop expanding, switch gears and shift into reverse. Like a film of the Big Bang played backward, all of space would collapse to a single point. Cosmologist Stephen Hawking once speculated that time itself would switch directions during the contraction phase. (Later, after discussions with his assistant Raymond Laflamme, he changed his mind.) Today, with no end in sight for cosmic expansion, the “Big Crunch” is out of fashion. But new theories are offering some hope that the heat death may not be terminal.

Cosmic cycles have a long tradition in philosophy and religion. From the ancient Chinese to the Mayans, numerous cultures embraced the idea of time as an ever-turning wheel. Many ancient peoples imagined that a cosmic “spring” would follow each cosmic “winter” in a perpetual sequence of phases, just like the seasons on Earth. Scientific cosmology followed suit. Shortly after Edwin Hubble discovered that galaxies were receding from each other – an observation that beautifully matched Belgian scientist and cleric Georges Lemaître’s hypothesis that the universe is expanding – physicist Richard Tolman began to investigate the possibility that the cosmos was eternally oscillating through cycles of creation and destruction. The idea was that each Big Crunch would be followed by a new Big Bang, tracing an endless accordion of expansions and contractions. Unfortunately, Tolman later realized that the second law of thermodynamics, which states that entropy in a closed process can’t decrease, would force each cycle to be longer with less usable energy, a scenario that seems less like renewal and more like modulated decay.

But it’s not all bad news for cosmic cycles. Believers in eternal renewal can take heart that researchers have advanced several cyclic cosmologies that are consistent with the latest discoveries about cosmic acceleration and dark energy.

Excerpt from Neil Turok, “The Cyclic Universe,” Edge (edge.org), May 16, 2007

For the last ten years I have mainly been working on the question of how the universe began — or didn’t begin. What happened at the Big Bang? To me this seems like one of the most fundamental questions in science, because everything we know of emerged from the Big Bang. Whether it’s particles or planets or stars or, ultimately, even life itself.

In recent years, the search for the fundamental laws of nature has forced us to think about the Big Bang much more deeply. According to our best theories – string theory and M theory – all of the details of the laws of physics are actually determined by the structure of the universe; specifically, by the ar-

rangement of tiny, curled-up extra dimensions of space. This is a very beautiful picture: particle physics itself is now just another aspect of cosmology. But if you want to understand why the extra dimensions are arranged as they are, you have to understand the Big Bang because that's where everything came from.

Somehow, until quite recently, fundamental physics had gotten along without really tackling that problem. Even back in the 1920's, Einstein, Friedmann and Lemaitre – the founders of modern cosmology – realized there was a singularity at the Big Bang. That somehow, when you trace the universe back, everything went wrong about 14 billion years ago. By go wrong, I mean all the laws of physics break down: they give infinities and meaningless results. Einstein himself didn't interpret this as the beginning of time; he just said, well, my theory fails. Most theories fail in some regime, and then you need a better theory. Isaac Newton's theory fails when particles go very fast; it fails to describe that. You need relativity. Likewise, Einstein said, we need a better theory of gravity than mine.

But in the 1960's, when the observational evidence for the Big Bang became very strong, physicists somehow leapt to the conclusion that it must have been the beginning of time. I am not sure why they did so, but perhaps it was due to Fred Hoyle – the main proponent of the rival steady-state theory – who seems to have successfully ridiculed the Big Bang theory by saying it did not make sense because it implied a beginning of time and that sounded nonsensical.

Then the Big Bang was confirmed by observation. And I think everyone just bought Hoyle's argument and said, oh well, the Big Bang is true, okay, so time must have begun. So we slipped into this way of thinking: that somehow time began and that the process, or event, whereby it began is not describable by physics. That's very sad. Everything we see around us rests completely on that event, and yet that is the event we can't describe. That's basically where things stood in cosmology, and people just worried about other questions for the next 20 years.

Excerpt from Charles Choi, “In the Beginning,” NOVA Newsletter, June 13, 2012

Did the universe have a beginning? What, if anything, came before the Big Bang?

Today, we see galaxies rushing away from us in every direction, suggesting that, if you could press the rewind button on the entire universe, the whole thing would screech to a halt at a moment about 13.7 billion years in the past, when the entire cosmos was apparently compressed into a singularity – an infinitely small, dense point.

“How does the universe begin from such a state?” asks Alexander Vilenkin, a theoretical physicist at Tufts University. Indeed, the laws of physics as we know them break down around singularities, so physicists have devised a number of ways to sidestep the singularity problem.

One possibility is that the universe is cyclic: Every Big Bang expansion is followed by a contraction, ending in a “Big Crunch” from which a new Big Bang emerges, and so on and so on in an infinite series that extends eternally into the past and future. The idea was first proposed centuries ago, but received a fresh take from the physicists Paul Steinhardt and Neil Turok in 2002. There is a problem with this elegant idea, though: the second law of thermodynamics, which states that the total amount of disorder or entropy in a system increases over time – the party-pooper law that prevents the existence of perpetual motion machines. A universe that experienced repeated cycles of expansion and contraction would have get more and more disordered over time until it began completely disordered, something we do not see in our universe. One way to avoid such increasing entropy would be for the volume of the cosmos to increase with each cycle. However, if one ran this scenario backward in time, one would still be forced to conclude the universe began with a singularity.

If our Big Bang wasn't preceded by a Big Crunch, perhaps our universe instead existed as kind of dormant seed – “like a cosmic egg,” says Vilenkin – before suddenly breaking open in the Big Bang. But here, too, there is a problem: In the uncertain world of quantum physics, the “egg” couldn't stay stable forever. It would have expanded and contracted and could have even collapsed into nothingness. “This means it couldn't have existed forever in the past,” Vilenkin said, findings he and his student Audrey Mithani detailed in the January issue of the *Journal of Cosmology and Astroparticle Physics*.

But the same quantum fluctuations that could have cracked the cosmic egg could be birthing new universes as you read this, says Vilenkin. This idea, called eternal inflation, suggests that our universe is just one bubble within a larger multiverse which is perpetually popping out new bubble universes. Although inflation may have stopped in bubbles such as ours, new instances of inflation occur in the multiverse forever into the future, keeping the idea of eternal inflation true to its name. But what about the past? If one assumes that the multiverse is expanding and not contracting, then it had to have expanded from a certain point in time, Vilenkin explains. Even eternal inflation must have a beginning.

Even if the universe did have a beginning, it likely occurred so very far in the past that the cosmos might as well appear as if began an eternity ago, says theoretical physicist Leonard Susskind at Stanford University in California. “We're talking about the beginning potentially occurring at time scales vastly, vastly larger than the age of our universe, longer than any time that you can name,” Susskind explains. “Statistically, given this extremely long amount of time, we probably occurred very, very late in history, making us very far from the beginning, so most of the information about the beginning would be lost to us. I think we're really in the dark about what it would've been like.”

Excerpt from Suraj Radhakrishnan, “4D World: Light Moving In Fourth Dimension Observed During Quantum Hall Experiment,” *International Business Times*, January 8, 2018

But two recent quantum experiments have for the first time shown the existence of a fourth spatial dimension.

The teams of scientists from the U.S. and Europe have shown that, in addition to the conventional three-axis where an object can move up-down, left-right or forward-backward to an observer, there exists a fourth spatial dimension which could introduce new directions of motion.

The discovery was made by studying the results of two quantum hall experiments. “The quantum Hall effect” occurs when the motion of an electron in a material is restricted to only 2D. When electrons are confined to two dimensions, and a magnetic field passes through perpendicularly, some of the system's electrical properties become restricted to multiples of exact number values.

During this effect, it is observed that electrons can only move in well-defined topological pathways that are predetermined. For particular strengths of the magnetic field, the electric current can only flow along the edges of the material. This effect, which was observed 20 years ago, was said to be similar to what would happen to particles in the fourth-dimension.

Oded Zilberberg, ETH researcher, and a professor at the Institute for Theoretical Physics overlooked the two experiments that provided the data for the discovery. By placing together two specially designed 2D setups to study the quantum Hall effect, they were able to catch a glimpse of this fourth spatial dimension.

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*“Wheel in the sky keeps on turning
Where will I be tomorrow?
Wheel in the sky keeps me yearning”
– Journey, “Wheel in the Sky” (1978)*

Imagine: A group of players sitting around a table playing Stellar Conquest (or you can substitute your favorite two-player or multi-player Napoleonic, WWI, WWII, WWIII, Railroad, Economic, Civilization or Space Wargame, or even just imagine a Chess game...); however – rather than each player playing, ‘owning,’ and exercising exclusive control over a single position in the game – each player on their turn is allowed to move the pieces of whichever side they like, and resolve battles, and discuss options with other players, such that the course and outcome of the game becomes a group effort at – for example – playing out the ‘perfect game,’ or perhaps playing an alternative history or non-traditional strategy, or testing a hypothesis, or creating the best story, rather than the traditional game where players exclusively control and play individual positions for victory or defeat.

There is another way to play...the sideways view of gaming.

Cline Gaming: The word “cline” (n.) primarily means a gradual change in the appearance and physiological characteristics of a species over a geographical area in response to environmental changes; the word has also been adapted to meteorology. Cline gaming changes the ‘appearance’ of a traditional board game (or computer game, online or PBEM game that plays like a traditional board game) by subtly shifting the player’s perspective of the game, thus changing the playing environment. It is in part, what you do when you play a multi-player game solitaire.

In ‘cline gaming,’ each player does not exclusively play a position in the game, as is traditional, and victory or loss for each player is not determined by how well the player plays their position. Rather, the players in a ‘cline game’ are position-less, and may on their turn play or be called upon, to play any position in the game. The rules of the traditional game being used for the ‘cline game’ and victory or defeat for the positions within the game, remain unchanged, i.e. it is still the same species of game, it just looks and plays different when played as a ‘cline game.’

- ✓ Cline gaming is about group problem solving in gaming, but it is not the same as cooperative games in that the group does not work together against a game-mechanically created opposition that is designed to eventually overwhelm the group if they do not solve the problem. Rather, ‘cline gaming’ is a form of competitive gaming where the group decision making plays each position based on a neutral decision making process. Dice rolls and card draws insure that enough randomness remains to keep it interesting; so it is not like using group decision making to play the perfect chess game.
- ✓ Board games such as Union Pacific (1999) instituted an idea similar to cline gaming in that the current majority shareholder of each railroad controls play of the railroad during its turn; shareholder control can change turn to turn as players jostle to control and promote their most profitable railroad investments. The board game Imperial (2006) strangely re-implemented this system into late 19th century international relations in Europe in sort of a capitalist/industrialist illuminati mechanic. Such games are not truly ‘position-less’ however; they have instead divorced the god-view player-

position from the game-board positions to simulate the manipulative relationship between wealthy business magnates and the lives of companies they control.

It is probably possible to ‘cline’ any game format that has players and positions. For example, it is possible to ‘cline’ a RPG if, rather than each player playing a Player Character (PC), the players take turns playing different characters (including NPCs who make ‘cameo’ appearances in the adventure or campaign) at different points in the game. A GM would still be needed to control the flow of the action, but in the ‘cline’ RPG setting the distinctions of PC and NPC blur and/or disappear and there is possibly less stress on the GM. At least, it should be fun to try.

- Two Player Cline Games: Two player games, especially the traditional historical battle or tactical games, are probably the most difficult to ‘cline,’ but I believe the first rule in adapting most two player games is that an odd number of players must play in the ‘cline’ game so that the same player on their turn will not play the same position twice; that is, an odd number of players forces players to play alternate positions on each of their turns.
 - ✓ Another way to think of ‘cline gaming’ is perhaps ‘multi-player solitaire’: It is what you’d be doing if you played the game solitaire, except that you don’t exercise exclusive control over both sides and don’t have to pretend to forget the location and strength of the other side’s pieces in a fog-of-war type game, like a block game.
- Multiplayer Cline Games: Multiplayer games are naturally easier to ‘cline’ (notice how easily the noun becomes a verb in English?). Many multiplayer games feature cards that players keep hidden; when adapted to the cline game format, either the cards must be face up, or any player must be able to look at the hidden cards when they play the position on their turn.
 - ✓ The easiest way is to make sure there are either more or less players than positions in the game, so that, if the game requires that the positions play in a particular order, the same player will not play the same position each time their turn to play comes around.
 - ✓ Another possible way to ‘cline’ a multiplayer game is to randomize the order in which the positions (or players) play their turns (some games already have mechanisms that change the order in which positions take turns, such as bidding, drawing, and so forth). However, no player should take two turns in a row or play the same position twice in a row, so for example, names could be drawn from a cup for each turn, and then set aside until the cup is empty, then replaced to start over again.
- The Cline Environment: Cline games are not about winning or losing. The ‘cline’ game concept separates players from positions. In most games, players ‘win’ the game by exclusively playing their position to victory. *Positions win victories*, i.e. many rules contain phrases such as, “the first position to reach X victory points, wins the game,” “when the cards are exhausted, count the chits, and the position (or player) with the least number of chits wins,” “the Germans win if ...,” “if at the end of X turns, the British have not captured X, the Americans win...”

The cline game is about group discussion, experimentation, objective neutrality, creating a story, intellectual honesty, and intellectual adventure, achieved by divorcing players from positions so that players do not have a direct stake (or emotional attachment) to any particular position. It’s about being a player in a game rather than a player position or a position. Players in a cline game may still compete, and have competing theories as to what one side or an-

other must do, however, such competition is less direct, than if they were playing the positions in the game. To the extent that groups feel that there must be a player who wins a cline game, such ways can be devised.

- ✓ For example, certain convention formats may require that an event have a winner; thus if a convention ever allowed a cline game to be run as an event, there may be such a requirement. Additionally, many players at conventions won't play in an event unless they can 'win' plaques, points, whatever, or gain toward an overall game rating in their favorite game or toward an overall win at the convention. Cline games will not be suitable for those formats or players.

The Cosmic Cline: Gestalt Genesis-Day Million, a multiplayer game which emphasizes control of realities and expanded perspectives, is easily suited to 'cline' play with only a couple of minor changes.

- **Public Position Pages:** All position information must be public so that all players can see them. Thanks to tabbed browsing, it will now be easier for players to view multiple position pages at once.
- **Turn Periods:** In the cline version of the game, individual players rather than positions will have periods of three days in which to submit their Actions. Because the cline game focuses on players rather than positions, potentially less players may play in a cline version of Gestalt Genesis-Day Million because the idea of team-play positions will be eliminated in this format. During each player's turn period, the player may submit Actions for any position (doing all of the things the player would be able to do if they were playing the position), with the necessary restriction that a position may not have more than one turn per week and all positions must have a turn at least once in a two week or month time period. This may force some players to submit Actions for positions that have not had a turn for awhile. Additionally, players should avoid submitting Actions for the same position two turns in a row.
- **Victory Resolution:** The GGDM cline game, like the normal game, ends when players want the game to end, when the game has run its course, when players are tired of the game, or when they quit participating. Victory Resolution may still occur at the end of the game for positions, however, as positions are now divorced from players, final victory for positions is academic in this format, and players will not receive Laurels or Victory Points (or alternatively, it could be agreed that all players receive one of each for playing in the game). Players may still vote for and receive Player Honors and have Honors recorded on the scores page for the players in a cline game. Conceivably, like the honors and awards handed out annually by the media and entertainment industries, additional categories of honors could be added, *ad infinitum*, and awarded by the players of the cline game, such that everyone gets a pat on the back at the end of the game.

*"I climb atop a spiral stair
An Oracle confronts me there
He leads me on light years away
Through astral nights, galactic days..."*

– Rush, 2112 (1976)

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“Where have you taken us, Kara?”

– Roslin after the final jump of the Battlestar Galactica

Morella: *One more thing. You will be Emperor. That part of your destiny cannot be avoided.*

Londo: *I see.*

Morella: [to Vir] *You will also be Emperor.*

[Vir starts laughing]

Morella: *Why are you laughing?*

Vir: *I...I thought you were joking!*

Morella: *We do not joke in the face of prophecy, Vir.*

Londo: *Lady Morella, please! We cannot both be Emperor!*

Morella: *Correct. One of you will become Emperor after the other is dead. That is all we see and all we wish to see.*

– Babylon 5, “Point of No Return” (1996)

What Did Not Come to Pass: Back around probably 2005 or thereabouts, I had an idea for a game mechanic where a position would issue a prophecy and then the position players, Concierge and other positions would work the game toward fulfilling the prophecy. It was a vague idea that was originally to be the main mechanic related to either or both Reformations or Kairotic Moments in GGDM. It’s still not a bad idea, and I allowed at the time that there might even be competing prophecies by different positions pulling the game this way and that, and basically, fulfillment of the prophecy would lend itself toward winning the game or doing well anyway...

... or at least a damned good story. Though Reformations and Kairotic Moments became more mechanical and colorless in the rewrite, the following section was written around the summer of 2007 (and modified in bits over the years) in support of the in-game prophecy idea (the Praxeology, Movie Making and Cattle Killing Movement sections were added in 2019).

- ✓ “...the glacial tempo at which ideas must sometimes develop.” – Benjamin Aldes Wurgraft, Los Angeles Review of Books, July 15, 2016.
 - See full quote in Anti-Intellectualism & Public Intellectuals excerpts, Kairotic Moments, *supra*.
- ✓ The original prophecy idea for GGDM would be an interesting mechanic for a card game.

Prophecy Ark: I missed the Pittsburgh Pirates 2007 home opener because it was played at 1:35 p.m. on a Monday, but I did record it. Unfortunately, I learned the score before watching the game; Pittsburgh lost 3-0. I watched the game anyway, knowing the final score. Why?

One might think that if you know the final score, watching the game is a waste of time, right? Halfway through the game, I thought, “Even if you know the final score, it’s still interesting to see how they got there.” And that’s why we watch.

There remains something eternally fascinating and attractive about prophecy. The far-future sci-fi epic *Dune* (1965) used prophecy for the ignorant masses, Conan frequently is about prophecy and people,¹ and by far, the most interesting comments regarding prophecy were made in *Babylon 5* (Season 4 opening narration: “It was the end of history”).² *Battlestar Galactica* began with a suggestion of prophecy as well.

A prophecy suggests to us a personal connection with the cosmos, with larger events. It suggests that we are not entirely responsible for our actions (‘pre-destiny’ is the ultimate alibi³). It suggests a higher intelligence is at work in our daily lives and in the momentous events of our generations. And it remains a useful literary device because the author knows how the story will go, and can change it to suit the end of the story while writing it (that is, the writer substitutes for the ‘higher intelligence’). And the audience loves it, loves the big looming mystery and the resolution.

Like the baseball game, if a prophecy were introduced into the game, there would still be the matter of how to play the game to the point where the prophecy comes true.⁴ That might be a fun and interesting challenge. *Gestalt-Genesis Day-Million* could also be interpreted as an epic storytelling game. The game is designed so as to encourage players, in the course of competing to control the reality of the game, to develop a great story.

The Concierge will introduce all prophecies, and will probably have to bend events here and there to arrive at a reasonable fulfillment of the prophecy. In a real world sense, if prophecy provided a detailed road map to events, the actions of a few people at key places (assuming we have free will), could easily derail the prophecy, making it false. The paradox of prophecy is the best prophecies are those that don’t tell you anything useful, and that are so vague as to be capable of many diverse, competing interpretations. In a sense, prophecy might become the seventh Interpretation of the game, except that it won’t be an Interpretation in the game-mechanical sense.

Note that a prophecy should not be confused with a long-term prediction that is based on known factors and the operation of known laws and forces. For example, that our sun will eventually burn out is not a prophecy. Therefore, prophecy must necessarily involve a prediction which cannot reasonably be made from the forces, actors, or laws operating at the time the prophecy is made; that is, a prophecy must imply supernatural knowledge.

A prophecy would have two or three functions/effects on the game. First, a good prophecy would provide the players with something to work toward, something to latch onto, especially if they are just kind of milling around in the game. Second, prophecy would provide an object to measure individual play against in terms of who did the most or played the game the best from a storytelling perspective. And finally, a prophecy would provide the Concierge with more opportunity to intervene in the game and to enhance the enjoyable story arc of the game for the players as a group.

- ✓ The concept of “prophecy” addressed in these final notes is not related to single game events, but more toward an entire story arc for the game.
 - ✓ Fuzzy Groups and Prophecies share this trait, that they are most useful when less defined, lacking very specific details. Some might add to this category ‘election year promises’...
- Dents, Dings, and Scratches: Praxeology dents, dings and scratches the cosmic pre-destiny argument:

- ✓ “Mises used the term praxeology to name the deductive science that begins with the premise *that human beings act intentionally*. ... An intentional action identifies an end, or purpose, to the action, as well as certain means selected to achieve that end.” – Michael Accad, M.D., “An introduction to praxeology and Austrian school economics,” alertandoriented.com (blog), April 13, 2016 (emphasis in original).
- ✓ “Since human beings are finite and temporal, praxeology pays attention to the time dimension of human action. From that attention to time, praxeology quickly hones in on the idea of *future uncertainty*. Uncertainty means that the future is ‘somewhat predictable,’ i.e., it is neither completely determined nor completely random. Future uncertainty is conclusively deduced from the axiom of intentional human action. If future outcomes were completely known with certainty, no *ends* would be chosen, as we would simply wait for those outcomes to occur. Conversely, if we thought the future were completely random, no means would be selected, since we would not think that means could help achieve ends.” *Id.*

Thus, if the entire universe is determined, in a clockwork universe Newtonian physics way, and the gods or God is omniscient, then God needs to do nothing as all acts have already occurred, and all end results already determined. It also implies that God is powerless rather than omnipotent. Curiouser and curiouser.

- ✓ “One may remark here that uncertainty may simply be a mind phenomenon and not a feature of reality, that reality is in fact completely determined, or that science may eventually allow us to understand the determination of all events. [Ludwig von] Mises had no problem with that possibility and, in fact, may have been a determinist himself. By insisting on methodological dualism, however, he was simply pointing out that at present time, empirical science does not shed light on the topic one way or another and, for human scientists studying human behavior, the intentionality of human action seems to be a valid and constructive premise on which to build a social science.” *Id.*
- **Movie Making:** Screenwriters of movies made from songs, such as Kenny Roger’s “Coward of the County” (turned into a made-for-TV movie (1981)) and Jeannie C. Riley’s hit “Harper Valley PTA” (turned into a drive-in theatre comedy movie (1978), I watched it on TV in the 1980s) have the same problem: They are stuck with the story told by the well-known lyrics of the hit single and must imagine the story between those lines. Thus hit songs and previous movies in a franchise (and to lesser extent, original novels) act as prophecy for movies made from them.
 - ✓ The same applies to screenwriters of historical dramas, docudramas and fictions; they are constrained by the record of events known at the time. The movie Titanic (1997) cannot end with the Titanic not sinking! Which acts as a prophecy in the story, our knowledge of history is a prophecy in regards to the story’s characters. Where the historical record is not well-developed, semi-mythical, or not subject of testimonials, writers have more freedom in creating events and dramatic conflicts, which is why ancient Roman and Greek, and medieval historical movies were popular.

“What [Leon] Festinger failed to understand is that prophecies, per se, almost never fail. They are instead component parts of a complex and interwoven belief system which tends to be very resilient to challenge from outsiders. While the rest of us might focus on the accuracy of an isolated claim as a test of a group’s legitimacy, those who are part of that group – and already accept its whole theology – may not be troubled by what seems to them like a minor mismatch. A few people might abandon the group, typically the newest or least-committed adherents, but the vast majority experience little cognitive dissonance and so make only minor adjustments to their beliefs. They carry on, often feeling more spiritually enriched as a result.”

– Vaughn Bell, “Prophecy Fail: What happens to a doomsday cult when the world doesn’t end?” Slate Magazine, May 20, 2011 ⁵

Cattle Killing Movement: The case of the South African prophetess Nongqawuse and the Xhosa cattle killing movement of 1856-1857 (and subsequent manmade famine) is an interesting study. She was an orphaned girl, about 15 years old, being raised by her religious uncle Mhlakaza in Xhosaland, near the border with British colonial territories, and her uncle had visited the Cape Colony and become familiar with Christianity. She and a younger girl allegedly had a vision of ancestral spirits who spoke a prophecy of events that would result in driving out the foreigners, mainly it called for widespread slaughter of the Xhosa cattle herds and neglect of crops, which would be purified and replenished by the ancestral spirits after the foreigners (the contamination) had left.

- ✓ If we accept as quite likely that her uncle made the whole thing up and convinced her to go along, what reason did she have to become part of this story? For starters, she is 15 years old and may have come to believe the story was real (I only need think back to what I thought and believed was real when I was 15 years old), and for her uncle, it was the innocence of the child that would give life and credibility to the religious fantasy he had woven. Additionally, if successful, she would be guaranteed wealthy and powerful suitors and a princely husband, would be well-cared for, and could not be domestically abused because of her status as a prophetess. Beyond this, the prophecy falls apart, it is difficult to see how the prophesied events would result in the ends they sought to accomplish (short of something truly emergent) and it is also quite likely that they did not anticipate the explosive reaction – it spun beyond their visions and took on a life of its own. When the prophecy failed disastrously, non-believers were blamed, it was extended eight days, failed again, and then she was handed over to the British authorities by a local chieftain.

- Information from Wikipedia article, “Nongqawuse,” June 14, 2019.

Prophecies that end in widespread disaster – in this case, famine and massive loss of wealth – seem to abrogate the retrenching process described by Vaughn Bell above – regardless of whether or why the prophecy ‘failed.’

The Xhosa cattle killing movement is an example of how prophecy can be used by the Concierge as the subject of a one-time Intervention at the planetary colony level, especially in hostile colonial situations. History is full of other examples, including the Mahdist State in Sudan-Ethiopia,

the Ghost Dance of the Native Americans, the Boxer Rebellion in China, and the curious Cargo Cults of Melanesia.

**And would the last ones out of this universe, please turn off the stars...
[fade to black]**

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*And from the clicking
came the ticking
of the page that was no more...
Quoth the server, "404"*

Endnotes.

¹ Commentary: Contrary to popular belief, Conan was not written so that Arnold Schwarzenegger could become Governor of California. Hindsight is not prophecy. Neither is *non-sequitur*.

² Citation & Commentary: "I hope in your stumbling around you do not wake the dragon." – Londo Mollari, Babylon 5, In The Beginning (1998). Though there are probably finer literary terms that apply ('foreshadowing'), this declaration by Londo Mollari acts as a prophecy – albeit, one that has already come true in the series by the time the prequel movie was released. The comment is in fact notable simply because of who Mollari is in the story and because the viewers already know it to be true; it would not have made sense for the writer to have inserted the line under any other circumstances.

³ Citation: See Calvin & Hobbes comics for information regarding pre-destiny. You were pre-destined to anyways.

⁴ Citation: **Deleenn**: Prophecy is a poor guide to the future. You only understand it when the event's already upon you. – Babylon 5, "Ceremonies of Light and Dark" (1996).

⁵ Citation & Commentary: **Vir Cotto**: Prophecy is a guess that comes true. When it doesn't, it's a metaphor. You could put a gun to your head tomorrow and pull the trigger, and then the dream is just a dream, and the prophecy is just a metaphor, and so are you. – Babylon 5, "The Very Long Night of Londo Mollari" (1998).

- ✓ A 'false' prophecy is not a prophecy. It is merely a delusion. A bad guess. Or a tragedy. An incorrect interpretation of a prophecy does not make it false, however. Prophecies are largely then, more a matter of interpretation and beliefs than facts and results. So, can a prophecy ever be false? Prophecies that don't 'come true' merely tend to be 'reinterpreted' and their date of fulfillment reset into the far future, as long as they remain useful to the current generation of faithful believers.
- ✓ "Well geez. If that doesn't sink it in, then what will? Just take a couple of snippets devoid of a larger context, find two people you think it could refer to and presto, FULFILLMENT! [of Biblical prophecy]" – Nick Peters, "A Brief Look At Alexander Cain," May 6, 2015 (forum post, TheologyWeb).

Excerpts from Cosmos, Episode 13
“Who Speaks for Earth?”
By Carl Sagan

Which aspects of our nature will prevail is uncertain. Particularly when our visions and prospects are bound to one small part of the small planet Earth. But up there in the cosmos an inescapable perspective awaits. National boundaries are not evident when we view the Earth from space. Fanatic ethnic or religious or national identifications are difficult to support when we see our planet as a fragile blue crescent fading to become an inconspicuous point of light against the bastion and citadel of the stars.

There are not yet obvious signs of extraterrestrial intelligence and this makes us wonder whether civilizations like ours rush inevitably, headlong to self-destruction.

I dream about it. And sometimes they're bad dreams.

In the vision of a dream I once imagined myself searching for other civilizations in the cosmos. Among a hundred billion galaxies and a billion trillion stars life and intelligence should have arisen on many worlds. Some worlds are barren and desolate on them life never began or may have been extinguished in some cosmic catastrophe.

There may be worlds rich in life but not yet evolved to intelligence and high technology. There may be civilizations that achieve technology and then promptly use it to destroy themselves. And perhaps there are also beings who learned to live with their technology and themselves. Beings who endure and become citizens of the cosmos.

Then, suddenly silence, total and absolute. But the dream was not yet done. Had we destroyed our home? What had we done to the Earth? There had been many ways for life to perish at our hands. We had poisoned the air and water. We had ravaged the land. Perhaps we had changed the climate. Could it have been a plague or nuclear war?

I remembered the galactic computer. What would it say about the Earth? There was our region of the galaxy. There was our world. I had found the entry for Earth. Humanity, third from the sun. They had heard our television broadcasts and thought them an application for cosmic citizenship. Our technology had been growing enormously. They got that right.

About six global powers. The potential to become one planet. Probability of survival over a century, here also less than 1%. So it was nuclear war. A full nuclear exchange. There would be no more big questions. No more answers. Never again a love or a child. No descendants to remember us and be proud. No more voyages to the stars. No more songs from the Earth.

I saw East Africa and thought a few million years ago we humans took our first steps there. Our brains grew and changed. The old parts began to be guided by the new parts. And this made us human with compassion and foresight and reason. But instead, we listened to that reptilian voice within us counseling fear, territoriality, aggression.

We accepted the products of science. We rejected its methods.

Maybe the reptiles will evolve intelligence once more. Perhaps, one day, there will be civilizations again on Earth. There will be life. There will be intelligence. But there will be no more humans. Not here, not on a billion worlds.

Every thinking person fears nuclear war and every technological nation plans for it. Everyone knows it's madness and every country has an excuse. There's a dreary chain of causality.

The bomb dropped on Hiroshima killed 70,000 people. In a full nuclear exchange in the paroxysm of global death the equivalent of a million Hiroshima bombs would be dropped all over the world. In such an exchange not everyone would be killed by the blast and firestorm and the immediate radiation.

There would be other agonies: Loss of loved ones, the legions of the burned and blinded and mutilated, the absence of medical care, disease, plague, long-lived radiation poisoning of the soil and the water. The threat of tumors and stillbirth and malformed children. And the hopeless sense of a civilization destroyed for nothing. The knowledge that we could have prevented it and did not.

The global balance of terror pioneered by the U.S. and the Soviet Union holds hostage all the citizens of the Earth. Each side persistently probes the limits of the other's tolerance, like the Cuban missile crisis the testing of anti-satellite weapons, the Vietnam and Afghanistan wars.

The hostile military establishments are locked in some ghastly mutual embrace. Each needs the other.

But the balance of terror is a delicate balance with very little margin for miscalculation. And the world impoverishes itself by spending a trillion dollars a year on preparations for war. And by employing perhaps half the scientists and high technologists on the planet in military endeavors.

How would we explain all this to a dispassionate extraterrestrial observer? What account would we give of our stewardship of the planet Earth? We have heard the rationales offered by the superpowers. We know who speaks for the nations.

But who speaks for the human species? Who speaks for Earth?

From an extraterrestrial perspective, our global civilization is clearly on the edge of failure in the most important task it faces: Preserving the lives and well-being of its citizens and the future habitability of the planet.

A new consciousness is developing which sees the Earth as a single organism and recognizes that an organism at war with itself is doomed.

We are one planet.

One of the great revelations of the age of space exploration is the image of the Earth, finite and lonely somehow vulnerable, bearing the entire human species through the oceans of space and time.

Alexandria was the greatest city the Western world had ever seen. People from all nations came here to live, to trade, to learn. On a given day these harbors were thronged with merchants and scholars, tourists. It's probably here that the word "cosmopolitan" realized its true meaning of a citizen, not just of a nation but of the cosmos. To be a citizen of the cosmos.

Here were clearly the seeds of our modern world. But why didn't they take root and flourish? Why, instead, did the West slumber through 1000 years of darkness until Columbus and Copernicus and their contemporaries rediscovered the work done here?

I cannot give you a simple answer but I do know this: There is no record in the entire history of the library that any of the illustrious scholars and scientists who worked here ever seriously challenged a single political or economic or religious assumption of the society in which they lived.

The permanence of the stars was questioned. The justice of slavery was not. Science and learning in general were the preserve of the privileged few. The vast population of this city had not the vaguest notion of the great discoveries being made within these walls. How could they? The new findings were not explained or popularized. The progress made here benefited them little. Science was not part of their lives. The discoveries in mechanics, say or steam technology, mainly were applied to the perfection of weapons, to the encouragement of superstition, to the amusement of kings. Scientists never seemed to grasp the enormous potential of machines to free people from arduous and repetitive labor.

The intellectual achievements of antiquity had few practical applications. Science never captured the imagination of the multitude. There was no counterbalance to stagnation, to pessimism, to the most abject surrender to mysticism. So when, at long last the mob came to burn the place down, there was nobody to stop them.

Star stuff, the ash of stellar alchemy had emerged into consciousness. We are a way for the cosmos to know itself. We are creatures of the cosmos and have always hungered to know our origins to understand our connection with the universe.

How did everything come to be? Every culture on the planet has devised its own response to the riddle posed by the universe. Every culture celebrates the cycles of life and nature. There are many different ways of being human.

But an extraterrestrial visitor examining the differences among human societies would find those differences trivial compared to the similarities.

We are one species. We are star stuff, harvesting starlight.

Our lives, our past and our future are tied to the sun, the moon and the stars. Our ancestors knew that their survival depended on understanding the heavens. They built observatories and computers to predict the changing of the seasons by the motions in the skies.

We are, all of us descended from astronomers.

These are some of the things that hydrogen atoms do given 15 billion years of cosmic evolution. It has the sound of epic myth. But it's simply a description of the evolution of the cosmos as revealed by science in our time.

And we, we who embody the local eyes and ears and thoughts and feelings of the cosmos, we've begun, at last, to wonder about our origins. Star stuff, contemplating the stars, organized collections of 10 billion-billion-billion atoms contemplating the evolution of matter tracing that long path by which it arrived at consciousness here on the planet Earth and perhaps, throughout the cosmos.

Our loyalties are to the species and the planet. We speak for Earth. Our obligation to survive and flourish is owed not just to ourselves but also to that cosmos, ancient and vast from which we spring.

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“As important as these changes were, it was the [Langdell case-law] method of instruction at Harvard that revolutionized the study of law in the United States. Grant Gilmore refers to Langdell as ‘an essentially stupid man’ who early in his life hit on one great idea – the case method – ‘to which, thereafter, he clung with all the tenacity of a genius’ (1977: 42).”

– Howard Abadinski, Law & Justice: An Introduction to the American Legal System, 5th Ed. (2003), p. 88 ¹

HOMO ABNEGUS: The fact that it took me more than 25 years to finish this project argues strongly against the utility of elementary school IQ testing. At 22, I lost badly at chess against a 7-year old opponent who was watching *Beevis & Butthead*; I’d stare at the chessboard and make a move after a few minutes, he looked down, made a move in about 10 seconds and went back to watching *Beevis & Butthead*. If I were to walk into a club with a child – whether a prodigy or not, I would be allowed to consume alcoholic beverages and he would not; not because I am smarter than he is, but because I am older and dumber.

- ❖ Abnegism is an invention of William Tenn in his 1950 short story, “Null P.” It is available for free online.

I am an essentially stupid person² who got hold of a trivial problem and wouldn’t let go; whose main ability – as I have convinced myself (self-absorption, self-delusion) – is to be able to intuitively understand and synthesize ideas and complexities from a wide range of disciplines (mostly social sciences, history and philosophy) to present a panoramic, holistic view of human Western civilization in our time. I have also convinced myself that I can create a simulation game with redeeming intellectual and andragogy value and that doing so is all that *matters* in my life.

- ❖ “One of the great challenges in this world is knowing enough about the subject to think you are right, but not enough to know you are wrong.” – Neil deGrasse Tyson, “Class Trailer” video to Master Class program.

My job in GGDM was to synthesize ideas into a simulation that works, is interesting and produces emergent play. As such, I take ideas from *secondary sources*, ideas I certainly didn’t have originally,³ and mold them into the conversation of GGDM. Sometimes, I have a little to add...

- ❖ Am I the fool who had to say something or the wise man who has something to say? *That is* the question of GGDM.

✚ TOMORROWLAND: “There are fuzzy or stilted warnings, courtesy of co-writers Bird and Damon Lindelof ... about the plight of extraordinary individuals in an ordinary world, and the price we’ll eventually pay for despoiling the environment and demonizing science. Bird has been criticized for infusing ‘The Incredibles’ and ‘Ratatouille’ with simplistic and sometimes elitist-sounding statements about the privileges that should accrue to gifted people. He’ll get raked over the coals again here, thanks to the future’s ‘Atlas Shrugged’-style origin story: the world’s great scientific minds decided they’d had enough of ignorance and apathy and made their own world that’s part Shangri-La and part Emerald City of Oz, but functionally Noah’s Ark.” – Matt Zoller Seitz, review of Tomorrowland on rogerebert.com, March 18, 2015.

- ❖ There's those damned ... fuzzy things again. They snuck into our modern language. I am sure that John Locke would not approve, but he also would not be surprised by it.
- ❖ My criticism of the movie Tomorrowland (2015) is in one scene that caused me to step back from the immersion, to say 'ah yeah, right,' to suspend disbelief. It was that awful scene where an antique, presumably late 19th Century three stage rocket with capsule hidden under the Eiffel Tower was launched into orbit. That is just wrong, ridiculous on so many levels, both historical and technical; William Goddard who invented the entire science of modern rocketry, was just five years old at the time of the 1887 World Fair in Paris and somehow that rocket was hidden under the Eiffel Tower for 128 years and still worked perfectly? What murder and mayhem was employed to keep it hidden, what happened to anyone who discovered it? In addition to the whole thing being just absurd. I think they could have done something else with the scene to move the story along, but apparently, we needed a rocket launch to add boom, bang and whoosh to the movie or to cynically set up a Disney theme park ride.

“For indeed you cannot fail to remember that the most learned men hold what the Greeks call ‘philosophy’ to be the creator and mother, as it were, of all the reputable arts...”

– Marcus Tullius Cicero, *Of Oratory* (55 B.C.), Bk. 1 (trans. E. W. Sutton and H. Rackham) from Patricia Bizzell and Bruce Herzberg, *The Rhetorical Tradition* (1990), p. 201

PHILOSOPHY OF WIKI: A 2011 Wikipedia user essay states that a web-crawler determined that 94.52% of Wikipedia pages eventually link to the Wikipedia Philosophy page through the chain of internal Wikipedia links.⁴ This is not surprising. It reflects the structure of human knowledge; that nearly any meaningful discussion can and will end up being a discussion of philosophies.

- ❖ Wikipedians call it “falling down the rabbit hole”; you start reading about t-shirts and an hour later, you are reading about guinea pigs, and you don't know why, how you got there, and you don't notice the passage of time. The rabbit hole of human knowledge – whether on Wikipedia, the internet in general, reading books, or through formal education – always emerges into the philosophical kingdoms.

I wonder if we encountered another ‘advanced’ species, would they possibly have a meta-structure of knowledge that does not start with philosophy? Is it possible? Imagining such a thing is difficult, like imagining a non-base 10 numeral and maths systems.

- ❖ One possible definition of Philosophy is that it is the home of human thought on subjects which do not yield to empirical analysis or do not have sufficient empirical evidence. Since the discipline of empiricism came so late to humanity, Philosophy represents our first musings on the world and the dark places in the universe for most of human history. Even now, Philosophy exists at the edges of knowledge created by empirical data and scientific method, and is a vital component in any scientific study of humanity (i.e. the social sciences) where empirical data used in arguments cannot be readily repeated or confirmed by testing.
- ❖ All arguments within our current structure of knowledge can be classified broadly as one of three types: Empirical, Philosophical or Mathematics/Logic. Any argument that is not strictly empirical usually ends up being a philosophical argument. Most other arguments fall into a range between empirical and philosophical (for example,

sociological arguments). Some may consider Math/Logic to be an extremely specialized form of Empirical argument (Clarence Marsh Case referred to it as ‘quantitative logic’); others may include music, visual and performing arts as a type of argument.

✚ PHILOSOPHICAL QUESTIONS: There are some who think that because a question sounds ‘philosophical’ that it doesn’t apply to their field or to a particular field other than philosophy. This is especially true in any field that is considered technical, empirical or mathematical – this has been a widespread problem in fields struggling to be recognized as ‘empirical science’ such as economics, psychology, and sociology. For example, this response on Economics Stack Exchange to a question about Mises axiom of human action (economics):

- ❖ “I know Mises was a famous economist and that his name is hallowed in certain circles but this really seems like a question of philosophy.”

Another user, began “As a statement about human behaviour in general, it is a question of philosophy and psychology,” then went on to criticize Mises axiom as not being economics because it says nothing about decision making and doesn’t have any predictive value. Conversely, the Austrian School maintains that psychology or morality have nothing to do with the axiom of human action, that motivations and content of concrete ends are irrelevant.

It is sometimes not understood that behind every field of human knowledge lies philosophy, that because a question *seems philosophical* doesn’t mean it isn’t within any field except philosophy. That philosophy is still considered the top of every field is perhaps best attested to by the highest possible degree in any field, the Ph.D. – Doctor of Philosophy which can be awarded in chemistry as well as political science as well as nursing – in nursing there are DNP – Doctor of Nursing Practice – and Ph.D. – Doctor of Philosophy in nursing – degrees.

- ❖ Odd thing, my Rhetorical Theory professor spent much effort playing off Plato’s Gorgias (380 B.C.) and St. Augustine’s On Christian Doctrine (426 A.D.) to create a conflict between rhetoric and philosophy. None of my many philosophy courses, including Ancient Greek Philosophy in my senior year of undergrad, ever mentioned any conflict with rhetoric. While Plato may have started the fight, philosophy cares not much for it; one can picture an accomplished, charismatic young orator railing against some off-comment made by the philosopher, who snoozes in the corner, unconcerned.

“In fact men will fight for a superstition quite as quickly as for a living truth – often more so, since a superstition is so intangible you cannot get at it to refute it, but truth is a point of view, and so is changeable.”

– Hypatia of Alexandria ⁵

TEACHING FROM A PEDESTAL: I was struck by the curious absurdity of Larentius de Voltolina’s famous illustration of a 14th Century university lecture.



The illustration shows a robed elderly master or instructor, sitting atop a huge, ornate pedestal desk platform with a curved wooden roof, accessible by steps along the side, lecturing over rows of students seated at long benches facing him. Other period images of medieval education show instructors sitting on high chairs above the students who sit on the floor in rows. I recall also seeing pictures and reading that in many reformed churches, especially the Puritan places, the sermon was delivered by the clergy from a high alcove over the congregation. I seem to recall such a scene from one of *The Scarlett Letter* movies.

- ❖ Notice that the students in front have their books open and are looking up at the master, while the students in the last two rows are barely paying attention, only one has a book open, one is writing, others are sleeping, conversing. This observation of human nature by the artist shows that not much has changed in five centuries.

In my youth, I heard many times from my mother the story of her 12th grade, alcoholic English teacher in high heels, falling face first off the teaching platform in front of the whole class (and no one helped her up). By the early 1970s, these teaching platforms were considered an anachronism and had largely disappeared, but I recall that my 3rd grade classroom at Cochran Elementary had a raised teaching platform. I recall this vividly because my desk was moved to the front of the class, onto the platform next to the American flag, where I had to sit most of the time that I was in her class. And because the elderly lady teacher used to sit in a chair at the front of the

platform and read books such as Charlotte's Web (1952), Charlie and the Chocolate Factory (aka "Willie Wonka," 1964), and The Trumpeter Swan (1970), to the class in the afternoons.

Since that time, and even before it in early elementary school days, I do not recall any other situation where my teachers, college professors, or other instructors stood or were seated on a raised platform or chair. It is considered sufficient for authority now that the teacher stand in front of students sitting at desks in rows. I have witnessed judges who sometimes did not wear robes or sit on the bench in their courtroom during motions (e.g., Judge Stanton R. Wettick). Many colleges have gone in the opposite direction, using amphitheater-style classrooms where the students sit above the instructor, my 7th Grade geography class was in such a room. I have also been in smaller classes where students sit at long wooden tables formed in a U-shape facing the instructor, like an egalitarian salon of intellectual fellows (e.g., my Personal Identity Theory philosophy seminar class at Lycoming College in the early 1990s).

✚ MODERNITY: The universality and persistence of this change – not just a matter of modern style or passing fashion – is indicative of something much deeper that has changed in the past half millennia. Knowledge and legitimacy of intellect and authority are no longer divinely given or spoken from above, strict Church-legitimized social hierarchy has fallen over; the Enlightenment made knowledge secular and accessible to and the property of humanity, legitimacy is granted by the people and governments are made of people.

- ❖ When authority is based on divine will, expressed through the church, any divergence of doctrine, schism, or heresy within the church is a threat to legitimacy that provokes a violent reaction from the authorities. In England, *Protestant dissidents* to the *Anglican Church* were accused of "popery," that is, undermining the Anglican Church and aiding the Pope's alleged schemes to reestablish Catholicism in England.
- ❖ Langdell's case-law method of law school instruction was the application of empiricism to the process of law. An attorney instructor at the Duquesne University Paralegal Institute, commented further, that the reason the paralegal profession exists is because "the practice of law has been de-mystified." Legal argument in English common law jurisprudence is a modified form of scholasticism.

"Master Pangloss taught the metaphysico-theologo-cosmolonigology. He could prove admirably that there is no effect without a cause, and in this best of all possible worlds the baron's castle was the most magnificent of all castles, and my lady the best of all possible baronesses.

'It is demonstrable,' said he, 'that things cannot be otherwise than they are; for as all things have been created for some end, they must necessarily be created for the best end. Observe, for instance, the nose is formed for spectacles; therefore we wear spectacles. The legs are visibly designed for stockings; accordingly we wear stockings. Stones were made to be hewn and to construct castles; therefore my lord has a magnificent castle; for the greatest baron in the province ought to be the best lodged. Swine were intended to be eaten; therefore we eat pork all year round. And they who assert that everything is right, do not express themselves correctly; they should say that everything is best.' – Voltaire, Candide (1759)

PANGLOSS DOESN'T VISIT OFTEN: The classic formulation of Gottfried Leibniz' (1646-1716) 'best of all possible worlds' argument is:

1. God has the idea of infinitely many universes. [How do you know this?]
2. Only one of these universes can actually exist. [Really?]
3. God's choices are subject to the principle of sufficient reason, that is, God has reason to choose one thing or another. [His reason or ours?]
4. God is good. [Are you sure?]
5. Therefore, the universe that God chose to exist is the best of all possible worlds.⁶ [Riiiiiggghht!]

The 'best of all possible worlds' argument has been criticized and lampooned enough – most notably by Voltaire's most famous book – that it need not be rehashed here. Rather, it is more curious that one of such towering intellect (of which I am but a shadow) as Gottfried Leibniz would not have noticed the fundamental flaw in this argument: the word "God." That one of such empirical and mathematical mind (e.g., he was one of two independent inventors of calculus, see Math Boy discussion, p. 221, 1 Entropy, *supra*) would make such concrete statements about something of which he could know or prove nothing, on such flimsy evidence, is amazing.

- ✓ Although "god" makes four of the five fallacious, Number 2 is equally questionable – and not considered even very likely nowadays.

Half a century later, David Hume argued against the argument from design:

- ❖ "Secondly, You have no reason, on your theory, for ascribing perfection to the Deity, even in his finite capacity, or for supposing him free from every error, mistake, or incoherence, in his undertakings.... But were this world ever so perfect a production, it must still remain uncertain, whether all the excellences of the work can justly be ascribed to the workman.... And what surprise must we feel, when we find him a stupid mechanic, who imitated others, and copied an art, which, through a long succession of ages, after multiplied trials, mistakes, corrections, deliberations, and controversies, had been gradually improving? Many worlds might have been botched and bungled, throughout an eternity, ere this system was struck out; much labour lost, many fruitless trials made; and a slow, but continued improvement carried on during infinite ages in the art of world-making." – David Hume, Dialogues Concerning Natural Religion (1750-1776, pub. 1779).
 - And who is to say that our world was not one of those botched and bungled on the way to a later perfect creation? I would not be surprised. Maybe the Big Bang was one of the "botched and bungled" creations?
 - This passage, if any single passage could be so attributed, is probably the inspiration for Robert Heinlein's Job: A Comedy of Justice (1984).

Rather, it is most likely that Leibniz was keenly aware of the fallacy of the 'Best of All Possible Worlds' argument but likely offered it for shrewd political reasons, concluding internally that:

- 1) Most of humanity is not interested in proving or disproving the existence of God (or having their religious beliefs rationally and empirically examined), and

- 2) Arguing against God in the midst of the Holy Roman Empire of the 17th Century would alienate his patrons and sabotage his ambitions of political and diplomatic advancement.

The ‘best of all possible worlds’ argument then falls into the column of criticisms of the old European patronage systems, beyond merely censorship and suppression.

But Leibniz went one step further, instead of merely refraining from arguing empirically about the existence or non-existence of God, Leibniz created a self-serving justification for the *status quo*, the *Ancien Regime* of Europe that earned him the eternal contempt of Voltaire and others who laid the foundations for the coming revolutions *and atheism*⁷ in Europe. And this, perhaps, is the grand joke of Gottfried Leibniz’ ‘best of all possible worlds’ argument upon his patrons and intellectually inferior social betters – he was mocking his social betters and either they knew it and didn’t care, or they didn’t know it and didn’t get it – for, from the ‘evil’ of his patrons and their social systems, in the ‘best of all possible worlds,’ was caused an argument to be made revealing their fallacious smugness to the restless intellects of the following generation.

This is the genius of genius; geniuses plant time bombs under the age in which they live, in mockery of what they see around them, it is true of Socrates, of Newton, of Darwin, of Bacon:

- ❖ “Francis Bacon coughed out his life alone in a cold and borrowed bed, in a century to which he had been a stranger. He had once written to a friend, ‘I have lost much time with this age; I would be glad to recover it with posterity.’ Bacon saw, like the statesman he was charged with being, the full implications of science and its hope for man. He left his work unfinished and open to improvement, as he knew science itself to be unfinished in the world of time. He warned man of the shadows in his own brain which kept him dancing like one enchanted within the little circle of narrow prejudice and fanatic ideology. Though Bacon died childless his intellectual children in a few scant generations were destined to be legion. He would be called by Izaak Walton a few years after his death ‘the great Secretary of all Nature.’ He planned as a man of great affairs, dreamed like a poet, and yet sought to rope those dreams to earth as though, in doing so, he might more easily sail earth itself into the full wind of that oncoming and creative age toward which his vision hastened.” – Loren Eiseley, The Modern Dilemma (1957), Kindle Loc. 221-229. Bacon has Fallen to Earth.

✚ ON THE OTHER HAND: Alternatively, one might argue that viewed within a certain framework, this is the best of all possible worlds. That doesn’t say much on the positive side, but if that was what Gottfried Leibniz was thinking, shifting framework has certainly been the story of the last three centuries: calculus – which Leibniz invented independently of Newton – is certainly a prime example. We also had to change our view when physics reached the subatomic, Newtonian physics no longer applied.

But it’s a glass half-full or half-empty argument. David Hume, on the basis of the actual world before him (which hasn’t improved much in that regard), suggested strongly that this world is another botched creation. He didn’t say it directly, of course, but certainly it seemed to be hovering there. One day, the artist, with enough experience and bumbles, will get it right, perfect, but this world ain’t it.

*“If you just close your eyes and block your ears
To the accumulated knowledge of the last two thousand years
Then morally, guess what? You’re off the hook
And thank Christ you only have to read one book.”*

– Tim Minchin, “The Good Book” (2009) ⁸

WHEN THE WORLD WAS NEW, WHEN THE WORLD WAS OLD: When I finally came late to college, after a precocious and wildly undisciplined intellectual youth, I found to my dismay that all of the ideas, lines of thought, and questions of my youth had already been invented, bettered, and written down (but not solved, answered) by people who died centuries or millennia before I was born. Some might have found joy in the discovery that their own thinking was in line with those of our great intellectual ancestors, but to me, it caused some dismay to know that I had not really thought of anything new or clever. It seemed that I was not really that smart after all.

Scholasticism was fashioned on the idea of reverence for ancient wisdom; students were taught to make arguments and try to find solutions from Church-approved ancient texts. It must have seemed like the light of the world burned sun-bright in ancient times, and each succeeding generation, being further from the ancient world, lived their lives in slowly dimming twilight. All important things had already been said, disputed, and discussed by revered ancient intellects, all wisdom available to humanity had been discovered already and written down, nothing new could be added by the current generation. And their world of Europe was encased in stone and chaos.

- ❖ “Unlike his associates, however, [Sir Francis Bacon] saw the Ancients in the dawning light of modernity, not as Colossi whose achievements the living could not equal, but, rather, reduced to their true stature as men – men whose accomplishments the hoarded experience of succeeding generations might enable us to surpass. ... In Bacon’s time such a view of the ancients was iconoclastic and heretical to an extent difficult to appreciate in the intellectual climate of today.” – Loren Eiseley, The Modern Dilemma (1957), Kindle Loc. 288-294.

As elegantly described by Loren Eiseley, scholasticism had become dysfunctional, even perhaps a socially cancerous or a brain tumor on civilization, by the time of Sir Francis Bacon who died in 1626.

- ❖ “It was Bacon’s whole purpose, set against the scholastic thinking of medieval times, ‘to overcome,’ as he remarks in another of his works, the *Novum Organum*, ‘not an adversary in argument, but nature in action.’ Truth, to the medieval schoolmen of the theologically oriented universities, rested upon the belief that reality lay in the world of ideas largely independent of our sense perceptions. In this domain the use of a clever and sophisticated logic for argument, rather than observation of the phenomena of nature was the road to wisdom.” *Id.*, Kindle Loc. 70-74.
 - See ‘best of all possible worlds’ argument, p. 1495, *ut supra*.
 - Carl Sagan makes this same argument throughout *Cosmos*.

I have often wondered that it never occurred to most people of the period that, rather than trying to tease out solutions to modern problems from ancient texts through dialectic argument, perhaps we should go forth and observe, test and ask new questions?

- ❖ “Aristotle maintained that women have fewer teeth than men; although he was twice married, it never occurred to him to verify this statement by examining his wives’ mouths.” – Bertrand Russell.

Except for a few, such as Paracelsus, whose death preceded Sir Francis Bacon by 20 years, the majority seemed content to continue endlessly rehashing ancient arguments; this must have been an important aspect of their culture. See discussion in *Technosolution, 1 Patents*, p. 726, *supra*.

- ❖ “Elizabethan craftsmen or lonely seafarers sometimes made discoveries, he noted, but the experiments of calloused hands were often scorned by gentlemen. After all, what did newcomers matter in a world of falling leaves, with even the moon grown old and spots upon its face? In a sense these people lived as only we today live under the shadow of atomic disaster, with a foreboding that the human future is running out. We know a universe of greater antiquity, but we, in a different way than the Elizabethans, know our own sinfulness with a dreadful renewed certainty. It is with us as they thought it was with them. Our civilization smells of autumn.” – Loren Eiseley, *The Modern Dilemma* (1957), Kindle Loc. 149-153.

Conversely, there must have been a time when all of this was new. While an argument might be made as to Danubian and Hellenic philosophical traditions that preceded Socrates, Plato, and Aristotle, whose text were revered by Scholastic schools, their level of discourse on topics was certainly ‘new’ to the Golden Era of Ancient Greece. And before them, by several centuries, the unknown authors of the lost texts which are summarized in the Brihadaranyaka Upanishad and Chandogya Upanishad, must have introduced new levels of discourse and social religious criticism to the civilization of the Indus Valley. And between the Upanishads and the Golden Age of Greece lived Confucius whose elevated discourse introduced unprecedented senses of propriety and morality in personal and official actions in a time when such needed correction.

Confucius claimed to have invented nothing, but to have merely transmitted the wisdom of the ancient texts. Students were urged to study the ancient texts for wisdom and apply it to their daily lives. Confucianism thus contains a root of Scholasticism and certainly was practiced as official dogma 50 generations later when the Europeans first significantly encountered traditional Chinese culture. The fate of the world was determined by which culture awoke first.

✚ WRONG BOOKS: I now lament that I read the wrong books when I was young; so many books I have discovered that I should have read or should read, but are unlikely to ever do so now. But here I am now, writing GGDM, so did I read all the wrong books when I was young? Sort of an ‘anthropic principle’-like argument. Like a game of Mahjongg where one cannot be certain they made the right choices until the last tiles are removed and the board is resolved. In the design process of GGDM, the internet has been what was promised in the beginning: A vast searchable library of articles and books, blogs, news, and web pages that accelerated my understanding of subjects – and not just from Wikipedia which many criticize on various levels – and my intellectual development. If I have one stand out ability, it is that, with a half a century of intellectual and life experience, and pre-internet formal education, I have an immediate intuitive grasp of most new ideas that I encounter, and can readily synthesize them, and plug them into my GGDM cognitive framework. For what it’s worth.

Unfortunately, the potential for the internet to advance human global civilization is identical to the internet’s potential to propagate human stupidity, cultural poverty, and cognitive bias.

GGDM may be my own absurd form of Nexialism:

- ❖ “Nexialism was an anticipation of the interdisciplinary, cross-disciplinary and multi-disciplinary lines of research we now find proliferating in modern scholarship. But Nexialism was more than just interdisciplinary studies. Van Vogt also saw it as a way to encourage scientists from different disciplines to work together in a truly effective manner, with the aid of a properly trained bridge-builder: a specialist in the mechanics of interdisciplinary studies, who could bring experts together and facilitate communication between them.” – Kathleen D. Toohey, “Towards a science of Nexialism,” ResearchGate, September 2013.

I never read A.E. Van Vogt’s book, The Voyage of the Space Beagle (1950), but learned of it and the concept of nexialism in recent years through secondary sources.

“Let us not be too particular; it is better to have old secondhand diamonds than none at all.” – Mark Twain

A SECONDARY PERSON: I do not read (or speak) Latin, Greek, French, Spanish, Chinese, Russian, Arabic or any other language; I therefore depend on translations of others, when necessary, to convey texts and summaries of what foreign intellectual and historical works mean.⁹

I do not understand ragging or break beats, or most other musical concepts. I am fairly good at lyrical retention of songs from my youth, can hum the melodies and imitate drum beats, recognize popular songs, play air guitar, but real discussions of musicology go completely past me.

I am constantly finding the names of original works that I should have read somewhere along the intellectual path, but have never heard of before I am too old and distracted to read original works. I did read a large number of books in my youth, but not enough, of the right kinds. Then I stopped reading books and became a creature of the internet age.

Discussions of science are like discussions of original books and works written in foreign languages, I depend on secondary sources to tell me what it says and what it means, as I have an incomplete science education, but more importantly, I can never understand the original science because I lack math ability (see Math Boy discussion, 1 Entropy, p. 221, *supra*).

As such, having not engaged in scholarly studies (though I have had college courses) of most of the subjects on which I comment, I am a secondary person, depending on a multitude of secondary and tertiary summaries for my knowledge and understanding of the world. This includes, especially, the news. And Wikipedia, which has accelerated that trend.

- ❖ There is a difference between reading a work and reading about a work (or idea expressed in that work). For example, I quote Lynn Montross probably over 200 times in GGDM, but that is not the same as reading his book (which I was fortunate to have read three times in my teen youth), over a thousand pages long; my readers however come away with a secondary understanding of his ideas. But the way the world is structured and the limits of human lifespan and educational time, how can we avoid reading about other works instead of reading those works? Works and their ideas must be summarized until the time we have chips and jacks implanted in our heads.

- A person who continues reading intensely beyond the youth surge might be called ‘bookish,’ but at some point, regardless of how keenly we read

in our youth (or at some point in our lives), life opts for experience and career and the time for reading of original works diminishes.

I strongly suspect that this is true of the vast majority of the population; starting with our dependence of approved text books in public schools and undergraduate college – secondary sources which summarize and discuss their own summaries of the intellectual subjects of our civilization. We have also been long accustomed to news reporting media, starting with the evening news in the time I was growing up to the internet news today. Plus commentaries and opinion on news.

This is within the nature of an idea as expressed by Thomas Jefferson so long ago (see top feature quote, 3 Patents, p. 746, *supra*) that none are lessened by passing an idea to another, even if in summary form. Ideas can be summarized, packaged in a way stripped of all of the dithering about this and that which the authors engage on their way to the goal,¹⁰ and without the terrifying mountains of empirical data that characterize writings such as those by Joseph Tainter.

- ❖ I don't criticize Dr. Tainter for the empirical mountain he climbs on the way to his conclusions about the collapse of complex civilizations. The point is though that summaries make ideas accessible. I rather enjoyed reading swaths of Tainter's book. Someone may summarize GGDM someday. Or maybe not waste their time.

Secondary summaries play an important role in our civilization; they allow us to make up time, to compress learning (like ancient Greeks watering wine). We are all secondary people. They allow us to grasp subjects quickly that took others years of original text reading to understand.

- ❖ “A doctrine or philosophy insinuates itself into culture by means of rumor as much as by persuasion occasioned by reading its founding, or even subsequent, texts.” – Theodore Dalrymple, *Admirable Evasions: How Psychology Undermines Morality* (2015), discussing enculturation of Freudianism.

My work is possible only because of the internet, computers and secondary works, I truly view things primarily from a secondary level, a view from a height perhaps. But at the same time, there is a risk of distortion and the risk of losing the voices from the vaults of time that speak to us across millennia from the old books and writings (see also the Inge Process, 5 Diplomacy, p. 1161, *supra*).

- ❖ It would be nearly impossible for one to write a holistic treatment of civilization as a gestalt structure or emergence and read all of the important works of the first and second order in every subject touched upon in the simulation while also going to college, working, moving, paying bills, having a career and watching sports. Thus, secondary sources were key. In fact, though I do not object to or condemn wide reading of original works – in fact, I encourage it – I think that trying to read all of the major and original works on a subject tends toward specialization, with people writing and reading within a tiny area without framework or outside interaction with other subjects, that is, I am echoing A. E. van Vogt's nexialist and modern nexialism arguments.¹¹

Conversely, it follows and it hurts to say, but there is little, if anything, in GGDM that is original, and even less that is truly original. Almost everything in GGDM is gleaned, or was absorbed from the cultural milieu of my youth, even when I did not know of or had not read the sources of the ideas, or even secondary summaries. *I truly am a crazy man in an existential box.*¹²

It is a nearly daily occurrence to find quotes from other writers (often secondary writers discussing others), usually dead, who have said something that I had already written into or expressed in

GGDM, or that I find that the ideas I expressed have a name and that I accidentally arrived namelessly at the same idea. And it is a nearly certain occurrence that the quotes and/or end-notes will be added to wherever I discussed it, to show the reader that others – much brighter lights than I – have said the same or similar things, or that I know what I am talking about by properly referencing the terms, so that I am not a complete crackpot.

- ❖ C.f. “None of these claims have any sources. One would think a serious professor of this field would tell where these claims come from. Without being able to establish the premises, I see no reason to believe the conclusion.” – Nick Peters, “A Brief Look At Alexander Cain,” May 6, 2015 (forum post, TheologyWeb).

Thus it is that GGDM is filled with, and consists mostly of, appeal to authority fallacies in the finest scholarly tradition, and accidental enlightenment. The best I can offer is what a friend said once, that I have combined existing ideas in a way that they have not been connected previously.

- ❖ See Judge Learned Hand feature quote (there I go again!...) top of 2 Patents, p. 734, *supra*, to wit: “The test of invention is the originality of the discovery, and discovery depends upon the mental act of conceiving the new combination, for substantially every invention is only a combination.”

✚ POLYMATH PROBLEM: This perhaps feeds into the discussion about why there are very few polymaths and the fading influence of polymaths in our civilization. For comparison, think of a multi-sport athlete (in Britain, called sometimes a “sports polymath,” in the U.S., a three- or four-letter athlete) or in music, a person who is accomplished on several instruments, but instead, well versed and cutting edge across several fields of arts, math, science, philosophy and logic.

- ✓ The polymath is the one-person, one lifetime nexialist. The fact that we now speak of nexialism is symptomatic of the passing of the polymath from our civilization.

A modern sub-trend related to longer work life and life expectancy, are the dual professionals, i.e. lawyer-engineer, doctor-lawyer, rock star-astronomer, pornstar-doctor, engineer-mathematician, which require returning to graduate school after having had a prior professional career. The Patent Bar requires an undergraduate degree in science or engineering in addition to being a lawyer. But these are technicians, not cutting edge intellectuals (mostly).

- ❖ Some definitions of a public intellectual place them in the same position as polymaths of previous generations, e.g., Barry Gwen: “That is, public intellectuals were free-floating and unattached generalists speaking out on every topic that came their way...” (NYT, June 11, 2008). But at the same time, others have lamented the passing of the public intellectuals, e.g., Russell Jacoby, “Christopher Hitchens: The Last Public Intellectual?” *The Chronical of Higher Education*, December 18, 2011. If both can be true to a decent degree, we’ve landed right back at the beginning – the discussion of the fading influence of polymaths in our civilization! See *Anti-Intellectualism and Public Intellectuals* excerpts, *Kairotic Moments*, *supra*.

✚ ALITERATE: Though I have learned an innumerable number of concepts and dynamics in designing GGDM, and I have enjoyed reading many articles and books across many fields, and my knowledge has increased commensurate to the size and complexity of GGDM, my lack of true depth of knowledge¹³ to accompany the breadth and inability to comprehend higher math (even in sociological articles, such as those discussing Social Entropy Theory) – like a

tall, skinny, underdeveloped, lightheaded athlete, makes me a ‘lightweight’ in academia.¹⁴ Thus GGDM is not in any sense equivalent to either a master’s thesis, advanced writing project, or doctoral dissertation as the terms are currently used. It is nothing but self-puffery for me to think otherwise.

- ❖ “My feeling about whether you’re going to be happy in your chosen career has a lot to do with your personality. Being an academic biologist requires being able to focus on one particular thing for a very long time, forsaking breadth for depth. A career like journalism is just the opposite. You have to give up depth, but what you get is breadth. You learn about a lot of things and talk to a lot of people in many different circumstances.” – Carol Yoon as quoted in her Ecological Society of America profile.

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Does this mean that I have more the mind of a journalist than an academic? I seem to be interested in a holistic breadth of things on a macro level. This is not to say that GGDM is a work of journalism (unless as a journal of middle-age dork/nerd psychology) and I am certainly no journalist (that would be an insult to journalism) and I don’t enjoy talking to lots of people (amen!). I mumble to myself and that is about all I can handle.

- ❖ “Did you exchange a walk-on part in the war for a lead role in a cage?” – Pink Floyd, “Wish You Were Here” (1975).¹⁵

GGDM covers a lot of ground, it is, as I have claimed repeatedly, a holistic work interwoven across many disciplines. There are of course, areas where I have decent or even good understanding and knowledge, either from my youthful interests or from what I had to read in college courses, and I have read much while designing GGDM.

When I encounter new ideas, I must be able to read them and grasp the basic concept quickly, I often don’t have time to read deeply into new subjects as one would if it was their chosen interest; I am more interested now in concepts generally and my base of knowledge, learning, and experience allows generally quick comprehension of new ideas and subjects. This means that most movies and TV shows quickly bore me. I also tend to wander around in circles and encounter the same subjects or ideas in different guises, connecting the dots here and there. This is the value of secondary sources to me, I would probably love to read Steven Johnson’s book, Avi Sion’s book, or even Gilles Fauconnier’s book, and I may someday, but now I must be focused on concepts within GGDM, and secondary summaries are key. Like college students all, we depend on the deeper knowledge of others.

“Our posturings, our imagined self-importance, the delusion that we have some privileged position in the Universe, are challenged by this point of pale light. Our planet is a lonely speck in the great enveloping cosmic dark. In our obscurity, in all this vastness, there is no hint that help will come from elsewhere to save us from ourselves.” – Carl Sagan, A Pale Blue Dot (1994)

ONE FEWER GOD: It should be abundantly clear to the reader by this point that I generally agree with Carl Sagan’s statements on most matters, including religion (I occasionally exercise some independent intellect however) as they relate to the subjects of this simulation game.

Many of my statements regarding religion align generally with The Four Horsemen of New Atheism, however, true New Atheist and/or antitheist would consider my position ‘soft,’ in that I

am neither militant, pejorative, proselytizing, offensive, or certain of things that I cannot possibly know or prove. Nor am I witty or razor tongued.

- ❖ “I contend that we are both atheists. I just believe in one fewer god than you do. When you understand why you dismiss all the other possible gods, you will understand why I dismiss yours.” – Stephen F. Roberts.¹⁶
 - This quote drives theists nuts; in a singular moment, it suggests that they are the slow kids in the cognitive progression of humanity (see Mythopoeic Thinking discussion, 1 Temporal Technology, p. 809, *supra*). There are at least a dozen top result articles on Google by Christian apologists clarifying, distinguishing, and arguing against this single comment.

Instead, I offer my thoughts and observations in writing for what they are worth. I am more interested in religion as a structure of human civilization and psychology – empirical minds cannot deny that religion is and has been an important mechanism, part of human civilizations and must acknowledge that facts cannot be conveniently ignored in any honest inquiry – and I do not believe that religion will ever be wished or argued away until there is a fundamental change in base human psychology – for example, if future generations of humans spring forth from factories, pre-educated, preconditioned, with no childhood memories or infantile needs or fears, then there may be no need for religion. If that sounds like a horrific future; well there you have it, the conundrum.

- ❖ I do not think I am anti-Christian or anti-religion, rather, I am anti-stupidity. Unfortunately, religion (and its cousin, politics) and stupidity have historically been locally co-extensive, as Daniel Dennett might say. I think most of religion now doesn't know what it's really about, and in the words of the God Whisperers, “needs a good, swift kick in the shins,” (see 1 Patents, p. 732, *supra*) and I have tried to deliver that enlightenment in GGDM (though I am sure I went about it much differently than the two Reverends). Religion has a place in humanity, and both Nietzsche and Douglas Adams have warned that we should not “throw the baby out with the bath water” (Adams, see 1 Technology, p. 695, *supra*). I agree.¹⁷

I do not consider myself a New Atheist, as I understand the term. My argument isn't about God, my argument is about the relation of humanity and the universe, and I consider the arguments about God as largely irrelevant. The pillars of my argument (or assertions if you prefer) are Empiricism, Absurdism, Education (a macro view), and perhaps a brand of Anti-natalism.¹⁸ Atheism has changed over the last 50 years, from ‘live and let live’ atheism, to a militant, pejorative, dismissive atheism that is the New Atheist:

- ❖ “Several thoughtful writers have already laid bare the slapdash know-nothingism of today's modish atheism, but [Nick] Spencer's not beating a dead horse – he's beating a live one, in the hope that Nietzsche might rush to embrace it. Several critics have noted that if evangelical atheists (as the philosopher John Gray calls them) are ignorant of religion, as they usually are, then they aren't truly atheists. ‘The knowledge of contraries is one and the same,’ as Aristotle said. If your idea of God is not one that most theistic traditions would recognize, you're not talking about God (at most, the New Atheists' arguments are relevant to the low-hanging god of fundamentalism and deism). But even more damning is that such atheists appear ignorant of atheism as

well.” – Michael Robbins, “Atheists Used to Take the Idea of God Seriously. That’s Why They Mattered.” Slate Magazine, July 8, 2014.¹⁹

If I am an atheist, I am one of the old brand, I am willing to say in writing (if anyone cares to read it), ‘this is what I believe’, point out what I think is fallacious and why,²⁰ and that I think most religious belief is ridiculous, illogical, and has been as much harmful as good, and I’ll leave it at that.

- ❖ I watched the introductory video on The Richard Dawkins Foundation for Reason & Science channel on YouTube, the very same video could be reproduced *in toto* (with necessary changes) as a parody and put up as an intro video on a fundamentalist Christian YouTube channel. The video contained political mockery, caricature of the opposition, conspiracy theories, assertion that their beliefs are under attack, and the suggestion that they alone hold the absolute truth, all delivered in fast narrative in two minutes. In short, the New Atheist use the very same language, arguments, tones and tactics of the religions they criticize.

Consider the following from an article on Greta Christina’s blog, “Deepities On Parade: ‘Oh My God’ Reviewed” (movie review, November 27, 2009):

- ❖ “Any competent atheist could shoot it down in seconds. (‘If things don’t just come out of nothing and everything has to have been created, then who created God? And if God always just existed or somehow came into being out of nothing, then why can’t that be true for the universe?’ See how I did that?)”

Her comments suggest that any competent Atheist must be a stout and crafty defender of the faith (and should be so instructed), just like Christians, just like Christian Apologetics, just like any other major religion in the world.

- ❖ Neil deGrasse Tyson said, “I can’t agree to the claims by atheists that I’m one of that community. I don’t have the time, energy, interest of conducting myself that way... I’m not trying to convert people. I don’t care.”

A sensible reading of this indicates that Mr. Tyson also views the current form of atheism as evangelistic.²¹ There is an impatience and frustration boiling over in modern forms of atheism, a stunning *lack of faith* in the eventual success of reason, the marketplace of ideas, or in developing other ways to approach the problem. They hasten to throw the baby out with the bathwater, as Douglas Adams suggests (echoing Nietzsche). Aggressive atheism only hardens the lines in to walls, competing redoubts of believers; atheism, like anything else, only succeeds in enculturation when enough people see it as natural and reasonable. And neither side is reasonable.

✚ RELIGION SUBLIME: If while reading GGDM, you ever experience a faint moment of wonder or awe, you should stop a moment and ask yourself: How could the work of an angry middle-aged asshole ever be sublime? If you think that this can be true, then it is possible that the Bible is a work sublime. Here is the quandary: I know that in order for my work to have any measure of success (whatever that might be in this case, I am not even sure myself) it must become or seem to be sublime to a significant part of its readership (sublime is always a subjective standard, individually, but a work can be said to be in some way sublime objectively when enough individuals have that opinion, see Five Types of Facts, 1 Dreamtime, p. 135, *supra*).

- ❖ Consider this: The reason we know so much about Plutarch’s works is that the Romans loved Plutarch and hand-copied (imagine: no photocopiers) probably hundreds of thousands of copies of his books. Thus, Plutarch has survived the ages, though we believe that a least half of his works have been lost. If I were to decide that success of GGDM would be that the work is being read hundreds (like Machiavelli) or a thousand years (like the Bible) from now, what would be the required basis?
 - See previous discussion of Unpublished Book, 3 Kairotic Moments, p. 1439, *supra*.

However, I cannot ever personally accept that I am creating or capable of creating something that is sublime.

- ❖ If any doubt remains to my claim of the title “angry middle-aged asshole,” go back and re-read 2112 Absurd Words, *supra*. Nothing cements a claim of ‘angry asshole’ like a refutation of educational optimism in the future universe.
 - Similar to the way that trading lady Gwendolen for an illiterate peasant girl concubine established Prince Henry as a cad in the 1964 movie *Beckett*. Gwendolen committed suicide due to the unbearable insult.

Anyone who is turned off by 2112 Absurd Words probably shouldn’t and won’t read further. In any event, I will not change a word that I have written because it still serves a purpose: If I am wrong, then you will see that I am wrong and be something else. If I am correct, in any sense or degree, the world will learn something from this, my legacy: If enough people read it or it is summarized in secondary sources.²²

*“In a 1978 interview, Friedrich Hayek said about [Ludwig von] Mises’s book *Socialism*: ‘At first we all felt he was frightfully exaggerating and even offensive in tone. You see, he hurt all our deepest feelings, but gradually he won us around, although for a long time I had to – I just learned he was usually right in his conclusions, but I was not completely satisfied with his argument.’”*

– from Wikipedia article, “Ludwig von Mises,” captured July 9, 2019

PROFOUND TRUTH: I could write the most profound singular truth – the one thing the world needs to know to make it a better place – on a piece of paper and leave it on the desk for the world to discover. The likelihood that any good will come of it is next to nothing.

Probably, the wind would catch up the piece of paper and blow it out the window where it would become part of the swirling collection of street trash. Or the building would burn down. Or some three-year old human monkey would color on the paper with crayons and markers.

Were anyone to discover it laying on the desk and take the time to read it carefully (another barrier, most people don’t have time to read carefully, some don’t read at all, just glance at the squiggles and move on – the infuriating people who respond to emails without reading them first or order food without looking at the menu), they would have to understand the context of the message and have knowledge of the subjects to which it applies.

And they would have to be able to read the language in which it is written. If it were somehow to survive and be discovered by an archaeologist in hundreds or thousands of years from now,

the people of that time might not be able to read it. There are still about a dozen ancient languages we cannot read.

And in the end, whether readable or not, read or not read, the message of profound truth would have to matter to the reader to have any meaning. The profound truth would not be everyone's truth.

“I am not very impressed with theological arguments whatever they may be used to support. Such arguments have often been found unsatisfactory in the past. In the time of Galileo it was argued that the texts, ‘And the sun stood still... and hasted not to go down about a whole day’ (Joshua x. 13) and ‘He laid the foundations of the earth, that it should not move at any time’ (Psalm cv. 5) were an adequate refutation of the Copernican theory.”

– Alan Turing, Computing Machinery and Intelligence (1950)

Endnotes.

¹ Citation: “To put it plainly, law school is not lawyer school.... Law school is about training legal scholars. Despite the persistence of the time-worn phrase, law school does *not* teach students to think like lawyers. It teaches them to think like law professors. Judge’s decisions, in the law school classroom, are far more important than what the lawyers did or could have done.... There is little attempt to look at the law, as practice will see it, through the remedies it affords. Practicing attorneys rarely think first about the grand sweep of the law and its rational development. They think about the needs of their client and how the law can be applied, shaped, or reformed to accomplish their client’s goals.... But most law professors don’t practice; some never have practiced and don’t ever want to. Their focus is on scholarship: cutting edge changes in the law, law review articles, complex analysis of vexed legal problems. And law school is made in their image.” – Scott Turow, One L (1977) (emphasis in original).

² Commentary: At the Replay FX Arcade and Gaming Festival in Pittsburgh in 2015, I sat down at a table with a group to learn to play the tile game Hanabi which was being taught by a lady who is considered to be very good at the game and who probably plays the game more than anyone else around. During the first game, which involves limited player communication, I did something that made her think that I was a genius of some kind, that I got the game instantly and was playing at some advanced level on my first game. As my next moves proved, however, I hadn’t a clue what I was doing, and I told her afterward that I am no genius, in fact, I am just pretty dumb overall. Twenty years ago, I knew someone who could do that, an A-rated chess player, whom I observed would win hobby board games against experienced players the first time he played, he had the ability to instantly understand the strategy of the game when it was explained, without having played. I am not, have not, that kind of mind.

³ Commentary: This is one very good reason why I would never ‘steal’ or plagiarize anyone else’s work. Any work worth stealing or plagiarizing was written by someone a lot smarter than I am and it would become quickly obvious that it was not my work, as I am not smart enough or educated enough to have thought of it.

⁴ Citation: https://en.wikipedia.org/wiki/Wikipedia:Getting_to_Philosophy.

⁵ Commentary: Hypatia of Alexandria quotes are offered here as such because the internet sources represented them as being attributed to her (which is the case with the majority of my quotes, I have not read the original books). In the case of Hypatia, this is especially dubious as I understand that none of her writings survived, except in the works she edited in her father’s name. So I must assume that if authentic, the quotes come from those works or perhaps from works written by her students (as was common at the time, many philosophical works were edited, written or added to by students later). The quote offered here is also consistent with her historical image and troubled times.

⁶ Citation: Colin Temple, “Leibniz: The Best of All Possible Worlds,” <http://colintemple.com>, March 1, 2012.

⁷ Citation: “[Atheism] had only a limited amount to do with reason and even less with science.... In reality ... modern atheism was primarily a political and social cause, its development in Europe having rather more to do with the (ab)use of theologically legitimized political authority than it does with developments in science or philosophy.” –

Nicholas Spencer, [Atheist: The Origin of the Species](#), as quoted in Michael Robbins, “Atheists Used to Take the Idea of God Seriously. That’s Why They Mattered.” *Slate Magazine*, July 8, 2014.

⁸ [Commentary & Citation](#): Video available on YouTube. He begins thus, “If you find the criticism or bashing of religion tiresome, just give me five more minutes.” Which is exactly the length of the video.

⁹ [Commentary](#): I have noted over the years how much we depend on the titling or captioning of pictures and videos for information. I have noted videos and pictures captioned where there is no other information contained in the video or picture to verify that the caption is correct, I have seen the same video or picture (or parts of) captioned in completely different ways in different places that were not in agreement or even contradictory. For example, the old-looking, black-and-white picture at the top of the Wikipedia article, “Nongqawuse,” shows two African women dressed and sitting for a portrait. It is labeled, “Nongqawuse (right) with fellow prophet, Nonkos” and is allegedly the famous picture of Nonquawuse taken at the behest of the wife of Major Gawler while the two lived in his home (as described in the article). That’s all nice, but how do I know it’s not just a random picture that someone found of two dressed African women sitting for a portrait? Yes, I am sure there are authorities who have published this picture as being of Nongqawuse and Nonkos for over a century but without actually knowing these two or having other pictures to compare (this is likely the only one) it could still be just a random pic that someone at some point decided to label as Nongqawuse and Nonkos.

- ✓ See previous discussion of the various portraits of Christopher Columbus, 1 Expansion, EN 1, p. 888, *supra*. He could have been an alien for all we know. Or maybe he was Ozzy Osbourne transported back to the 15th century? “All aboard, hahahaha!”
- ✓ This also relates back to the previous discussion of the nature of facts, see Five Types of Facts, 1 Dream-time, pp. 135-137, *supra*.
- ✓ Near the end of working on GGD, I watched a short film on YouTube titled “Celina” that was labeled as ‘post-apocalyptic.’ While the film short was very low budget, there was nothing in the film itself that showed it was post-apocalyptic. Most of the 8½ minute runtime shows a bruised young girl wandering around an abandoned residential housing development with a picture and GPS coordinates looking for something. If it was not labeled as post-apocalyptic, if the viewer did not have that preconception, what might they think is going on in the film? A young girl wandering around looking for her drug-dealer boyfriend? But people react to it as if it were a post-apoc story because it was so labeled. Labeling theory.
- ✓ Trust in secondary sources is also what makes the collectibles market so suspect – you have only the seller’s contention that this X thing has enhanced value because it was owned by Y or used as a prop in Z movie or is game-used in XYZ sporting event. Everyone who sold the item before now has claimed it and so you have a chain of secondary claims where only the original seller knows the truth. There are entire industries devoted (e.g., the guys at MLB games who certify and mark game used items or certain prestigious movie prop stores) dedicated to authenticating collectibles. Otherwise, any old fraudster could...

¹⁰ [Commentary & Citation](#): The 1927 silent film *Metropolis* (long lost but now 95% recovered) is considered important as the first full length feature science-fiction film as well as for its stylish groundbreaking German Expressionist sets, cinematography and the dystopian political and social message. In 1949, Osamu Tezuka (the father of manga), while in medical school, produced a manga version of the story in the aftermath of WWII in occupied Japan; in the defeat of WWII, the time was ripe for a dystopian messaging film. However, Osamu Tezuka has stated that he never actually watched any version of the 1927 film (there were many hacked versions about) and only was inspired by seeing a screen still shot in a magazine. It is likely that he got the general idea of the movie plot from secondary sources, but the two stories – 1927 and 1949 – bear only general parallels. Information from Wikipedia articles, “*Metropolis* (1927 film)” and “Osamu Tezuka,” December 18, 2018.

- ✓ “In this sense, if in no other, [Brad] Bird’s latest owes more to ‘*Metropolis*,’ ‘*Blade Runner*,’ ‘*Dark City*,’ the first ‘*Tron*’ and other works of top-shelf eye-candy than to most of the SF-and-fantasy-tinged franchise entries that modern studios churn out. ... No matter. The ‘message’ of ‘*Metropolis*’ – a parable of labor and capital which concludes that society needs the heart to mediate between the head and the hands – was a mess, too. Today it seems at once reductive and overreaching, basically Marxism Lite. But if you had to make a list of reasons why that film is still remembered, discussed, and raided for inspiration by films like Bird’s, ‘message’ wouldn’t be on it. ‘*Metropolis*’ is remembered because watching it is as close as many of us will get to being able to have another person’s dream.” – Matt Zoller Seitz, review of *Tomorrowland* on rogerebert.com, March 18, 2015.

¹¹ **Citation:** “I experienced a classic example of the kind of extreme specialization that van Vogt envisaged, when I attended a conference on Arthurian Literature in Bangor in 2002. At the conference one of the speakers delivered a paper on the ‘First Continuation’ to Chretien de Troyes’s unfinished poem, *Le Conte du Graal*. Chretien’s poem was the first to tell the story of the (Holy) Grail, and because it was left unfinished, a string of works were penned in an effort to complete the work. The first continuation begins at the very point where Chretien’s narrative breaks off, and its story, at least in the early part, directly follows on from Chretien’s story. After the speaker had finished, questions were invited from the floor, and I asked a question about how events in the early part of the first continuation related to final incidents of Chretien’s poem. The details don’t matter. What mattered was that the speaker couldn’t answer the question because she had no real knowledge of Chretien’s poem. Her focus was solely on the ‘First Continuation,’ and on the differences between the shorter and longer versions of that work. What had happened in the preceding work was of no importance to understanding the continuation. Just one example of the growing trend amongst academics to know more and more about less and less.” – Kathleen D. Toohey, “Towards a science of Nexialism,” ResearchGate, September 2013.

¹² **Citation & Commentary: Dr. Who:** “I really am just a madman in a box.” – “The God Complex” (2011). Except that to have said what was really meant would not have played as well and the target audience would not have understood it; existential is not a word in common use with the under-20 audience. The TARDIS is the Doctor’s existential box; he chose it and/or it chose him, and he can control it only when it lets him. According to Google dictionary graphs, use of the word *existential* – not surprisingly, climbed sharply after the end of WWII, peaked probably in the early 1960s, and has slowly declined since. According to Merriam-Webster online dictionary (entry updated September 14, 2018), *existential* is in the top 1% of lookups, and lookups spiked after President Obama declared that ISIS was not an existential threat:

- ✓ “Groups like ISIL can’t destroy us, they can’t defeat us. They don’t produce anything. They’re not an existential threat to us. They are vicious killers and murderers who perverted one of the world’s great religions.” *Id.*

¹³ **Commentary: Rhetorical Question:** Does knowledge consist primarily of facts (see 1 Dreamtime, p. 135 *et seq.*, *supra*) and proper forms or does it consist as much or more of understanding, depth, profundity? Is it only Justified True Belief (JTB)?

¹⁴ **Commentary:** Not to mention that my once legendary attention span and focus seems to have become semi-retired at this point – it works a little here and there, but not too much, and not too long. Like a young Irish Setter:

- ✓ “Like other Setters, the Irish is known for having a bit of a short attention span when it comes to training. Small, short sessions are best to get in activities before the dog becomes distracted. Patience and repetition are key to getting concepts into the head of an Irish, hopefully before he gets too bored and moves on to hunting or other, more fun activities.” – dogarena.com (September 24, 2018).
- ✓ “Irish Setters are intelligent but can have short attention spans, so when it comes to training the owner should know what they are doing. They can alternate between wanting to please and deciding that they would rather go do something else during training time. It is the trainer’s job to keep them focused and motivated in a firm but fair (and fun) way. Like all sporting breeds, the Irish thrives when he has a job to do, and obedience training is one such job that will keep him happy and fulfilled. Once the basics of obedience are taught, an owner can move into other dog sports if desired – Irish Setters do great at hunting, dock diving, tracking, agility, rally and flyball – just to name a few!” – academichound.com (September 24, 2018).
- ✓ Thus, much to my annoyance, the process of final work on GGDM has, near the end, become a non-linear progress, with some straight progress through the sections, and a lot of bounding about through others, playtime (i.e. goofing off) and distraction (i.e. off on tangents, looking stuff up, YouTube videos).
- ✓ See Discipline & Distractibility discussion, 2 Colleges, p. 475, *supra*.

¹⁵ **Commentary:** Yes.

¹⁶ **Citation:** Commentary by Stephen F. Roberts: https://freelink.wildlink.com/quote_history.php:

- ✓ “I first used The Quote as a tag line for postings on the newsgroups alt.atheism and talk.atheism at some point before October 1995. I don’t remember exactly when I started using it, and unfortunately lost my mailer that would have contained the archive. The earliest records that DejaNews.com have is back to

1995, and by October 1995 it appeared ‘widespread’ in taglines, so I must have originated it sometime before then. Most likely early 95 or late 94.

...The Quote is an original quote that came from an online debate I was having with religious people in the newsgroups. I used a similar comparison in a debate when my opponent wondered why I ignored the evidence for god, and in return, I wondered why my debate opponent chose to ignore the evidence for Shiva, or Zeus, or any of the other possible gods.

...I then slightly refined and shortened it the next day to the ‘modern’ form it is now to use in a tagline. Within days, The Quote was in use by others in their taglines (I added my name as an attribute a few weeks later when people asked me if it was my original quote).” *Id.*

¹⁷ Commentary: I don’t mind, for example, the Bahá’í Faith – except that it is just that – an unjustified faith. It begins with the whole God thing – however it is cast – they are talking in positive, serious statements about something they cannot possibly know anything about. The appeal of the Bahá’í Faith is the same as the appeal of a used car that has been freshly repainted. Were the Bahá’í Faith to become the dominant faith in any place, I would expect that the results would be the same as when and wherever Judaism, Christianity, Islam, Shinto in feudal Japan (after syncretism with Buddhism), and Hinduism and Buddhism became dominant faiths – they would persecute others because it would then be a matter of power, control, being ‘right’, and personal gain – regardless of the unity which the faith teaches. The Faith would become the legitimacy of the authorities in those societies, clerics would bend the rules for those who rule.

There is always an interpretive way around restrictions of faith, for example, the unity of religion in the Bahá’í Faith could be interpreted to mean (in the same way that the Beatles “Hey Jude” (1968) could be interpreted as vaguely anti-Semitic if “her” is Mother Mary) that previous religions are obsolete (and subsumed) and their adherents are religious degenerates (e.g., as the sacrificial Brahmans were to Hinduism and Buddhism and as Hinduism and Confucianism were to Buddhism) and while the previous religions would be valued as created/inspired by prior Manifestations of God, the same probably wouldn’t be granted to the current followers of those religions if in conflict with the sociopolitical ascendancy of the Bahá’í Faith. Adherents will probably write unkind things about me, saying that I am ignorant, wrongheaded, and faithless (all of which are true), that faith does not require justification (and isn’t that exactly the crux of the matter?), that it would never happen, that their religion expressly forbids it or avoids past mistakes, but I see nothing there that would suggest otherwise. We’ve seen this play before...

¹⁸ Commentary: I am personally and deeply insulted by having to live in this universe, by having to exist against my will. Which is the living paradox, isn’t it?

¹⁹ Citation: As of September 2018, the article is still available on Slate, and can be found easily by Google search.

²⁰ Commentary: If Christianity and/or the Abrahamic Religions had been a universal, consistent, unerring force for good, had they demonstratively improved humanity, Christians would be in a better position now to argue. As the record stands, the Christians are historically as black as the Romans and Babylonians they tarred. Christianity cannot take much credit for where we are now, for the nascent global civilization following the advent of technology following the period of European Colonialism; it is in fact arguably a reaction *against* Christianity and the Church that led to science and discoveries that made it possible for the Europeans to dominate for 500 years, that eventually made possible world wars and nascent global civilization. Christianity was just along for the ride.

²¹ Citation: “Called by the Universe: A conversation with Neil deGrasse Tyson,” The Science Network, July 23, 2009. The video of the interview was still available on The Science Network’s website in 2018.

²² Citation & Commentary: “I did it again, I picked another stupid ape. I should have known. It’s not about showing you the universe. It never is. It’s about the universe doing something for you.” – Dr. Who, “Father’s Day.”

- ✓ Yep, I plead guilty, I’m a stupid ape too. With the caveat that it’s not so much what the universe does for me – not much really – but what the universe does to us every day we have to live here. That’s really the human plight. Ape here!, get yer Stupid Ape here!

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“If the majority of referees like your research, you can be certain that you are doing boring work. To push forward ideas that will matter to the world, you and I may as well accept that we are going to have to upset people and crawl through the trenches of muddy carping and explosive criticism. All referees – and I suppose that must include me – are subconsciously looking for manuscripts that play back to them ideas they already find familiar and palatable, and ones that lend support to their own prior research. That is bad and sad. However, it also happens to be human.

Of course, all referees will tell you that they are open-minded, write gently and are on the lookout for work of fabulous creativity. But they aren't. It is hard for a human being to absorb ideas that are of first-order originality; such ideas, by definition, barely compute. Moreover, it is emotionally difficult for reviewers to be charitable about others' manuscripts. Schadenfreude survives, if quietly.

...The simple truth is that the scholar who is tired of referees is tired of life. Journal reviewers are going to keep on being incoherent, making fundamental mistakes, being childlike and gratuitous, forcing us to cite their irrelevant articles, thinking that after 20 minutes they understand our work better than we do after 20 months, leaving out the crucial references they claim have already shown the finding, and all the rest.”

– Andrew Oswald, Prof. of Economics, University of Warwick, contributor to, “The worst piece of peer review I’ve ever received,” Times Higher Education, August 6, 2015 ¹

ORIGINALITY IN ALIENS: In the been-there, done-that genre of First Contact movies (whether alien invasion or not), *Arrival* (2016) is a good example of a “first-order originality” that barely computes. The same is true of *Close Encounters* (1977), compared to what came before, and *Contact* (1997) (notice the 20^{ish}-year cycles?). I have seen comments online that *Arrival* was an ok movie, an average movie, the sure sign of people who didn't *grok* it, and went to see exploding buildings and alien weapons and were disappointed they didn't get more of the same old.

- ❖ In fact, I suspect the attempted sabotage and explosion inside the alien ship was just so that the movie had an action scene. Why didn't the heptapods know this was going to happen? Or did it have to happen?

The aliens in *Arrival* are playing a game of cosmic chess on a grand scale, their trip to Earth was to move the pawn of humanity into position in 3,000 years for some unknown event they can already see, that is already *actual* to them.

- ❖ While most ideas of ‘first-order originality’ ‘by definition barely compute’ – *No!* NASA does not have a child (sex) slave colony on Mars! See *Child Slave Colony on Mars*, 4 *Expansion*, p. 928, *supra*. That is, not all ideas of either first-order originality or that barely compute are meritorious.

FUZZY MODELS: So what method have I engaged in?

- ❖ “In every one of these fields of investigation the student may proceed either by the historical method, which seeks to *depict* concrete reality in all its concreteness, or by the analytic, processual method, which tries to give an account in terms of abstract generalizations, mechanisms, processes, laws and principles.” – Clarence Marsh Case, *Outlines of Introductory Sociology* (1924), p. xvii (emphasis in original).

I set out to construct a workable model of human civilization on the broadest scale (now called macrosociology which seems to have begun to be generally recognized about the same time I started working on this project), the ‘workability’ of the model would be reflected in the fact that it was playable as a game with endless possible courses and variables, to teach the players or bring forth what they know intuitively. In terms of Mr. Case, I have proceeded by a somewhat ‘processual method’ extracting process of civilizations from history, philosophy and social sciences thinking.

- ❖ If I ever were accused of being a pioneering mind or a foremost intellect in the area of macrosociology (or anything else), it would be more a statement about the underdevelopment, the poor state of the art in our current civilization. In this, I have a good feeling that Albert Einstein would agree, “I have no special talents. I am only passionately curious” (1952). Pragmatically speaking, compared to now, physics in the late 19th Century was ‘underdeveloped.’ So is the glass half full, half empty, or both?

The model is constructed from observation of what we can see, but not quite see. I find this somewhat akin to the way that physicist and chemist constructed or learned the structure of the atom and sub-atomic universe. And the way in which astronomers and cosmologist have constructed the seen and unseen nature of our universe back to the beginning.

I freely admit that some of what I have done is art, much of it is more philosophy than anything else – which is inherently damning in the current world for anything that wants scientific instead of literary respectability – and compromises must always be made for the sake of the model or simulation. Nothing here is invented or new; I have taken what mostly already exists in our intellectual tradition and assembled them (perhaps) in new ways.

- ❖ Napoleon did not invent new weapons to defeat his enemies. The weapons used in the Napoleonic Wars were the same weapons that had been used the previous century; Napoleon radically changed the tactics and combined them in ways, with speed, efficiency and precision not seen before. He did however, embrace emerging non-military technologies, such as the telegraph and new food preservation technology.

Broadly speaking, there is absolutely no empirical basis for the structures or many of the deductive claims offered in GGDM. As such, GGDM is a work of philosophy at best and/or just my considered personal opinion, at worst. In the senses of the standard definition of fact, philosophy is no more than considered opinion anyway. It is not certain how any of this is verifiable in the current sense.

✚ **GESTALT STRUCTURES:** I did not start out with the idea that civilizations are gestalt structures. I can assure the reader that I had not even heard of such a thing in December 1992. I probably first encountered the term ‘gestalt’ about the time I graduated from Point Park College, in the spring of 1997. I recall coming across an article on Gestalt Psychology or Gestalt Therapy in the Encyclopedia of Psychology at the newly-opened Library Center. I do not believe that I began thinking of civilizations as a gestalt structure until at least 2002.

- ❖ *Intellectus Magna:* The common thread of intellectuals through all ages, times and places is simply that they become fascinated, obsessed with a problem – one that others ignore or do not see as relevant, one that might not even exist yet – and pursue the problem until the results matter to others; until it changes the future world. This is the point of post-graduate training, especially of the liberal arts tradition; to learn to

frame the problem with which you are obsessed. One possible reason for my failure of post-graduate training is that I had already framed my problem. Another possible reason was immaturity. Given our penchant for accepting negative reasons...

While my references to civilization as a gestalt structure may at times sound more like faith than reason, I do not fall into the same criticism as Thomas Aquinas, who is accused of knowing the answer before beginning the inquiry and simply reasoning his way to a predetermined result (that is, justification of his Catholic faith). I am guilty more of deductive reasoning than *sacraficium intellectus*, though in some senses, they apparently appear the same: What is the difference between deducing your way to God's existence and deducing the elements of a 'large scale distributed structure' and declaring that it is a gestalt?

- ❖ Cf. Pierre Teilhard de Chardin's "Omega Point"; he was a Jesuit priest who was trained in paleontology and geology and thus had to come face to face with science and geological and biological evolution of the Earth. He could not shelter in willful ignorance like others and assert that the Bible was literal and inerrant, so he reasoned his way into accepting both, a solution that is not quite scientific and not quite Christian. Unlike Aquinas who reasoned or rationalized his way to an affirmation of his faith (a predetermined result), many of Chardin's ideas were later banned by the Church from discussion (for obvious reasons). Petty dogma is the Church tyrant.
- ✚ PROBATIVE VALUE: I do not think that my method here falls then, properly or firmly within any of the accepted scholarly methods. Yet, my method is scientifically accepted when it comes to the sub-atomic (with the concession that their hypothesis are testable and falsifiable), and, alternatively, while not precise and testable, my model nonetheless carries meaning and clarity and has probative value on the subjects of human civilization. My model then might be called a fuzzy model.
 - ❖ You could choose to think of GGDM as 'Stellar Conquest reimaged.' I don't, but it might be reasonable to analogize the development of GGDM from Stellar Conquest as being like the difference between the original Battlestar Galactica and the reimaged Battlestar Galactica, or the original Star Trek and Star Trek TNG. In each case, the series benefitted collectively from improvements in technology, budget and marketing, audience sophistication, development of new writing and filming styles, and twenty-five or more additional years for the writers to live and think about the story. And, although the original Battlestar Galactica was intended to 'cash-in' on Star Wars, and was done on a low budget, there was something to it of its own merit that would not, with the lifetime dedication of Richard Hatch, just fade to black.
 - ❖ A friend says that I am working on an "advanced logic problem" – I am not even sure what that means, therefore it is unlikely to be correct. I suppose it might be if you think of it as a "fuzzy logic" problem, but again, I don't think of GGDM or fuzzy logic in that way.
 - ❖ You might declare GGDM a masterful, deep, and cutting edge work of social philosophy, a *magnum opus*, that engages the reader and players in a conversation about civilization, or you might call it bloated 1990s-style pretentious blathering incoherent esoteric nonsense with too many endnotes, quotes and unnecessarily long introductions by an unqualified author. Either interpretation would be equally colorable. At this

point, GGDM is either a mess, an amazing work, or an amazing mess; your interpretation? What you cannot call it is a scholarly work. It is a multi-purpose work, without peers, from influences in our current civilization. I might, in my unusual vanity, determine that GGDM is an unusually and exhaustively complete work, a treatise, my *magnum opus* by default as I have not written and will not likely write anything else of such length and completeness.²

- Saying that someone has a lot of influences in their work is a polite way of saying they have no new or original ideas, just repackaged day-old donuts. In the mid- to late-80s and into the 90s, on training exercises, we received MREs with packs of M&Ms with 1980 and 1984 Olympics logos, they were really hard and stale. GGDM is a 25+ year old box of post-apocalyptic Cold War survival ration donuts.

✚ FAILED INTELLECTUAL: When analyzing GGDM or parsing my written words, don't give me credit for more intelligence than you see before you on the page. There is nothing clever here to be teased out by deep-sounding critical analysis like Chaucer's light social criticism in the Canterbury Tales. After more than 25 years of parsing my own thoughts, there is nothing hidden or obscured in GGDM, my argument is what you see before you and I believe I have polished my words and ground the subjects of GGDM down to the finest points. But I am still basically a failed intellectual. As my mother would say, "Well bully for you!"

"Defeasible reasoning is a particular kind of non-demonstrative reasoning, where the reasoning does not produce a full, complete, or final demonstration of a claim, i.e., where fallibility and corrigibility of a conclusion are acknowledged."

– from Wikipedia article, "Defeasible reasoning," captured April 7, 2020

FALLACIES: Of all of the fallacies that might be thrown at GGDM – and I don't think I could possibly imagine them all³ – the one that probably sticks best is the charge of 'circular reasoning'; GGDM may be an extended exercise in circular reasoning – GGDM 'begs the question' if you will. That is, GGDM perhaps begins with a conclusion – or perhaps it didn't but somewhere along the line, the conclusion moved to the starting position – followed by premises and parts that each in turn must be accepted as true – are in need of being accepted as true – as much as the starting conclusion, and whose acceptance depends on accepting the starting conclusion.

For example, consider the following argument:

- 1) Jane is a prostitute,
- 2) Men give Jane money,
- 3) Jane has sex with men.

This is a circular argument: The conclusion is presented first, and acceptance of the premises as support depends on the conclusion being accepted first. When presented properly:

- 1) Men give Jane money,
- 2) Jane has sex with men, and
- 3) Therefore, Jane is a prostitute.

...the failure of causality becomes immediately obvious: The argument fails to state that men give Jane money for sex. There may in fact be no relationship between the two, perhaps her father and brother gave her money for her birthday (and they are not incestuous) and she had sex with her boyfriends, BFF's husband or complete strangers at some indeterminate time. But the circular argument tricks us into providing causal and temporal links that are not there.⁴

- ❖ On December 4, 2017, the lawyer representing the President of the United States said:
 - “(The) President cannot obstruct justice because he is the chief law enforcement officer under (the Constitution’s Article II) and has every right to express his view of any case.”

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This argument is so mind-bogglingly flawed, that my co-workers just shook their heads and uttered, “What?” or “Huh?” It is an example of how circular arguments are sometimes used in public, it is the King’s Argument: The King can do no wrong because he’s the King (and all that is wrong is against the King, not by the King); to accept that the king can do no wrong, you must accept the implication that being king places him above mortal error or that anything he does that appears ‘wrong’ is part of a divine play. The NR_x was the likely intended audience for the lawyer’s statement.

- In November 2018, the aforementioned attorney (Michael Cohen) pled guilty to the charge of lying to Congress in closed-door testimony. So now he’s a felon. In August 2019, he pled guilty to eight other charges and was sentenced in December 2019. He was automatically disbarred from practicing law in New York State. I am sure he has plenty of money and isn’t worried about not being able to practice law, but I wonder – when he was young and in law school, did he say, “When I grow up, I am going to be a famous attorney who is a felon someday!” Anyway...

✚ PROBLEM OF INDUCTION: Science, the bedrock of the modern world, has a fatal fallacy as well. It is the bedeviling question of knowledge, known as the Problem of Induction.

- ❖ “Induction is the glory of science and the scandal of philosophy.” – C.D. Broad.

It has been around for a long time, but the current version was introduced by David Hume in the 18th Century who characterized attempts to prove science inductively as a circular argument. Science has this problem; science – which is built on induction – cannot be proven inductively by empirical evidence, that is, science cannot be proven scientifically. Induction is only valid inductively. On the street, people accept circular reasoning every day, often not directly (as would raise eyebrows), but hidden circular reasoning often passes unnoted.

- ❖ Induction can be a form of circular reasoning, for once a rule has been created by empirical evidence and inductive reasoning, the rule can become the starting position of the scientific argument – that conclusion, the scientific law, followed by questionable premises, that this is a universal law that can be ‘proven’ by continued empirical evidence in every place and time.

Asking the previous section’s question a different way, what type of reasoning was used to ‘solve’ the original problem put forth to which this game design is offered as a solution? Certainly, the design was an application of deductive reasoning, in a top-down reductionism. That is, in trying to figure out how to simulate a civilization, I took the civilization as a whole ‘thing’ or singular complex system, and broke it down into parts and subsystems until I felt

that I had a workable model of a civilization. This means I started with the premise that civilization is a whole thing or singular complex system and then decided what pieces and parts it must consist of, much as science does with the universe (e.g., the ‘dark matter’ solution).

- ❖ What I have done may be akin to an alien or someone not from our era finding a cell phone and assuming it is a whole system. It can be taken apart and examined, in a sense, it is a system in and of itself, a system of circuits and so on, but it is also at the same moment, not a whole system because it is useless without the network and other cell phones to call.

Along the way, playability and clarity of game rules presentation was always an issue; that these were procedural rules of a complex simulation game keeps all of the theory and speculation roped to the Earth (*à la* Francis Bacon). Having broken civilization down into its constituent parts, however, I then insist – largely on a metaphysical basis – that civilizations be viewed holistically and that the thing that is called a ‘civilization’ is greater than the sum of the parts I have used to describe it. Is this useful and sustainable as a view? Is this fallacy?

- ❖ To insist that civilization is greater than the sum of its parts, based on the parts I have deduced in this simulation might just as easily mean I have mistaken the original whole from which the parts were derived. That is, I don’t have the correct framework to see the whole, if you are a positivist, reductionist thinker, it’s the ‘something’s missing’ or ‘we are missing something’ problem. For others, it is faith.

Now, in regards to GGDM, the intro section begins by stating that the whole is greater than the sum of its parts. This is a conclusion (or assertion) and not a proof. *The ‘disconnect’ from circular reasoning or inductive logic, is that you don’t necessarily have to accept the conclusion in order to accept the ‘parts’ into which I have divided civilization in the game rules.* The parts can stand each on their own and in combination, which may or may not ‘add up’ to the initial conclusion. Even if GGDM is oddly circular, this does not diminish in any way its value in the current form, as a simulation and game about civilizations. Imperfect examples are as instructive as perfection.

- ❖ Rhetorical Question: What is the difference between *reductio ad absurdum* and mockery? Isn’t mockery necessarily absurd? Shall we proceed? After you...

✚ FALLACY OF MATTERS: Much of what is said in this work would or will be considered controversial, to the extent that anyone thinks it *matters*. I don’t care. Or as the lawyer’s joke about the value of oral contracts goes, this work is not worth the paper it is not written on.

- ❖ What is the purpose of being ‘cool’ (as in being fashionably attractive, hip and all that in style, looks, behavior, language, attitudes)? To attract the opposite sex and have agreeable friends, to be amusing, sociable, histrionic, to stand out. The less one cares about those things, the less one cares about being ‘cool.’ Can one be both ‘cool’ and controversial? I doubt the word is used as much now in the under-20 crowd – not however that they are any less shallow – but rather that the word mostly belongs to the pre-millennial generation (where good was bad, and bad was good); cool has lost its coolness (‘cool’ is not ‘hot’ now). “When I say she was cool she was red hot, I mean, she was steamin’!” – Thin Lizzy, “The Boys are Back in Town” (1976).

Any alleged controversial statements or positions herein are tenable and defensible. I would only be accused of expressing angst in a literary game; angst is virtually synonymous with

literature/literary and *is a fact* in the third and fourth orders of natural phenomenon. All of which is a long-winded way of saying I expect to get piled on like Jared Diamond, to the extent that anyone thinks what I say *matters*. The difference is that the Pulitzer Prize and Ph.D. and having Professor next to your name makes people *look*, makes your opinion *matter* more.

- ❖ The world pretends to care about racism, so piling on Prof. Diamond was the sport of the season. What sport I might be, I do not know exactly. I suspect that I might be accused of being a ‘globalist’ which has recently become a derogatory term and the sport of the season, whilst, ‘racist’ has become so overused, ordinary, old fashioned and boring, that the term is now sort of neutral. Ideologically, anti-globalism is still racism with a new name and the cover of nationalism.

To those who have not understood some of the more acrid and caustic comments; I would suggest that they have not grasped the concept of the existential void.

- ❖ You don’t like what I have written? You don’t like my opinions on the universe, your religion, and humanity’s relationship to the universe? Don’t read it, forget about it then. Go read a comic book instead, it will make you feel better. If you go squawking about it, more people will have to read what I wrote to understand the complaints (Streisand Effect), so the worst thing you can do for my work is to put it down and go quietly away. Isn’t that rather ironic? Don’t dust off your Bothered About Dungeons & Dragons placards (BADD since MADD was already taken in 1980; there is a YouTube video whose title suggests LoTR is demonism), GGDM isn’t that sort of thing – people who read GGDM are those who are ready to read it, and that includes very few high schoolers because GGDM is not a flashy video. Eventually, you will realize that I have at least a good chance of being correct. It makes no difference whether you like it or not. It makes no difference whether I like it or not. Maybe you’ll come back then and read my words again, maybe not.

I tend to think, in fact, that the less flattering and the less any statement is liked by the reader, the more likely that it is a profound truth. There does seem to be a relationship between profundity and denial; this is the basis of satire.

If it *matters*, argue and debate it in a socially constructive way – because everyone has an agenda, ideal, or worldview they are trying to advance – and find your own truths. I believe that at least some will come to see that I am correct, for whatever it’s worth.

- ✚ KISS-OFF FALLACY: My personal fame, or infamy as the case may be, will not help this project and while I will be liked or disliked by many (to the extent it *matters* to them), I do not seek notoriety.
 - ❖ “If you go back to the theory – this is the mind of Joseph Campbell – that heroes are the agents of evolution, the means by which one world is shattered and the new world is created, they’re not for their own sake, their purpose, like Mad Max at the end of Mad Max 3, is over. Once the kids are free, they’re going to go off and start something new [and] he can’t be part of that. He’s too fixed in his ways. At least that’s his function. He recognises that he’s not so important, just a chance of a renewal is much more important than an individual.” – George Miller as quoted by Anne Bill-

son, “George Miller Talks about Mad Max, Heroes & Tina Turner: The 1985 Interview,” previously unpublished interview published on Multiglom: The Anne Billson Blog, May 12, 2015.

- ❖ Whatever you think I have achieved in GGDM, it is far less than what I should have achieved, and our society is not benefitted by applauding or praising underachievement. How many of us actually deserve awards, applause and praise?

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I must think at this point that I have said my peace on the subjects addressed in the game – as I have been writing this for a half-lifetime with no-counterargument from anyone outside my head⁵ – media interviews, blog posts, social media comments by me will not add much but confusion and cognitive dissonance. Like Judge Wettick said, “Read my opinion.” But who knows? I might keep writing if only for the unworthy purposes of defending my dissertation, annoying certain people, and having no unpublished thoughts, as Christopher Hitchens noted (“How to be a Public Intellectual,” Prospect Magazine, May 24, 2008).

- ❖ After reading through GGDM, you may feel that I have no unpublished thoughts. At some point along the way, I decided to ‘lay it all out there’ and hope that I had time to finish the project. I may only get one chance to do this, and I have been *damned lucky so far*. This is what I am, this is what I think, and what I think I am.
- ❖ **Capt. Picard:** I wish, I wish time had allowed me to know you better. **Mark Twain:** Well, you’ll just have to read my books. What I have is pretty much there. – Star Trek: TNG, “Time’s Arrow, Part 2” (1992).

You wish to heap abuse and criticism on my work? I’ve already beat you to it (and I’m not done yet), and I can do a better job. My thoughts and writings are so worthy of contempt that I cannot help it. You will find that it’s not much fun to troll someone who already agrees with you, who doesn’t really care what you say, and who is probably half nuts already (bearing in mind what Erasmus said on that subject). So let us skip that exercise and get back to the conversation of civilizations as I have already admitted that my being is contemptible.

- ❖ “It is also a fallacious *ad hominem* argument to argue that a person presenting statements lacks authority and thus their arguments do not need to be considered. As appeals to a perceived lack of authority, these types of argument are fallacious for much the same reasons as an appeal to authority.” – from Wikipedia article, “Argument from Authority,” captured April 7, 2020.

If instead you wish to heap praise and acclaim on my work, save it, because I will never be convinced, it’s too late, and it would not be good for the world anyway. *In causa?* Not here, save them for the posthumous; I would also be a better person for not being feted: As much as the idea might be personally satisfying – in a self-puffery way – I must reject it as contrary to my stated views. My personal satisfaction is irrelevant to the argument. *Nemo*.

- ❖ There are a lot of people who paid a lot of money, migraines and years, to earn that Ph.D. Let them have it, I will not trespass with honorary degrees or titles. I will be satisfied simply with and to be Concierge One and will pass into the Void. Likewise, prizes, awards, medals, grants are for the young, for those who need encouragement, goals, recognition and support; I do not seek these as they will do little now.
- ❖ Some may argue that my attitudes or lack of ‘self-confidence’ or discomfort ‘in my own skin’ are a symptom of lack of completion and if you want more, I didn’t attend

my high school graduation and failed to complete post-graduate education. Whether that is true or not is irrelevant, honorary degrees will not tell me that I am completed, and it will not make me a good man. Or solve the problem of being here.

- ❖ At the end of the Pittsburgh Pirates 2019 season, Steve Blass, player and Pirate’s broadcaster of 60 years combined with the organization, retired. His retirement was announced in January, so they had plenty of time to go through the process and build-up. The last weekend of the season was a three-game home stand, and the Mayor of Pittsburgh declared Saturday, September 28, 2019, “Steve Blass Day” and the MLB allowed the Pirates to use specially-marked game balls for the weekend. There was an on-field ceremony, speeches, and the broadcasters feted it out to the max, it became sappy, sentimental, emotional, repetitive, absurd. It was barely kept in bounds and on the last afternoon game, they changed their tune slightly by repeating several times that this was not a eulogy for Steve Blass; I am sure it was brought up in a production meeting that they were maybe overdoing it, but had to let it run its course. Mr. Blass was good through the whole thing, and played his part well.⁶

I like Mr. Blass, I certainly don’t begrudge him anything, but I don’t see fully the value in how he was feted in the last weekend, I have a different view apparently. People have made arguments about this public feting thing for millennia, but *adapting* (not quoting) a line from Camus, I say that the point is to ‘die unthanked, unfeted, unsatisfied and not of one’s free will.’

- ✚ PREACHY FALLACY: Some movies are criticized for being preachy. Every *serious* movie (including comedies in their own way) is preachy, or else it is not literary – in short, to be literary is to be somewhat preachy, *preachers and literature have always been connected* – and that is what separates serious movies from the rest of the mindless garbage in the theatres and on television. But the difference is in how it is done; compare Tomorrowland (2015) with Interstellar (2014), two movies with overlapping messages.

Claims of having no agenda are similar to claims of making no claim; such claims are very soft and easy targets in the philosophical community, it seems almost a waste of good paper to refute them (fortunately, I am not using any paper):

- ❖ “The first aspect of Nagarjuna’s statement is a brazen claim to have no claim. This, of course, is self-contradictory. Every proposition that claims to be meaningful and true (whether about some experience or about abstraction, whether positive or negative) is an assertion, a claim. To pretend making no claim, even as one plainly makes one, is a breach of the law of identity: it is denying that a fact is a fact. There is no logical way to deny or criticize the theses or methodologies of others without opening one’s own discourse to evaluation. All denial or criticism is discourse and all discourse is subject to logical review. To pretend the logical possibility of dispensation is dishonest...” – Avi Sion, Paradoxes and Their Resolutions: A Thematic Compilation, p. 209.
- ❖ “How much more should I, who am but dust and ashes, and so prone to error, desire that everyone should bring forward what he can against my doctrine. Therefore, most serene emperor, and you illustrious princes, and all, whether high or low, who hear me, I implore you by the mercies of God to prove to me by the writings of the prophets and apostles that I am in error. As soon as I shall be convinced, I will instantly retract all my errors, and will myself be the first to seize my writings, and commit

them to the flames.” – Martin Luther, “Speech before the Diet of Worms” (1521), Paragraph 7 (delivered in both Latin and German).

I think I would have liked to have known Martin Luther and Desiderius Erasmus. Though Martin Luther and I would have disagreed mightily on many things – mainly the whole God and religion issue – and many things have happened and become known in the last 500 years that lead me to much different opinions than he held in the early 16th Century; I find myself impressed by and attracted to his writings, ideas, speeches, and life and fascinated by the events of the Reformation. He was a man of mind, no fool, who was surprised by what he unleashed.

✚ FALLACY OF SERIOUSNESS: Would you say that I took this game project far too seriously? Is that a fallacy now? I have heard this criticism or observation applied to movies, stories, and people, that they/it took them/itself too seriously. I simply don’t *grok* the concept. Yes, I understand the meaning of the words and the intent, but I don’t and never have comprehended how one can take themselves and their work too seriously. Or take anything too seriously.

- ❖ If you are not going to take your works seriously, what will you take seriously?
- ❖ If you are not going to take humanity seriously, what will you take seriously?
- ❖ If life is a joke, it is one in very poor taste and I am not required to laugh.

To intentionally expect or attempt not to take anything seriously is just a sidestep away from claiming to make no claims. Or claiming to have no agenda. Or avoiding any hint of being preachy or literary or philosophical. Or intellectual. While in some cases, not taking anything seriously is intended to be disarming, it ends by disarming the mind of the speaker.

People who don’t take anything seriously (I have met a few) – the ‘don’t worry, be happy’ life-is-a-party, fight-for-your-right-to-paaaaarrty! crowd – are fluff floating away in the breezes of their lifetime. The very phrase in question – ‘take too seriously’ (and variations) – is stretched and contorted. The more you look into the combination of words, as St. Augustine argued in On Christian Doctrine (397 A.D.), the less you can be sure of their meaning. Our words seem to become alien even to us when we stare at them too long.

Walk with me for a moment. If we begin with the assumption that GGDM is probably the only work I will ever finish, or the only work of this magnitude that I will ever create (and given my age and my life, this is not a farfetched, baseless assumption), and that it is worthless, irrelevant and silly (or will be perceived to be) and not taken seriously by anyone but me, then why not put everything into it if I don’t care what you think? I have no publisher, no editor to please but myself. What if it is my only opportunity to get everything ‘on paper’ (though no paper is involved), to get it all out, say what needs said?

There is perhaps a pretzel logic – to feel the need to write it all down even if no one will read it or take it seriously, or give it any worth at all – but it is fact to me in a third-order-of-natural-phenomena way. And it is the way the human mind works,⁷ and we need to stop pretending that it doesn’t and that it’s never correct.

✚ SILLY SPACE GAME FALLACY: There are ‘fallacies’ to be found in my work that have nothing to do with the work itself; for example, that I do not have a ‘Ph.D.’ after my name and/or that I chose to express my thoughts in the form of a simulation game rather than a polished book from a big publishing house or an article in an academic magazine or learned journal.⁸

- ❖ If you are reading GGDM for the commentaries or as a thesis, the game rules sections will just be in the way, an annoyance, distraction from understanding the arguments. If you are looking at GGDM as a game, the commentaries, even for a sandbox game, are excessive, distracting, and unnecessary. If you are reading GGDM for laughs, I hope I have entertained you, but I don't really care if I have.

Perhaps you think that someone who actually has a Ph.D. in anything would never have chosen this form of expression or wasted their time? For those who wish to engage in such bias, or who cannot understand or who disagree with the simulation, who don't 'get it,' or who skipped ahead without reading the whole work; it's just another silly space game and it doesn't matter.⁹ You can forget about it and move on. Fuzzy models are not real anyway.¹⁰

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- ❖ “What moral obligation do you have to those who willfully refuse to open their eyes and deem you mad for seeing?” – Norman Spinrad, *The Void Captain's Tale* (1982).
- ❖ My comments here are only anti-academic to the extent that academia is (ironically) anti-intellectual or resulting in intellectual constriction of our civilization through dictation of form. Many a professor has acted as intimidating censor.

✚ APPEAL TO AUTHORITY FALLACIES: “An argument from authority... also called an appeal to authority ... is a form of *defeasible argument* in which the opinion of an authority on a topic is used as evidence to support an argument. It is a well-known fallacy, though some consider that it is used in a cogent form when all sides of a discussion agree on the reliability of the authority in the given context. Other authors consider it a fallacy to cite an authority on the discussed topic as the primary means of supporting an argument. ... Historically, opinion on the appeal to authority has been divided: it is listed as a valid argument as often as a fallacious argument in various sources, with some holding that it is a strong or at least valid argument and others that it is weak or an outright fallacy.” – from Wikipedia article, “Argument from Authority,” captured April 7, 2020 (emphasis added).

It is quite possible thus, that any and all of the hundreds of quotes throughout GGDM – which I characterize as guest speakers in the conversation – are in fact ‘appeal to authority’ fallacies (i.e. A is an authority on a particular topic; A says something about that topic; A is probably correct, and I quote it). Where is the line drawn, as I have no ‘authority’ on the subjects of which I speak (other than GGDM)? Is it possible then that the quotes are all appeals to authority to validate my point? If so, then what can be said of any scholarly work that is loaded (as they usually are, and are required to be) with citations and quotes from or to other articles, studies, and books?

- ❖ “The argument from authority is based on the idea that a perceived authority must know better and that the person should conform to their opinion. This has its roots in psychological biases such as the Asch effect.” *Id.*

Thus, citations and quotes are an admission that there is no objective standard of human knowledge, that knowledge is woven as a self-supporting web, built on consensus, and at the same moment, the conceited conformity of saying, “See, I am not the only one who thought like this!” Many high school teachers are delighted to see a student paper that is mostly a mass of quotes and citations, which represents success in teaching students scholarship in preparation for college; it is not expected that high school students know enough or possess any independent or original thought.

- ❖ “In college I learned how to learn from other people. As far as I was concerned, writing in college didn’t consist of what little Annie had to say, but what Wallace Stevens had to say. I didn’t come to college to think my own thoughts, I came to learn what had been thought.” – Annie Dillard quoted by Lawrence Malcolm, “Lunch with Annie Dillard,” April 30, 1982 (free online).

In college, I was full of my own thoughts, quite full of myself, as you might imagine.☺ And original thought is harder to grade, for example:

- ❖ “Ironically, as a student, Jacques Derrida submitted a paper on the topic of ‘time’ to his director of studies, Louis Althusser, who passed the essay to his colleague, Michel Foucault, saying, ‘I can’t grade this.’ Foucault’s response was, ‘Well, it’s either an F or an A+.’” – Willy Maley, Prof. of Renaissance Studies, University of Glasgow, contributor to, “The worst piece of peer review I’ve ever received,” Times Higher Education, August 6, 2015.

✚ MEDITATIONS FALLACY: To the extent that some might call me crazy, I am as crazy as Descartes: Who can say with certainty that Rene Descartes did not embrace the existence of the malicious demon he described hypothetically in Meditations on First Philosophy (1641)?

- ❖ Is the Existential Void to which I refer throughout like Descartes’ Demon? Would Descartes if he were me, have used the term Existential Void? No one but Descartes thought that his demon was real; it was only hypothetically applicable to him as to discussion of his own existence, the only thing of which he could be certain. I am certain he never maintained that the demon was there for everyone who simply avoided looking at it, unlike the Existential Void.

It is quite likely that Descartes and other great minds of our civilization would, in the current time, find themselves committed to a special institution with padded rooms, to be forgotten, and to the extent they ever wrote great works, to be forever stained with the label of ‘former psychiatric patient’ by which their thoughts and lives could be dismissed out of hand. ‘Former psychiatric patient,’ is like ‘recovering alcoholic’ or not having a Ph.D. after your name.

- ❖ Do you think I am a former psychiatric patient or recovering alcoholic or should be?
- ❖ Has thinking become a fallacy in our civilization? If so, we no longer are.

“There is a difference between an assertion and an argument. An assertion is just a point of view, an opinion. An argument goes further. An argument is a point of view supported by reasons that demonstrate the view is a good one.... What is often passed off as an argument turns out to be nothing more than a point of view, an assertion devoid of reasons. But you don’t simply want the persons view; you also want the reasons for that view.

Think of it like a house. The opinion is like the roof and the reasons for holding the view are like the walls. You want to find out if there are any walls holding up the roof. Do they have reasons for their view or are they merely asserting? And if there are walls (reasons) you want to see if the walls will hold the roof up. So once you properly understand a persons’ view an appropriate question might be, ‘How did you come to that conclusion?’ or, ‘Can you give me some reasons why you believe that?’ or, ‘Why would you believe a thing like that?’”

– from Duane’s Mind Blog, “Assertion vs. Argument,” November 16, 2007

APOLOGIZING TO THE CHOIR: The unintended irony here is that Duane’s Mind Blog is a Christian apologetics blog, and in particular this article, is intended to instruct Christians on arguments with *non-believers* as the article calls them (you know, *us and them*), and how to demonstrate that their arguments are mere assertions. The blog is quoted here because it does provide a useful discussion of the difference between assertions and arguments; however, Christians fail generally to realize that their ‘arguments,’ especially regarding God and Creation, are simply assertions of faith:

- ❖ Their evidence consists of: the universe is here (it must have started somehow), we are here (it must have happened somehow) and this dusty old book called the Bible, which was *written by men*, tells how it happened. A sort of ‘Anthropic principle.’
- ❖ The rest of it, that there is a god/supreme being (a First Cause without a Cause) who must be the creator, and the creation stories, are mere unfalsifiable assertions, mythopoeic origin stories to cover what our ancestors did not know, could not know, and what we still do not know, cannot know (which is why Christians still think they have an argument). The Big Bang has simply replaced God (or maybe you think God caused the Big Bang? Or was the Big Bang?): A First Cause without a Cause.
- ❖ When the Christians argue subjects other than the Creation, God, and Afterlife (for which there is no evidence at all, it is neither testable nor deducible from any principles or evidence – If I were to say, prove to me that there is an afterlife, what evidence do you have? I’m waiting.), they are really making philosophical arguments (what is real – metaphysics, what is good – ethics, and how to think – logic) which can be treated as such, *sans* religion and their ancient prophets and priests can be treated as secular philosophers.

Assertions only become arguments when preaching to the choir. Much of our political discourse in recent decades (as pointed out by various pundits) is preaching to the choir; the sides are not trying to convince the other of their reasons and arguments, instead most speeches and writings are directed to people who do not need to be convinced, and are probably (or usually) written by people who don’t know an argument from assertion. Both sides are more interested in riling up their base by hammering away with assertions, because, as Chris Cillizza pointed out:

- ❖ “Campaigns – especially those for president – are rarely won and lost on ‘carefully thought-out policies.’ They are almost always won on emotions – positive ones or negatives ones.” (CNN Politics, September 6, 2017).

ASSERTIONS, ABSURDISM, ARGUMENTS, AGING: Is Albert Camus’ absurdism an assertion or an argument? The Stanford Encyclopedia of Philosophy seems to treat it as a set of assertions:

- ❖ “He ignored or opposed systematic philosophy, had little faith in rationalism, asserted rather than argued many of his main ideas, presented others in metaphors, was preoccupied with immediate and personal experience, and brooded over such questions as the meaning of life in the face of death. Although he forcefully separated himself from existentialism, Camus posed one of the twentieth century’s best-known existentialist questions, which launches The Myth of Sisyphus: ‘There is only one really serious philosophical question, and that is suicide’ (MS, 3).” (article “Albert Camus,” revised, April 10, 2017).

Thus, the reader may, if it suits them, regard some of my side commentaries as assertions rather than arguments: If absurdism is an assertion, if Descartes demon is a hypothetical, then my Existential Void may be both or either.

- ❖ “Acceptance or rejection of factual assertions is a far more important process than logical validation of arguments. *Not only are assertions more persuasive than arguments; this is desirable, since we want our beliefs and actions to be reasonable and not just rational.* When do we resort to argument? Real speeches heavy on arguments aim to present the speaker as calm, serious, and knowledgeable. *In public life, one argues not in order to demonstrate the claim for which one is arguing, but to show that one shares the common prejudices or values that appear in the presuppositions and conclusions of one’s argument,* and to demonstrate mastery of the subject matter by displaying relevant knowledge in coherently organized detail. Arguing is thus a way of presenting facts and principles so as to show one’s character as worthy of trust.” – Michael S. Kochin (Tel Aviv University), abstract of “From Argument to Assertion,” *Argumentation: An International Journal on Reasoning*, August, 2009 (emphasis added).

Abstracts of journal papers are clearly assertions. In some college courses, I had to submit a 150-word proposed topic for my term paper, we were instructed to write it as if no one could argue with us; it was to avoid arguments, therefore, it was a 150-word assertion of the proposed topic. GGDM is my something-less-than-a-million-words proposed college term paper topic.

GGDM is far more than a paper abstract or a proposed topic (at about 2000 pages) but does it present an argument or is it just an extended and overblown set of assertions? I have had difficulty deciding this, but I lean toward the side of argument; throughout the process of GGDM, I have sought to gain mastery of the subject, present it coherently and in organized detail, and to impart mastery onto the reader. *A master class in human civilization by an unqualified author.*

I did not start out as an absurdist (but no one could have blamed me if I did) and neither did GGDM begin with absurdism or any philosophy at all. Like all youths, I grew up with the idea that there had to be some elusive higher meaning, I was in the sciences program in a STEM high school, served in the military during the Cold War, and though I rejected organized religion at age 16, I probably or apparently still believed in some higher meaning to it all, even if I was too dumb to figure it out. Whether or not I do now, is a question, but I am still too dumb to figure it out. I read Camus’ *The Fall* (1956) in my last semester of college in World Literature, I was 29 years old, and I loved it, though I knew nothing about absurdism, I had been introduced to existentialism via an undergraduate Abnormal Psychology lecture on Viktor Frankel. *The Fall* felt to me at the time, in style terms, a bit like reading Machiavelli’s *The Prince* as a fictional story.

The intellectual journey of my 40s seems to have been toward a syncretism of absurdism and a gestalt macrosociology.

- ❖ The fact that early peoples raided and fought for food, mates, land to migrate into, space to live, control of water sources and minerals, and eventually for ideas, kings, and politics – speaks to the absurdity of it all: We did not ask to be, no one asked to be here, and if we were not here, we would not be fighting for anything or about anything or to protect anything, because there would be nothing. Anthropic principle.

✚ ALBERT, THELMA & LOUISE: When Camus (d. 1962) said that the only real serious philosophical question is suicide, he surely wasn't speaking only about individuals; nearly everyone agreed by that time that global thermonuclear war would be the suicide of humanity – along with whatever other meanings one might choose to read into it. The world nearly preceded *Thelma & Louise* (1991) over the cliff in my lifetime and the lifetime of my parents, and we are still sitting parked 100 yards from the Grand Canyon.

- ❖ Tragedy and absurdism are natural allies, tragedy has always known absurdism, long before absurdism knew itself. Tragedy is the original playwright absurdism. *Thelma & Louise* is a tragedy, so is *Hard Times* (1854). Tragic characters make questionable decisions, caught in bad circumstances, with an absurd result, often suicide.

I am a walking cognitive museum of the Cold War, especially the last two decades, more so, I believe, than the rest of my cohort. We seem to have forgotten so soon after 1989 that we, as a civilization, both the nuclear superpowers and the rest of the world, struggled for 50 years with the concept that *we* had created a situation where *we* could wipe humanity – and most or all of life on Earth – off the map permanently in an hour of madness. Living under the Sword of Damocles, we feasted on the resources of the Earth and worried about oil running out. *We* had created our own ticket to oblivion, God didn't call the end of the world (some read God into nuclear weapons though) and there was no giant meteor to blame.

✚ HONG & JESUS: Syncretism when combined with the word, 'religion,' as in 'syncretic religion,' is usually not regarded positively, especially by the faithful of the original religions. It is the nature of the thing called faith – at least in modern exclusive religions capable of extremism – that syncretic religion is always considered a dangerous heterodoxy; the strongest example being the Taiping Rebellion where the Europeans, not accepting the God Worshipers' heterodox version of Christianity, eventually assisted the Qing in defeating the rebellion. For example, the question on Reddit Ask Historians:

- ❖ "Why did the French and British help the Qing instead of the Christian Heavenly Kingdom? The Qing required the assistance of the French and British to defeat the Heavenly Kingdom. Why didn't the west help the Heavenly Kingdom who were fellow Christians, and also pushed many more western/liberal ideas?"¹¹

Science also does not appreciate syncretism with philosophy, unless it is presented as public science education by a scientist – sort of like psychiatric drug prescription by a medical doctor. It is particularly unappreciated by disciplines who struggle to be recognized as sciences.

✚ JOANNA & ALBERT: Has anyone ever wondered about the mental health of Albert Camus? During the Cold War, the Soviets were internationally condemned for diagnosing political dissidents with the (unrecognized outside of the Soviet Bloc) mental health condition, "Sluggish Schizophrenia" (alternatively, Slow Progressive Schizophrenia) for which they could be confined to mental hospitals, drugged and reconditioned (the KGB was in charge of Soviet Psychiatry, go figure?). I remember this discussion of punitive psychiatry from one of my undergrad psychology courses.

Suppose that Albert Camus had lived in a theocracy, Papal state, or perhaps before the Age of Reason? Would he, like Diderot, have been incarcerated, would his writings on absurdism have been convicted of lunacy – as only a madman would question the wisdom of ancient religious texts (see 1 *Fallen to Earth*, *supra*), give up the chance of eternal salvation, or deny

the afterlife – for which he would be sent to the asylum? Because, once a mental patient, always a ‘former mental patient’ for life.

It is reasonably likely that Joanna the Mad (Queen Joanna of Castile) was deemed mad and imprisoned by her brother Ferdinand of Aragon in part because she expressed skepticism of the Roman Catholic Church and was reticent toward Catholic confessional, expression, and religious ritual – no ruler of Castile, Aragon, or any relative of the Holy Roman Emperor (she was mother of Charles V; her mother, Isabella, established the infamous Spanish Inquisition) could ever rule while having any doubt about Christianity or the Catholic Church! Which incidentally also made Ferdinand effectively ruler of *Castile and Aragon* ... hmm, how convenient was his brotherly concern for his sister’s spiritual and mental wellbeing! She may have had to be protected by hypocrisy to avoid being subjected to her mother’s Inquisition.

- ❖ Joanna the Mad was a natural skeptic (Tim Minchin should write a song). She was not ‘mad’ or ‘insane’ but that world she lived in – Europe constantly churning with ethnic, dynastic, religious strife – was, in our view, quite insane.¹² And in the view of future generations, perhaps even the millennials, the 20th Century world was insane.
 - “But Spinoza’s naturalistic theism, for instance, was a far enough cry from Judeo-Christian orthodoxy in an age that discerned little light between skepticism and atheism.” – Michael Robbins, “Atheists Used to Take the Idea of God Seriously. That’s Why They Mattered.” Slate Magazine, July 8, 2014.
 - Spinoza was born in 1632, Joanna of Castile was born in 1479, if anything, Europe had become *less tolerant* by Spinoza’s time.
- ❖ I have thought, perhaps wistfully, in the past that there may come a day when Fundamentalist (literalist) Christians might be confined to mental institutions... but I guess that would be a violation of the First Amendment or Free Speech and Freedom of Religion in any nation that actually practices the concept. I began to wonder though, whether someone could be committed to a mental health hospital for talking to ghosts, if they are not otherwise harmful to themselves or others? That’s a really interesting question, which I am sure leads to a long discussion in medical schools about the abuse of medicine for political and social suppression and the ethics separating treatment of true medical conditions from acting to suppress political dissent.
- ❖ On the other side of the table, of course, is someone who probably thinks that in a properly Christian world, people like me would be sent to reform and reeducation camps (like a North Korea-style theocracy) and that I am mentally ill for rejecting personal salvation and salvation of humanity offered by their God, for rejecting and cursing their Lord’s creation (e.g., “Many is the time I’ve cursed the lord’s creations!” – Foreigner, “I Need You” (1977)).

The most absurdist thing one might say of an intellectual is that he has gone crazy trying to figure out the universe. If Camus went crazy trying to figure it out, certainly lesser minds have no chance of remaining sane, unless dumbness is a virtue. One might also ask whether I arrived at absurdism on my own or was it ‘just in the air’ as part of my cultural milieu? Well, I am certainly not very intelligent, while it *may feel as though* absurdism has been the natural progression of my life, The Stanford Encyclopedia of Philosophy notes of Camus:

- ❖ “He regards thinking about it as ‘provisional’ and insists that the mood of absurdity, so ‘widespread in our age’ does not arise from, but lies prior to, philosophy.... Accepting absurdity as the mood of the times, he asks above all whether and how to live in the face of it.” – Stanford Encyclopedia of Philosophy article, “Albert Camus,” captured June 11, 2018.

Might I have arrived at it had someone else not thought of it first? Perhaps, someone had to be first, but I am no Camus (and I must wonder truly that no one else saw the Existential Void before); my route and endpoint were much different: A simulation game describing a union of structuralist macrosocial ideas with a vague sort of metaphysics of civilizations.

- ✚ CARL & ALBERT: Carl Sagan in some of his views seems to agree vaguely with Albert Camus’ absurdism, however, what separates and prevents Carl Sagan and I from being true Camus Absurdist, is that neither of us rejects rational knowledge. To wit:

- ❖ “But Camus also thinks it absurd to try to know, understand, or explain the world, for he sees the attempt to gain rational knowledge as futile. Here Camus pits himself against science and philosophy, dismissing the claims of all forms of rational analysis: ‘That universal reason, practical or ethical, that determinism, those categories that explain everything are enough to make a decent man laugh’ (MS, 21).” *Id.*

Dr. Sagan, of course, believed entirely in science and rationality, more so than 99% of the human population and he took it upon himself to bring that understanding to the audience; even while his rejection of religion and afterlife, and fully-lived life for the now, is a Camus model (*Id.*), a personal syncretism perhaps. GGDM attempts, if not rational understanding, to be a workable model of civilization. But out around the edges is a dualism that acknowledges both a rational, deterministic approach and a philosophical view of human absurdism.

- ✚ NEIL & CHRIS: The universe is not your friend, or a good neighbor, or on your side (and neither is your insurance company in case you believed the commercials) and its cold, empty, endless expanses of absurdity (like an insurance company) are not here for our kindergarten wonderment or security.

- ❖ “I suppose one reason that I’ve always detested religion is its sly tendency to insinuate that the universe is designed with you in mind. Or even worse, that there is a divine plan into which one fits whether one knows it or not. This kind of modesty is too arrogant for me.” – Christopher Hitchens, *Hitch-22: A Memoir* (2010).

In the Hitchens’ view, Carl Sagan’s Cosmos series performs the same sly trick as religion, suggesting that the universe is our wondrous playground (see 2112 Absurd Words, *supra*).

In my reasoning then, the universe is either indifferent to us – as most non-religious people believe – or exists to annoy, anger, and irritate us with utter pointless stupidity (there seems to be some evidence on that point, but we refuse to look. Why do we refuse to look? Because we can’t handle the truth, like *A Few Good Men* (1992)). Or more likely, is just fatally flawed like David Hume’s creator. Neil deGrasse Tyson has expressed his own Absurdity:

- ❖ “Every account of a higher power that I’ve seen described, of all religions that I’ve seen, include many statements with regard to the benevolence of that power. When I look at the universe and all the ways the universe wants to kill us, I find it hard to reconcile that with statements of beneficence.” – Neil deGrasse Tyson, Neil deGrasse

Tyson, at the University at Buffalo, Q & A session, April 9, 2010, video is available on YouTube as of September 2018.

Any honest human (or even sapient intelligence) cannot deny the Absurdity in the name of science. And this, I think, is what bothers scientists the most, what keeps them up at night.

“It is one of those books that is either complete rubbish or a work of consummate genius, nothing in between!”

Probably the former, but I’m hedging my bets.”

– Richard Dawkins, [The God Delusion](#) (2006) commenting on Julian Jaynes, [The Origin of Consciousness in the Breakdown of the Bicameral Mind](#) (1976)¹³

Endnotes.

¹ **Commentary:** See the Sokal Hoax for a practical demonstration of cognitive/confirmation bias in academia.

✓ “But – let me tell you my cat joke. It’s very short and simple. A hostess is giving a dinner party and she’s got a lovely five-pound T-bone steak sitting on the sideboard in the kitchen waiting to be cooked while she chats with the guests in the living room – has a few drinks and whatnot. But then she excuses herself to go into the kitchen to cook the steak – and it’s gone. And there’s the family cat, in the corner, sedately washing its face.”

‘The cat got the steak,’ Barney said.

Did it? The guests are called in; they argue about it. The steak is gone, all five pounds of it; there sits the cat, looking well-fed and cheerful. ‘Weigh the cat,’ someone says. They’ve had a few drinks; it looks like a good idea. So they go into the bathroom and weigh the cat on the scales. It reads exactly five pounds.

They all perceive this reading and a guest says, ‘Okay, that’s it. There’s the steak.’ They’re satisfied that they know what happened, now; they’ve got empirical proof. Then a qualm comes to one of them and he says, puzzled, ‘But where’s the cat?’” – Philip K. Dick, [The Three Stigmata of Palmer Eldritch](#) (1965).

² **Commentary:** At the time of publication of GGDM, I am almost the same age as Harry Braverman was when he published the single book for which he is considered one of the foremost social thinkers of the 20th Century.

✓ It doesn’t matter what some damned preacher who never knew me says about me at the funeral, just read what I wrote; that is my testament if you will.

³ **Commentary:** I would, in fact, not be surprised to be told or to be shown that I am all wrong. But at least, my critics are going to have to do some work, hundreds of pages might be written, and it will *matter* to them at least.

⁴ **Citation & Commentary:** [Circular logic as satire](#): “The Cabinet received quite a bit of mail today, most of it hot to the touch. Hot with the indignation of ASU students and faculty reporting that the University has seen fit to bestow its 2015 ‘Pioneer Award’ on Professor Matthew C. Whitaker. The cheerful announcement that Professor Whitaker has been honored by the University for ‘long-term dedication to the quality of life of African Americans’ did not, somehow, elicit cries of ‘Well done!’ Instead, observers noted that since Professor Whitaker has publicly brought shame on the university three times within two years, and has repeatedly committed actions that would cause students to be penalized or even expelled, he should not be given an award. The Cabinet was in a mellow mood, and initially thought, well, it’s an award for public service; Professor Whitaker is part of the public; giving him the award does him a service; what’s not to like?”

On second thought, yeah. It’s appalling. And the Cabinet is additionally unsettled by the fact that even had Professor Whitaker not been a plagiarist, his long-term dedication to the quality of life of African Americans appears to consist of being an extremely well-paid professor of African-American history and the director of the Center for Race and Democracy at Arizona State University. Thus the University has given Matthew C. Whitaker an award for occupying the lucrative position the University has given him. And when those disgusted by serial plagiarizing suggest the professor should be gently encouraged to put his talents to different use, the University can respond, ‘But he wins awards! We ought to know, because we give them to him!’ Why, yes. Perhaps next year, ASU will give Matthew Whitaker a special award for having won a lot of awards from ASU. Or perhaps Arizona State, which prides itself on its commitment to sustainability, will give Professor Matthew C. Whitaker an award for having steadfastly declined to expand the footprint of human knowledge. APS, the power company who is the Center’s corporate

sponsor – and on whose behalf Professor Whitaker continues to write articles deploring net metering, all without disclosing his financial relationship to the power company – would surely approve: Arizona State University Reuse, Recycle, and Repurpose Award for Scholars. That, Professor Whitaker does indeed deserve.” – from The Cabinet of Plagiarism, January 16, 2015 (<http://cabinetofplagiarism.blogspot.com/>).

✓ Dr. Whitaker resigned in early July 2015.

⁵ **Commentary:** However, every time I read something, someone else’s voice gets inside my head, and sometimes they argue with me, until I bribe them by adding them to GGDM somewhere. ☺ There is a multitude in my head.

⁶ **Commentary:** Were Howard Cosell still around, he would have launched into a frothing rant about it because the retirement of Steve Blass in a way seals the ‘jockocracy’ he criticized from the late 1970s onward; Steve Blass began his post play broadcasting career (1983) in the late Howard Cosell era. He was thus one of the objects or group of ex-athletes turned broadcasters against whom Cosell railed (Howard Cosell never played sports, ironically).

⁷ **Commentary:** e.g., “He [Joe DiMaggio] was jealous of the attention she [Marilyn Monroe] received from other men, which is an odd and problematic attitude for a man married to an international sex goddess. ... Why DiMaggio thought it would be useful to catch his ex-wife in bed with another man is a mystery. It certainly could have damaged Marilyn’s career... Still, photographs exposing Marilyn’s affair with Hal Schaefer now would not be proof, per se, that she left Joe for someone else, and it certainly would have done nothing to repair their marriage. Quite to the contrary.” – Jon Ponder, “Wrong Door Raid: The Celebrity Scandal That Irked Sinatra, Made a Fool of DiMaggio – All at Marilyn Monroe’s Expense,” Playground to the Stars, December 7, 2010.

⁸ **Commentary:** Of course I don’t know anything, because I am a nobody (*nemo/necuno*). Just like a great man is great because ... well ... he’s great!

- ✓ Tim Minchin has the argument down pat: “I only read one book, but it’s a good book, don’t you know; I act the way I act because the Good Book tells me so; If I wanna know how to be good, it’s to the Good Book that I go; ‘Cos the Good Book is a book and it is good and it’s a book; I know the Good Book’s good because the Good Book says it’s good; I know the Good Book knows it’s good because a really good book would; You wouldn’t cook without a cookbook and I think it’s understood; You can’t be good without a Good Book ‘cos it’s good and it’s a book; And it is good for cookin.” – from “The Good Book” (2009).
- ✓ On November 1, 2018, I decided that henceforth, I will sign all of my emails as *nemo*. Not to avoid attribution or responsibility, but so that if I receive no response and if the correspondence is never even read, the recipient has a reason: Because *nobody* sent it.

⁹ **Commentary & Citation:** Take a moment to appreciate the beauty: Dr. Paul Linebarger, a Chinese scholar, who wrote *psychological warfare manuals for the U.S. government* as a professor at Duke and Johns Hopkins Universities took advantage of the self-created official blind spot to write science fiction under the pseudonym of Cordwainer Smith because science fiction was considered trivial and nonsensical; not worth official scrutiny. As ‘another silly space game’ GGDM pokes intellectual academia in the same self-created blind spot both by being science fiction and a game, it will not be regarded as serious work in macrosocial or macrostructural theory, despite the advantages of the simulation approach that led naturally to macrostructural thinking.

- ✓ See, Walter Jon Williams, “The What-He-Did: The Poetic Science Fiction of Cordwainer Smith,” October 7, 2016, Tor.com.

¹⁰ **Commentary:** I have a specific recollection that when Eric Rudolph’s book was published (his “manifesto” as the news called it), one high-level law enforcement official who was interviewed referred to it as “second-rate college freshmen writing” and indicated that there was nothing new or novel (and hence, don’t waste your time reading it). I would assume that the laudable goal of the commentary was to prevent others from being radicalized or acting out based on Rudolph’s writing (I am sure that they don’t really care that we might waste our time reading it), which is now freely available on the internet (should you feel like *wasting* your time reading that instead of this). Were it not for Rudolph Hess, very likely *Mein Kampf* would have also been characterized as ‘second-rate freshmen writing’ in 1925 Germany. *Mein Kampf* is also widely available on the internet (if you feel like *wasting* your time reading it).

¹¹ **Citation:** See https://www.reddit.com/r/AskHistorians/comments/3r3cef/why_did_the_french_and_british_help_the_qing/.

¹² **Commentary & Citation:** I love historical costume dramas, especially if historically accurate and existential. One night I was surfing TV channels and chanced upon *Flesh + Blood* (1985). I was captivated. After watching the film for awhile, I said to myself, ‘everyone in this film is nuts!’ I didn’t mean ‘nuts’ in a good, comedic way. Rather, the film seemed to accurately portray the conflicted insanity of the period on a personal level in a way that I had not fully envisioned before.

- ✓ The later Polish film, *With Fire and Sword* (1999) accomplishes the same effect.

¹³ **Commentary:** I think you know where this is going by now, in regards to GGDM.

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“Mainstream sociology is straying from its roots. This can be clearly seen in introductory sociology and social problems texts in which a focus on microsociology and social psychology has become ever more prominent. It can also be seen in the more recent graduates of sociology programs, specialists in one or two of the more than thirty sub-fields of sociology. While all tend to be well versed in questionnaire design and data manipulation as well as being excellent specialists in such diverse fields as gerontology or deviance, most have little background in the broader traditions of the discipline, little appreciation or experience with holistic analyses.

Today, too many sociologists practice the discipline as one of social data collection and manipulation, a reification of method over substance. Others are specializing in a small part of the sociocultural system – say family, or deviance, or criminality – and losing the inclination or ability to communicate with their colleagues and their students either in other subfields or about the larger social whole. Some still do continue the practice of macrosociology, but it too is often the preserve of specialists with their own jargon, interests, and readership.”

– Frank W. Elwell, Macrosociology: Four Modern Theorists (2006), p. xi

THE ONTOLOGICAL TERRORISM OF GGDM: The terrorism that probably won’t land you in a jail cell, but perhaps in a padded room; I’d wager that most law enforcement people would not have heard of ontology, or would confuse it with oncology (oncological terrorism? Hmmm, sounds tumorous-ly fun!). This would be an amusing scene for a dark comedy, except the audience wouldn’t get it either. *In nuce:*

1. The existential void is the curse of intelligence, the more intelligent/sapient you are, the more you can see the inherent meaninglessness of the universe. Everyone sees the existential void in some way, at some point in their lives, at some time of the week, day, month, year we catch it in our peripheral vision as we rush through the days. We know it’s there, we speak of it in different ways or not at all. We pretend not to look, except when we are alone at night.
2. Every sapient creature has an urge to non-existence (‘the gift of life is a set of shackles’). This is not the same as death, though some people become quite confused on this point. Non-existence is the desire to have never existed, not merely to die. It is the paradox of sapient existence. Go ahead and disagree, but denial is not a river in Egypt.¹ Frustration of the urge to non-existence is the source of most radical human behaviors.
 - ❖ “Becoming extinct has its compensations. It’s a good deal like beating the game. I would go so far as to say that becoming extinct is the perfect answer to everything and I defy anybody to think of a better. Other solutions are mere palliatives, just a bunch of loose ends, leaving the central problem untouched.” – Will Cuppy (humorist), How to Become Extinct (1941).
 - To quote Metallica (1991), “You know it’s sad but true.” As a humorist, he can say things that are supposed to be funny but aren’t really, the audience laughs it off.
 - I generally do look up and familiarize myself with the person whom I am quoting. This practice has lent me the great relief of knowing that *I will not be subsequently quoted* by anyone who cares about their work.

3. Life must be constantly looking to insure its own continued existence, by this, I do not mean ‘survival’ but instead, that life is a continuous action of the Looking Law; life necessarily self-actualizes (or maintains its own Temporal Constructural Element).
 - ❖ Yes, in many places this would be regarded as quantum mysticism. We shall see, let’s calendar a date a thousand years from now, and check back on this issue.
4. Civilization is a gestalt structure, a gestalt structure is the machine of the emergence. Life is an emergence, humanity is an emergence, most of what we consider important in the universe is an emergence. The universe was fractured by a series of emergences.
5. Civilization is what sapience/humanity does, it is our ‘purpose,’ our nature. Civilization is the only thing that can fill the Existential Void, it is what we are when we can’t help ourselves (as Oscar Wilde said, 3 Writs, p. 446, *supra*). Without civilization, we are the Existential Void. Civilization should be our eternal fascination, not a flash afterthought.

The Existential Void is the metaphysical backdrop of my thought in macrosociology. In a word, the Gestalt Structure – a thing that is greater than the sum of its parts, of which human civilization is an example, is the only thing that can ‘fill’ the Existential Void. That’s my metaphysics in a nutshell. I anticipate that many will immediately object – recoil in horror even – to inserting metaphysics into sociology; they may point to Bailey’s general macrosocial theory of Social Entropy as an example of how macrosociology can proceed from pseudo-physics without metaphysics. We’ve already discussed that, e.g., see Pseudo-physics of the KM, 2 Kairotic Moments, p. 1434, *supra*.

- ❖ Thus, not only is sociology more closely related to philosophy than it wants to admit, it needs philosophy – like the Lost Boys needed Wendy – and cannot pretend it doesn’t exist so as to obtain the certification of an empirical science.

Metaphysics is the discussion of what is reality, and sociology is currently human-centric; half of our reality is human created. The sociologists who teach, lecture, conduct surveys, crunch statistics, work in family or youth services, every one of them, has an idea of what they think is real, what is reality and it affects their work and lives, and little of it has to do with sociology. To be human, to be sapient, is to be a metaphysical being; how can serious sociology object to metaphysics, except on the basis that it won’t get you a professorship anywhere and it won’t win grant money?

- ❖ Professor Bailey’s Social Entropy Theory is very interesting, but will never work entirely satisfactorily within macrosociology understanding because it depends upon and uses the language of first order natural phenomenon. *Id.* However, it is relatable to the audience of humanity because it uses language that we all understand, it fits the cultural and cognitive schema of our times.

The only way that macrosociology makes sense is to focus on civilizations/society as emergences and gestalt structures. An assertion or argument?

- ✚ MINISTER OF LONELINESS: It’s a lonely thankless job (just ask the Maytag repair man). On January 17, 2018, the BBC ran an article about the appointment of a Minister for Loneliness in the UK. Like many readers, I would guess, my first reaction was, are you kidding? This is silly; this has got to be some sort of boondoggle on the UK taxpayers and the opposition is going to have a riot with this. A ministry position? But the BBC was quite serious and level-headed about it, referring to the work of deceased MP Jo Cox and citing to medical studies

on loneliness. Later in the day, when the subject again caught my attention, I had a different thought: This is actually precisely or damned close to what I am talking about; loneliness is a human emotion related to a sense of the Existential Void. People who are lonely feel the meaninglessness of everything very acutely (along with alienation).

- ❖ Apparently, someone else has this idea in commercial form. On April 1, 2019 (no fool'n), I encountered a chat website that boasts *an end to loneliness* and guarantees a response to anything you post there. How do they accomplish this? By use of 'fictitious ChatPals' ("Besides fictitious ChatPals you'll find real members. This website can be used for real connections besides the entertainment we are providing to you. ... It's not possible to physically connect with fictitious ChatPals.") which I assume are chatbots (hence the latter disclaimer). Could they pass the Turing Test? How close is it? I did not sign up to find out.

Though I have given thought to this and many other subjects of future humanity, I find the idea of turning to chat with a machine (or even an unknown low-paid human worker) *for the purpose advertised on that site* (which is not the same as using chatbots and AI for customer service or technical support inquiries),² revolting as a solution (like the disgusting AI psychological counseling scene at a public computer kiosk in *Demolition Man* (1993)); it's like learning that Santa Clause is a big lie, a conspiracy of civilization. But that is precisely the point of the Turing Test: What is artificial about intelligence? Can a machine pass the Turing Test without human emotion, or by mimicking human emotion?

- ❖ Who are the target audience of this website? Of the 28 pictures on the website, only 4 of them feature men, with one picture showing a young man and woman, suggesting an impending physical meeting. All of the people pictured on the web page are young, and of them, 23 of the pictures are of solo young female faces plus the one male-female picture mentioned previously. Do the 'fictitious ChatPals' use human face images? Do they pretend to have a gender? Because men speak a different language than women, and you knew that already. Are they attempting to fool users?

✚ QUIET DESPERATION: "Apathy and cynicism usually take root early in life. If unchecked by middle age, they lead to bitterness, lack of energy, health problems, depression, and related difficulties.... As the years slide by, a growing number of people don't really live, they merely exist – trapped in their lives of quiet desperation." – Jim Clemmer, "Apathy and Cynicism Zap Our Spirit."

- ❖ "Hanging on in quiet desperation is the English way." – Pink Floyd, "Time" (1973).

Mr. Clemmer is a professional business motivational writer and speaker, and his views are likely expressive of the mainstream business psychology and probably, broadly, the consensus of mental health professionals in the West. Otherwise, he'd be called a crackpot, the term for modern empirical scientific heretic. And you know Pink Floyd already, right?

- ❖ What if, however, we change the frame in which apathy, cynicism and bitterness are viewed?
- ❖ Would it make sense, for example, if these were part of the intellectual process, a status or stage – carefully avoiding teleological terms – of the individual human realization of The Absurd?

- ❖ Is it more likely than not that people who display apathy, cynicism and bitterness are intellectual sensitives who are experiencing the universe differently than their happy-go-lucky fellows?
- ❖ Is it likely that apathy and cynicism are sociosomatic manifestations of the conflict caused in individuals between the inherent meaninglessness and our society's denial of The Absurd?
- ❖ “Activist David Meslin argues that people often care, and that apathy is often the result of social systems actively obstructing engagement and involvement. He describes various obstacles that prevent people from knowing how or why they might get involved in something. Meslin focuses on design choices that unintentionally or intentionally exclude people. These include: capitalistic media systems that have no provisions for ideas that are not immediately (monetarily) profitable, government and political media ... that make it difficult for potentially interested individuals to find relevant information, and media portrayals of heroes as ‘chosen’ by outside forces rather than self-motivated. He moves that we redefine social apathy to think of it, not as a population that is stupid or lazy, but as a result of poorly designed systems that fail to invite others to participate.” – from Wikipedia article, “Apathy,” May 12, 2019.

✚ WHAT IS COMPLETION?: Many days on end, I have a hard time working on GGDM in a *linear fashion*, which is unfortunate in that the final edit requires that I make *linear progress* through the game sections.³ Once in my youth, I was at a game convention; a group of players was playing the board game Kingmaker (1974), a game about the War of the Roses (1455-1487). It was near the end game, one player had a definite edge, but couldn't find a way to win. A group of others was standing around watching; one of the old players who was watching remarked to me, ‘The game is over, but they don't quite know how to finish it.’ The remark stuck in my memory, and that is how it is with my own GGDM project, it is essentially done, but I have to figure out how to finish it.

So I remembered a technique I heard in some task or motivational article I read, to envision the job or project as complete and work toward it (common advice, really). Ok, so what do I envision as the completion of GGDM? The end of the work on the GGDM rules is both the completion of a lifetime cycle and nothingness. At the end of GGDM, I expect nothing and envision nothing will happen. You may say, Ah Ha!:

- ❖ “You're missing the point. Enlightenment was not the diamond. Enlightenment was the choice.” – Dr. Who, “Enlightenment, Part 4” (1983).

At some point after I complete GGDM, I will die. Neither will make my existence any better. Have I been enlightened? No one will care much about either event. I will also die whether I complete GGDM or not. Those are projectable facts. Anything other than that would be a lie. So dear optimist reader, should I lie to myself, knowing it's a lie?

- ❖ “He who is not contented with what he has would not be contented with what he'd like to have.” – Socrates.

Still, there will come a time when GGDM is ‘complete’ because it can't get any larger, I have no more space and no more time. In this perhaps, mortality is a fortunate condition. But what of God who is said to be immortal? Universe expansion will stop, someday.

✚ EXIT LIGHT: This existence was not fun, it was not a great adventure; it was stupid, annoying, pointless, inane, and asinine. That is how I know I am not unconscious with a Dream Crab stuck to my face (Dr. Who, “Last Christmas” (2014)). I did not ask, could not have consented to be here (see Wikipedia quote about Kant, 3 Commerce, p. 1210, and 2112 Absurd Words, *supra*), I was put here (so were you) and I am very offended by the universe.

- ❖ The true moment of joy is when I can finally see the exit light out of this universe.
- ❖ Why would I want an afterlife, after this life?

It seems that is the way it must be; if I was having a great time and enjoying life, I wouldn't want to leave; I might conclude that the universe is offended by sapience. A cynical clever mind might suggest that this is the *raison d'état* and *raison d'être* of the universe (except even that would be an unnecessary kindness), so that we are glad to exit in our time, and be forgotten. Like the dining area in a presidential underground nuclear bunker that I saw in a documentary or news segment once: The floor was a checkered black and white tile and the cheap plastic tables and chairs, and overall décor, were intended to make people eat and not linger after they finished. Are ghosts really people who linger here after death? Absurd!

- ❖ The way the priests have been telling it for hundreds of generations, the afterlife necessitates a gigantic celestial bureaucracy to orderly process the deceased, handing out rewards and punishments, distributing them to different planes, putting the enlightened into eternal torment or bliss, or back to work for cosmic order; in short, it's just like life, where no one consented to their own existence, no one bothers to ask if the deceased want to continue to exist, let alone eternally, non-existence is not an option on the check list.
- ❖ Because the afterlife is not about the dead, it's about the living, reminding them that there is more of the same on the other side, and making them think they want it.

In my youth, I heard a figure that there were enough nuclear weapons on Earth to kill everyone 14 times. Regardless of what you think of the figures – and I am sure there is some dispute of these numbers (and I don't even remember where I first heard it) – just follow the math for a moment:

- ❖ On a 'good' day, assume that 80% of the nuclear weapons could be intercepted or prevented from at least hitting their targets in a full scale global thermonuclear exchange.
- ❖ That still leaves enough weapons to kill everyone on Earth 2.8 times.
- ❖ If 90% of the nuclear weapons were intercepted, destroyed, or prevented from hitting their targets, there is still enough left to kill every man, woman, and child on Earth 1.4 times.
 - “Nuclear weapons made annihilation vastly more efficient. A single bomb could now destroy a target whose elimination had once required thousands of bombs. During an aerial attack, you could shoot down ninety-nine percent of the enemy's bombers – and the plane that you missed could obliterate an entire city.” – Eric Schlosser, “World War Three, by Mistake,” *The New Yorker*, December 23, 2016 (free online).

It is quite likely in fact that these figures are accurate to some degree because planning for the thermonuclear global war would require overkill and redundancy in expectation that most

of the warheads would be intercepted by the enemy who is desperate to avoid an existential threat. It is called Mutually Assured Destruction (MAD). In fact, the Merriam-Webster online dictionary definition of *overkill* as a transitive verb (from 1957) means just that: To obliterate (a target) with more nuclear force than required.

- ❖ The general concept was confirmed by author Richard Rhodes when I watched the 2018 documentary *The Half-Life of Genius: Physicist Raemer Schreiber*. Mr. Rhodes said that the Soviet Union alone had nuclear weapons “enough to destroy the world many times over.” See *1 Combat*, bottom p. 940, *supra*, for full feature quote.
- ❖ “Is it not true that each superpower has enough nuclear weapons to kill all members of mankind several times over? Yes. And the same is true of kitchen knives.” – Petr Beckmann (pro-nuclear advocate).

Exit light humanity.

“Every resultant is either a sum or a difference of the co-operant forces; their sum, when their directions are the same – their difference, when their directions are contrary. Further, every resultant is clearly traceable in its components, because these are homogeneous and commensurable. It is otherwise with emergents, when, instead of adding measurable motion to measurable motion, or things of one kind to other individuals of their kind, there is a cooperation of things of unlike kinds. The emergent is unlike its components insofar as these are incommensurable, and it cannot be reduced to their sum or their difference.” – G. H. Lewes (1875)

NOT EMERGENT: Only one of four of the more prestigious online dictionaries that I checked offered a definition of “emergence” that was congruent with G.H. Lewes’ definition, and it was offered under the heading of “evolutionary.” The other three dictionaries stated the most literal and mindless meaning of emergence (e.g., “emerging or coming into view”) and all offered various botany-related definitions. So, anyone trying to look up the term on the internet would be unlikely to come away with this understanding of the meaning of an emergence.

- ❖ The medical definition of *emergent* is: 1. Arising suddenly and unexpectedly, calling for quick judgment and prompt action. 2. Coming out; leaving a cavity or other part – from Medilexicon, from Stedman’s Medical Dictionary.

The common thread is a sudden or unexpected appearance within human timescale.

Rhetorical Question: What is the difference between an emergence and a miracle? This is not to suggest they are the same, but that thinking about and comparing them is cognitively useful. What about between an emergence and quantum tunneling, quantum teleportation, or quantum entanglement? What is the difference between a miracle and anything quantum?

- ❖ “All organised bodies are composed of parts, similar to those composing inorganic nature, and which have even themselves existed in an inorganic state; but the phenomena of life, *which result from the juxtaposition of those parts in a certain manner, bear no analogy to any of the effects which would be produced by the action of the component substances considered as mere physical agents.* To whatever degree we might imagine our knowledge of the properties of the several ingredients of a living

body to be extended and perfected, it is certain that no mere summing up of the separate actions of those elements will ever amount to the action of the living body itself.” – John Stuart Mill, A System of Logic, Bk. III, Ch.6, §1 (1844) (emphasis added).

J.S. Mill refers here to what Clarence Marsh Case called the ‘second order of natural phenomena’ eighty years later in the ‘introduction’ section to Outlines of Introductory Sociology (1924); see discussion and citations, Aspects of Sociology, 2 Culture, p. 371, *supra*.

Carl Sagan made a visual demonstration and extended commentary of J.S. Mill’s abiogenesis argument in Cosmos, Episode 2, by dumping inorganic matter, the known components and amounts of each in the human body, into a large mixer which just made a discolored mess, but could not produce life (see Carbon Chauvinist, 1 Order, p. 527, *supra*). We are missing something important in a positivist, empiricist view. Stated in the modern sense:

- ❖ “We all start life as a single-celled organism, and yet by the end of our development cycle, we’re somehow composed of two hundred types of cells, all intricately connected to one another, and all performing stunningly complex tasks. How does an egg somehow know how to build a chicken?” – Steven Johnson, Emergence: The Connected Lives of Ants, Brains, Cities, and Software (2001) as cited by Matthew Mazur, “Emergence, Artificial Life, and A New Blog,” February 24, 2014.

This firmly attaches emergence to abiogenesis and biogenesis (in the modern Huxley sense, see Order of Genesis, 1 Order, p. 522, *supra*).⁴

GESTALT STRUCTURE: According to G. H. Lewes, an emergence is a combination of unlike kinds that produces an unlike result (feature quote, *ut supra*). This had been described by John Stuart Mill 30 years earlier in 1844 (*ut supra*).

A Gestalt Structure then can be described as the ‘combination’ of unlike things that tends to produce unlike results more frequently than normal randomness, such as the emergent property of chemistry called Life.

- ❖ “Mathematics, law of averages. Let a complex system repeat itself long enough, eventually something surprising might occur.” – Inner Number 6, Battlestar Galactica, “Day Break” (epilogue in New York City, 2010).

A Gestalt Structure is the ‘machine’ of emergence (as for example, life begets life, and evolves into a multiplicity of forms, trillions of natural experiments). Normal species reproduction should not be considered an emergence since, for example, a human male and a human female produce a human baby, male or female (usually). Rather the situation where offspring is produced that is permanently unlike either parent is called xenogenesis, a term that came into our language between 1865 and 1870 in the time when Darwin’s evolution was being hotly argued. A Fuzzy Group then, is possibly another form of or another description for an emergence within a civilization. However, the two concepts may not be completely or always congruent. We are standing here at an intellectual frontier which will later be populated by essays, definitions, academic journal articles, and debates.

- ❖ *Structure* tends to imply intention and design, the first three parts of the Merriam-Webster online dictionary definition, for example, discuss intentional structures. However, structure is also capable of being used in a very *neutral sense*, as in Merriam-Webster definition at *structure*: **4a:** the arrangement of particles or parts in a substance or body; **4b:** organization of parts as dominated by the general character of

the whole; **4c**: coherent form or organization; or **5**: the aggregate of elements of an entity in their relationships to each other. For some, structures must always imply intelligence and as such, they wish to attribute the universe, life and to a supreme being. We've already covered that. Gestalt Structure as used here, is *neutral* in all of the senses cited above.

The follow up question to this is what constitutes 'unlike things,' that is, what degree or properties of 'unlikeness' (or incommensurability or perhaps 'degrees of differencing,' see Order of Genesis, *et seq.*, 1 Order, p. 522, *supra*) is sufficient to create an emergence?

- ❖ Notably, I have not found any discussion about degrees of unlikeness or differencing in its own right (a true philosophical discussion); rather, all such discussions seem to relate directly to some concrete time-observation issue or model. It is difficult to meaningfully discuss anything without reference to the universe's universal regulator.

Without answering the question directly, one might begin with a list of the very obviously unlike things that we can imagine created emergences related to human civilization of today (because we are, after all, narcissistic and our view is human-centric): Life on Earth and the universe (in the form of a big freak'n meteor), humans and pets, humans and domesticated animals, humans and machines, humans of different cultures and races, humans and the laws of physics, humans and entropy, sentience and sapience, life and death, religion and science. Each of these is presented as a pairing because that is the easiest and most natural way of grasping concepts, but that is not to say that pairings cannot be rearranged, or that there may be emergences from three or more unlike things, spinning off into an infinity of complexities. See continued discussion in The Axiom and Theory of Opposites, 5 Fallen to Earth, *infra*.

- ❖ The study of emergent properties of the internet (currently the unexpected, unplanned "fractal distribution of nodes" and a "scale-free power law," see "Emergent Properties of the Net" by Guy Tal⁵) is still nascent, but the internet itself is an emergence arising from, among other things, sapient control of matter through materials science and technology, and a different understanding of information. Insofar as the alleged emergent qualities of the internet, we must first define what 'unlike things' are producing identifiable and quantifiable 'unlike results.'
- ❖ Would it be interesting, and would we be surprised, if the occurrence of life in the universe followed some "fractal distribution of nodes" (*ut supra*)? This may have been quietly suggested by the ending of the 2017 movie Magellan (which received average ratings because it was cerebral while Star Trek 2009 received good ratings because it was big, colorful, loud and dumb).⁶

In fact, nearly anything different than ourselves has the potential to create an emergence. The basic realization of infancy that there are two things in the universe, me and not-me, creates in the developing human mind the necessity to begin naming or differentiating the things outside of me (and me is always outnumbered by $\infty:1$ in this universe), classifying them as friendly, neutral/indifferent, or hostile/dangerous, perhaps creates the very first emergence: A piece of information associated in the infant's mind with a specific ontological thing. The creation of information (the resolution of uncertainty) is probably the very first human emergence. Is information the 'third thing' in combination with matter and energy, pushed along by time that creates universal emergence? As part of our education, we learn to accept the emergences of others as part of our collective commonality and civilization.⁷

✚ NEUTRAL EMERGENCE: Emergence is a neutral term, a neutral process insofar as the results are irrelevant to whether they are planned or accidental, or whether we like or dislike the results. One should *never assume that all emergences are favorable* to humanity even when caused by human civilization. Emergences are not always ‘good’ and not always beautiful babies. Some of those human-caused, existentially-unfavorable emergences are becoming quite apparent in recent years.

For example, this quote from the Wikipedia article about the Kardashev Scale:

- ❖ “Excessive use of energy without adequate disposal of heat, for example, could plausibly make the planet of a civilization approaching Type I unsuitable to the biology of the dominant life-forms and their food sources. If Earth is an example, then sea temperatures in excess of 35 °C (95 °F) would jeopardize marine life and make the cooling of mammals to temperatures suitable for their metabolism difficult if not impossible. Of course, these theoretical speculations may not become problems in reality thanks to evolution or the application of future engineering and technology.” (Retrieved February 12, 2017).

It is within the power of sapient beings to at least exert some control and foresight over the emergences that affect them.⁸

✚ TIMELESS EMERGENCE: It is of first importance to grasp that there is no inherent discrete time period defined in the emergence. There is a beginning, where we describe the original conditions from which the emergent end originates.

- ❖ We have a tendency to frame the emergence within time periods meaningful to humanity, but this is just a fallacy of mortal provincial thinking.

An emergence is a comparison of the end product to the beginning; one may have observed the entire process, or not. Like many physical laws, it may be irrelevant whether time is running forward or backwards as we are only concerned about the origin and the end. One may understand step-by-step how A got to Z, or not. But if Z (the end result) is unlike a (the beginning), Z is logically and definitively related to A, and Z is not the result of simple addition or subtraction proceeding from A (are B, C, etc. ‘additions’ to A?), then Z is an emergence from a, and the time involved is irrelevant. It is thus that, in terms of human civilizations and the study called sociology, *that macrosociology is the branch of knowledge most likely to encounter and most suitable for, the study of emergences* within human civilizations.

- ❖ The way that emergence is currently defined, it is a *before and after* condition. To do so we must look, and have reason to look and it must matter. We can only see emergence by first connecting it to whatever it came from and then second, comparing what resulted from what preceded and concluding that an *incongruence* exists between the two, for example, the inorganic universe and the phenomenon of life, which lacking any other empirical evidence, we assume arose from the inorganic universe.
 - Merriam-Webster online dictionary at *incongruous*: Not harmonious, not conforming, inconsistent within itself, lacking propriety.

That is, we lack an operational understanding of emergence which might be linked to a lack of operational understanding of “internal structures of large distributed systems” (see feature quote, 2 Culture, p. 363, *supra*).

✚ IMPERFECT INFORMATION: Emergence is arguably the result of imperfect information at any given moment. In a Newtonian clockwork universe sense, emergence is merely a product of humanity’s lack of vision, understanding, foresight, and predictive abilities. In the clockwork universe, God or the Gods, as envisioned by humanity, have no emergences – as they are omniscient and omnipotent, they see all and know all, and can predict all with absolute certainty; every game has already been played to conclusion and the outcomes are all known or precisely predictable (like the chess players in Robert Sheckley’s “Fool’s Mate” (1953).

However, in the quantum universe of probabilities, the condition of Godliness and emergence are not so certain; quantum probability leaves room for emergence even on the smallest scale, here all possible outcomes *are probabilities*. All games have been played, but only the probability of the possible ranges of outcomes are known. It is thus that *an emergence is likely an illusion*, but one that is useful for human purposes, like the planetarium mechanics which still use the Ptolemaic system, an intentional illusion, because it is most useful there.

✚ EMERGENT MACROSOCIOLOGY: Is it possible to meaningfully discuss macrosociology without emergences? Is macrosociology married to emergence philosophy? Is there another way to describe the macrostructures of civilization? I do not get the sense that macrosociology currently embraces the emergence idea of civilization or that civilization is a gestalt structure. Macrosociology does not appear to have shifted much in its frame of reference from microsociology; the appreciation of civilization as an emergence and a gestalt structure provides the basis for a true frame of reference in macrosociology. That’s my assertion.

✚ EMERGENT DE-MYSTIFICATION: Emergence is just the latest term to describe what most of history has considered wondrous, puzzling, magical or mystical about human civilizations. As such, it is possible for “emergence” to be used in mystical or pseudo-religious ways – to simply be in the habit of calling things emergences without any real meaning, in ways similar to what modern physics dismisses as ‘quantum mysticism’ as an improper ‘interpretation’ of the meaning of quantum experiments. Or the way we use “miraculous.”

The problem with emergences from an empirical, modernity perspective is that we are still treating them like magic. They just happen and we pat ourselves on the back that we can recognize them, like the quantum (see Daniel Styer quote, 4 Colleges, p. 506, *supra*). In a sense, emergences are not different in our perception than is π , the ‘magic number’ tying together mathematics (see Weird Circle Fixation excerpts, The Big Bang, *supra*). I am not saying that emergence will ever be predictable, it is possibly a statistical law like the Second Law of Thermodynamics, and perhaps in that sense, Social Entropy Theory is moving in the correct direction. To get a grip on emergences will require a different sort of thinking, of the same magnitude as the change in thinking that finally allowed humanity to understand the natural physical laws such as gravity, waves, the atom, the quantum. Unfortunately, all of my efforts here have failed (except perhaps framing the problem for others, if I am correct) to make anything but a huge game model of human civilizations from which I hope that participants will engage in emergent narrative and game play.

- ❖ In my primitive pre-epochal, pre-transhuman, pre-FTL brain, I tend to think of emergences – in relation to humanity – as a human echo of the tesseract. It is that thing that goes off in a direction that we cannot point to, but we know exists theoretically. It is thus that the emergence has properties that do not seem to be the sum of its parts, and it is not surprising that the tesseract has also been associated with magic sources

(e.g., Ebony Anpu). If there is a ‘statistical tesseract,’ that might be the model for an emergence in biological intelligence and civilizations.

For the term to have any utility in the future of macrosociology (or many other fields), it will need to be further disciplined: A definition will need to be crafted that places it firmly within the context of macrosociology, it will need to be used consistently in the field, expanded and modified with care; this process will inspire a whole sub-field of thought and historical study. It should at least be a task within the purview of macrosociology *to develop a terminology and language suitable to describing the fourth order of natural phenomenon* (see Pseudo-physics of the KM, 2 Kairotic Moments, p. 1434, *supra*). Emergence, a first and second order phenomenon term, was the best I could do without writing a book that no one will read.

- ❖ “Complex systems research has been hindered by a lack of precision when people refer to ‘emergent properties.’ Contemporary views of emergence in philosophy include Chalmers’ spectrum ranging from a mystical property to the whole-part relationships in mundane objects including filing cabinets. They also include Bedau’s distinction between ‘weak’ emergence, based on simulation and modeling, and ‘strong’ emergence relying on downwards causation.

As we have seen, problems arise because engineers combine many different aspects of these ideas when referring to emergence in complex systems. They refer to the surprise implicit in predictive approaches while talking about the design of emergent properties. In contrast, we have attempted to ground recent research into complex systems by surveying different approaches to emergence. The intention has been to help engineers avoid some of the paradoxes that arise when inconsistent definitions are used.” – Christopher W. Johnson (University of Glasgow), “What are Emergent Properties and How Do They Affect the Engineering of Complex Systems?” 2005.

I could have tried to write a book instead, but along the way decided that the simulation was what interested me more, was more suited to my meagre talents, and would be more instructive, educational, fun and engaging than a book if people actually played the game and got an intuitive feel for the macrosocial dynamics. To add value, which is what any writing should do. Maybe I did actually write a book in the end, that no one will read.

Adding value is, of course, a rather tricky and slippery argument, a copyright is not an affirmation of redeeming social value of an original work. Even Mein Kampf ‘added’ value: It was read by millions, which ‘added value’ to the Nazi party ideology in its current time, and it brought forth in to *written form* the basest mumbled, guttural racial arguments of the early 20th Century for examination and argument (but not in 1930s Germany), it also has value, of course, as the ultimate form of historical record. To whom or what has GGDM added value?

“The field of sociology can be broadly split into two categories. Microsociology focuses upon relatively small-scale social groups and processes. This field is focused on such phenomena as face-to-face interaction (say classroom behavior), the socialization of children, or the influence of a particular group on the political behavior of its membership. As can be seen from a look at our introductory texts, microsociology increasingly dominates the field of sociology. I believe the field is increasingly emphasizing micro because it resonates with Americans who tend to be very much oriented to the individual. Consequently, they find micro sociology much easier to grasp and apply to their daily lives; and we do need students.

Macrosociology, on the other hand, is the study of large-scale social patterns. Closely related to history and anthropology, it focuses upon total societies and their constituent parts, such as economic and political structures, family and religious institutions, and how these institutions interrelate with one another and with the whole.... Immanuel Wallerstein believes the micro/ macro is the only distinction within the social sciences that has use and relevance.”

– Frank Elwell, Macro Social Theory (2009), Kindle Edition, p. 11

MOVING THROUGH KASHMIR: Another possible explanation is simply that macrosociology is more ‘philosophical,’ and mainstream sociology has followed the modern information-driven empirical drift of our culture, for which microsociology and social psychology are best suited.

- ❖ “Sociology once debated ‘the social’ and did so with a public readership. Even as late as the Second World War, sociologists commanded a wide public on questions about the nature of society, altruism and the direction of social evolution. As a result of several waves of professionalization, however, these issues have vanished from academic sociology and from the public writings of sociologists. From the 1960s onwards sociologists instead wrote for the public by supporting social movements. Discussion within sociology became constrained both by ‘professional’ expectations and political taboos. Yet the original motivating concerns of sociology and its public, such as the compatibility of socialism and Darwinism, the nature of society, and the process of social evolution, did not cease to be of public interest. With sociologists showing little interest in satisfying the demand, it was met by non-sociologists, with the result that sociology lost both its intellectual public, as distinct from affinity groups, and its claim on these topics.” – Stephen Turner, abstract of “De-intellectualizing American sociology: A history, of sorts,” *Journal of Sociology*, November 5, 2012.
- ❖ “Basically, [Stephan Turner’s] wondering: what happened to sociologists? When did they give up questions of human nature, altruism, society? Well, Turner argues that a big problem is that sociologists started getting political. ‘It is evident that many of the most enthusiastic adherents of the new model of professionalization in the United States had roots in the left, and not infrequently in the Communist Party itself.’ And that political slant limited the types of questions sociologists were allowed to ask. Turner’s basic point is that sociology is now a joke because every sociologist is a liberal. That’s not untrue: over 85 percent of the members of the American Sociological Association (ASA) vote for either the Democratic or Green parties. One survey found the ratio of Democrats to Republicans in the ASA to be 47 to 1. Now, whether or not sociology is joked about because its researchers’ political leanings is another question. But that’s the argument Turner seems to be making here.” – Rose Eveleth, “Whatever Happened to Sociologists?” *SmartNews* (on smithsonianmag.org), November 6, 2012, referring to Stephen Turner, “De-intellectualizing American sociology: A history, of sorts,” *Journal of Sociology*, November 5, 2012 (*ut supra*).

➤ Exhibit A: GGDM, ‘the macrosocial’ sim written by a *paralegal*.⁹

Social data collection and microanalysis, statistics and hard numbers, not philosophical musings, win grant money. Schopenhauer wins the prize in 1839, but today, he would receive no grant

money, they would not even read his paper. And, as Tom Wolfe (“In the Land of the Rococo Marxists,” Harpers, June 2000) suggested:

- ❖ “Today, at any leading American university, a Kant, with all his dithering about God, freedom, and immortality, or even a Hume, wouldn’t survive a year in graduate school, much less get hired as an instructor.”

Or as stated recently in the movie Einstein’s God Model (2016):

- ❖ **Dr. Mastenbrook** [talking about string theory]: Right. A unified theory of everything. The Holy Grail of physics. It makes sense mathematically, but we don’t know any of it. This is science that is literally pushing the envelope.
Dr. Taylor: Sounds more like philosophy.
Dr. Mastenbrook: They don’t give out Nobel Prizes for philosophy.

This work does not belong specifically within any of the four or five identifiable traditions of macrosocial theory. Frank Elwell in Macro Social Theory, holds out four traditions of macrosocial theory originating from Karl Marx, Emile Durkheim, Max Weber and T. Robert Malthus (instead of Spencer). George Herbert Mead is excluded from the pantheon, in fact, a word search of Elwell’s book shows that Mead is never mentioned. Whereas, Mary Jo Deegan, published a book, Self, War, and Society: George Herbert Mead’s Macrosociology (2008), specifically placing George Herbert Mead alongside Emily Durkheim and Max Weber in macrosociology.

None of the existing traditions of macrosocial theory embraces the emergence, more specifically, the structural tendency of human civilizations to produce and act in the manner of an emergence; that human civilization can only be properly understood as an emergence.

Further, while each of the existing traditions analyze human civilization from this or that perspective – all very interesting – none have really attempted to tackle the large distributed structures of human civilization, *a process that became necessary when I set out to simulate human civilizations as something more than numbers and points*. What macrosociology needs is an *a priori* science of the emergent. Without that, it will remain a vague smudge in the backwater of our civilization’s public space:

- ❖ “Researchers, as yet, have very little ability to identify internal structures of large distributed systems like human societies, which is an important scientific problem. Genuine structural collapse seems, in many cases, the only plausible explanation supporting the idea that such structures exist. However, until they can be concretely identified, scientific inquiry appears limited to the construction of scientific narratives, using systems thinking for careful story telling about systemic organization and change.” – Wikipedia article, “Societal Collapse,” retrieved February 24, 2015.

However, as Prof. Elwell cautions:

- ❖ “If you attempted to account for all of social reality, the resulting theory would be long, boring, and as confusing as social reality itself. The best social theories attempt to describe the most important features of social reality using the fewest possible statements and assumptions.” – Frank Elwell, Macro-Social Theory (2009), Kindle Edition, p. 20.
 ➤ GGDM already failed on that issue: Long, boring, confusing, not useful.

✚ LOST SOME MARBLES: For example, think of the problem in this way: There was a science-fiction short story that I read long ago – I do not remember the title or author, and I cannot find it in my books or the internet – where mechanical engineers were trying to build a rocket to go into orbit. The problem was the world (and the engineers) had not discovered electrical engineering (or electronics) and could not accept the existence of anything they could not see. These were very practical nuts and bolts men. The story is quite a bit of a stretch however because they would require some knowledge of chemistry to make rocket fuel – but after the fifth or sixth major premature ignition accident while working on the rocket, they finally called in the crazy eccentric pariah scientist who explained to them about electricity (see also discussion of space flight technology and weaponry relationships, Skylab is Falling, 2 Construction, p. 670, and The Cool Ship, 2 Stardrive, p. 795, *supra*).

The problem of trying to build a rocket without modern electronics, or at least electrical controls, was compared in the story to trying to tie together marbles with a piece of string. Without emergences and gestalt structures, it seems that macrosociology has been trying to tie together marbles with a piece of string.

- ❖ For example, could you write a story about the invention of the internal combustion engine without electricity? And without resorting to magic, little demons, or mystical forces? Eventually, the author would find that something critical is missing – the spark to rapidly and repeatedly ignite the compressed gasified fuel.

Is the gestalt structure that missing thing in macro-human studies or am I – like a hack writer – inventing mystical forces and little demons to solve the problem and tell the story?

Gestalt is really the only explanation that makes any sense of the fourth order phenomenon before us and of us; Aristotle knew it, “The whole is more than the sum of its parts.” (Metaphysics).¹⁰ I would call this new school, approach, perspective or tradition an emergence-structural approach to macrosocial theory. Others may choose to call it my absurd vanity and pretentiousness. We’ll discuss that later.

- ❖ More likely, I will be dismissed as a pseudoscientific quack (that might be a notable achievement, since sociology hasn’t attracted as many as medicine and physics, maybe even an Ig Nobel achievement) who tries to, and almost makes sense, but ultimately is trying to inject mysticism into macrosociology as the ‘missing piece.’

I don’t really know what a new macrosociology based on emergences will look like or where it is going to lead us. As Sir Francis Bacon very likely only had a limited vision of where the new natural, empirical sciences might lead, he certainly could not have imagined the world of 400 years later. So, it had to start with the idea, working out the principles, philosophy, making arguments for why the new way was a better way, and waiting for the right people to find the right leads to get it started. And it took his entire life to reach *Novum Organum*, he died a broken man in 1626, six years after it was published.

- ❖ “Thomas S. Kuhn wrote a famous and highly recommendable book called The Structure of Scientific Revolutions. He points out that, whatever we might like to think, and whatever the mythology of the history of science tells us, new ideas are not accepted as soon as they come along, as soon as the evidence makes it clear that new ideas are needed. Actually, science progresses in a series of convulsive hiccups, during each one of which the attempt to suppress the coming convulsion is the strongest

feature of the landscape. There is always a body of conservatism which is defended to the death before the actual overthrow takes place. He calls this – the characteristic feature of this body of conservatism – paradigms, and he defines them as follows: ‘universally recognised scientific achievements that, for a time, provide model problems and solutions to a community of practitioners.’” – James Blish, The Tale that Wags the God (1987), Kindle Loc. 529-535.

✚ FOURTH DEGREE OF SEPARATION: It is possible then, if other theorist understand what has been attempted here and follow their own lines of development (without which, GGDM is just an anomaly, a “historical artifact” (quoting Elwell)), that a new holistic macrostructural tradition may be inadvertently introduced from this work. This new approach would focus on identifying the large distributed structures of civilization – in a non-reductionist way – and the *a priori* recognition that civilizations are gestalt structures and emergences.¹¹

❖ “In most fields of human endeavor, new developments are unlikely to receive immediate endorsement by the authorities in that field, and the QJM [Quantified Judgment Method] was no exception. One of Trevor’s greatest frustrations was his inability to get the US Defense establishment to pay more attention to the results of his historical analysis. He was impatient with people who did not recognize the wisdom of his insights, and his criticism tended to be explicit. In Europe and the Middle East he was considered an eminent person and became the confidant of chiefs of staff and defense ministers. In the US, while many agencies valued his research and insights, they often downplayed the value of his analysis, as it was not based on ‘traditional’ operations research methods. In fact, he was often prevented from following his frequent creative urges by the pressure of meeting payrolls and deadlines.

Yet although he could easily have sold out for the comfort of a stable job, he believed that his independence was a prerequisite for pursuing his work. Besides, he was not really interested in making money; what he really wanted was recognition of the validity of his theories about the historical analysis of combat. For over 30 years he persevered in this cause despite indifference, opposition and lack of reward, hoping to advance the use of history to protect both national and global security.” – Susan Rich, biography page for Trevor N. Dupuy at The Dupuy Institute website.

As a precursor to this, argument was made separating the standards of the third and fourth order sciences from the empirical science of the first order, though there is also room for empiricism in psychological and social sciences, with due care. Arguments were made in *Unsolved Problems*, 3 Constructural Elements, p. 209, *Math Boy and Turbulence of Being*, 1 Entropy, p. 221 *et seq.*, 223, and **Aspects of Sociology**, *et seq.*, 2 Culture, p. 371, *supra*, discussing the history of sociology in the early 20th Century in relation to science development, the nature of social sciences as non-predictive (even biological science is not predictive, see Carl Sagan, *ut infra*), and the complexity of the subject as a whole. At the heart of this is the idea that empiricism and empirical science does not equate to predictability in all cases:

❖ “Biology is more like history than it is like physics. You have to know the past to understand the present. There is no predictive theory of biology, nor is there for history. The reason is the same: Both subjects are still too complicated for us.” – Carl Sagan, *Cosmos*, Episode 2.¹²

Prediction-testing-falsification are the triumvirate of empirical science.

- ❖ “If a theory doesn’t make a testable prediction, it isn’t science. It’s a basic axiom of the scientific method, dubbed ‘falsifiability’ by the 20th century philosopher of science Karl Popper. General relativity passes the falsifiability test because, in addition to elegantly accounting for previously-observed phenomena like the precession of Mercury’s orbit, it also made predictions about as-yet-unseen effects – how light should bend around the Sun, the way clocks should seem to run slower in a strong gravitational field, and others that have since been borne out by experiment. On the other hand, theories like Marxism and Freudian psychoanalysis failed the falsifiability test – in Popper’s mind, at least – because they could be twisted to explain nearly any ‘data’ about the world. ...

Now, some physicists and philosophers think it is time to reconsider the notion of falsifiability. Could a theory that provides an elegant and accurate account of the world around us – even if its predictions can’t be tested by today’s experiments, or tomorrow’s – still ‘count’ as science? As theory pulls further and further ahead of the capabilities of experiment, physicists are taking this question seriously. ‘We are in various ways hitting the limits of what will ever be testable, unless we have misunderstood some essential point about the nature of reality,’ says theoretical cosmologist George Ellis.” – Kate Becker, “Does Science Need Falsifiability?” NOVA, February 11, 2015.¹³

Once those two concepts are separated, a non-predictive empirical science is possible; if biology can be accepted as a science then sociology and mental science can be equally accepted. But they are not: Biology has more relation to physics, chemistry and the first order of natural phenomenon than social or psychological sciences. If one cannot accept the prior arguments made in this work (and the entirety of the work itself), then the gestalt-emergent-embracing conclusion for a macrostructural macrosociology will not be accepted.

- ✚ FOURTH ORDER LANGUAGE: It seems that macrosociology as a discipline has been wandering around aimlessly – like me at a party – unsure, alienated, and lost in the in-crowd of disciplines that belong to microsociology (‘in-crowds’ being a favorite subject of microsociology). Macrosociology has to become the equal of microsociology for this scheme to work. Macrosociology has to be the kid standing against the wall at the dance who goes on to become a brilliant researcher or successful writer, while half of the other kids at the party become druggies or felons. Thus, I am arguing a ground for macrosociology to get its footing (dare I ... use the dirty term, ‘paradigm shift?’), to get to work in the correct framework:

- 1) Treat fourth order natural phenomenon as equal to all else in reality and fact, and develop a language suitable for describing fourth order phenomenon as independent as possible from language used for the preceding orders of natural phenomenon (see Case and Mises quotes, *Aspects of Sociology, 2 Culture*, pp. 371-372, *supra*), and
- 2) Embrace the emergence, and refine the terminology, begin with the axiom that human civilization is ***an emergence from emergent creatures*** which is the true scope of the problem, the true meaning of ‘super-organic’ and what makes it so damn difficult.

This situation is very comparable to when you are trying to explain something to someone and they obviously are not comprehending, or when you are trying to figure out a problem and not making progress – it isn’t working, you need to try a different approach, a different assumption, a different framework. It isn’t and hasn’t been working for macrosociology for a

long time. While I perfectly understand the appropriation of first and second order phenomenon language imagery to describe groups, society, civilization, and whatever is inside our heads, it is at best a very crude and misleading comparison to the fourth order. Part of the problem is that the fourth order has not been regarded as an equal among reality; the mental health sciences in this regard are way ahead (no pun intended) of macrosociology.

- ❖ Most of the language describing human civilizations, by sociologists, historians, anthropologists, is first and second-order language – I cannot even avoid it myself: Macrosociology needs a new approach that is as startling as the general and special theories of relativity or of quantum mechanics were to classical physics. As discussed in Pseudo-physics of the KM, 2 Kairotic Moments, p. 1434, *supra*, even Joseph Tainter described a pseudo-physical process of civilization, but avoided using the terms ‘entropic’ and ‘entropy’ in his book, though that is what he describes.

Have I lost my marbles, do you think? Sociology is the study of the society of volitional sapient. Those sapient – persons in another word – are congruent or nearly congruent with humanity in the local sense (Daniel Dennett, 1976, see feature quote, 2 Diplomacy, p. 1110, *supra*). We do not normally apply the term sociology to the study of social organization and behavior of herd animals, mammals, birds, fish, or eusocial creatures. Because we do not regard them as either sapient, or human equivalent in any possible sense. We do not think of these creatures – other than eusocial species and perhaps dolphins and whales – as having any complex social structure, as having much beyond mating and milk bond relationships.

Eusocial creatures we credit with more complex structures, and a form of altruistic behavior and collective intelligence, without free will (see meta-law and altruism discussion, Mephisto’s Marriage Counseling, *et seq.*, 3 Diplomacy, p. 1135, *supra*). Thus, we do not normally apply the study of sociology to any creatures other than humans and human relationship to creatures we keep as pets. But sociology, especially microsociology as Professor Ellwell describes it, does not treat humans as sapient, but more like herd animals. Thus, we have made very limited progress in understanding human society; a theory here, a theory there, each one illuminates a small corner of human society or civilization, but there is no enlightening view of the whole, no view from a height, even in current macrosociology.

- ❖ Rhetorical Question: Is sociology and especially macrosociology like G.K. Chesterton’s man who is *partially convinced* that social phenomenon are facts, or like the man who is *entirely convinced* that social phenomenon are facts? Sociology needs to decide one way or the other. Is it science, is it philosophy, is it faith? See G.K. Chesterton, Orthodoxy, Ch. 6 (1908), feature quote 4 Government Titles, p. 634, *supra*.

Macrosociology needs a better view of the whole, it needs to occupy the high ground overlooking the valleys, coasts, and plains where humanity lives. If sociology is the study of the society of sapient, then it needs to understand first, sapience, and second, to apply the proper framework. The Existential Void and Gestalt Structure are the starting frame of sapience.

- ❖ This entire argument, threading through dozens of sections of GGDM as well as what is presented here, is not written to ASA or journal standards. If that causes a furrowing of the brow, curl of the lip... For one, it lacks citations in every sentence, every line, to someone else’s study or article, as if the author’s thoughts would not sufficiently stand on their own merit. The argument I am making here may not even be properly a ‘sociology’ argument in the current profession, but more of philosophical

argument. GGDM’s argument may be acceptable as a paper in some philosophy courses, but still is not up to APA or journal standards. The argument here is made in the style of GGDM, it is probably at best, a ‘lay’ argument.

- ✚ FALLACY OF PRETENTIOUSNESS: “One of the great challenges in this world is knowing enough about the subject to think you are right, but not enough to know you are wrong.” – Neil deGrasse Tyson, “Class Trailer” video to Master Class program. Mr. Tyson is describing the paradoxical Dunning-Kruger effect.¹⁴ Is it pretentious for a non-Ph.D. to write on such weighty matters as structure of civilization, gestalt structures and macrosociology?

There are some who seem to think that anyone writing on non-trivial topics without a Ph.D. after their name is being pretentious. Is it pretentious for someone to think that a game design can be a *magnum opus*, a major intellectual project in the humanities? And in the end, to call for a revival, shift in macrosociology? If so, GGDM may be the *art brut* and I may be the Henry Darger (Chicago, 1892-1973) of macrosociology, social philosophy, game design, social metaphysics, or whatever other category you interpret.

- ❖ “Writing and other arts are criticised as pretentious when they seem to aim at the highfalutin aesthetic or intellectual stratosphere while lacking the chops to see it through. But that, of course, is an inevitable risk of any ambitious creative work. To employ the word ‘pretentious’ against it is empty as criticism, because all it means is ‘not good’; but it is disgustingly full as moral injunction: it means that it is better not to try at all than to try and fail.... Some writers complain about the pretentious use of words, *as though the very act of writing down words and hoping that others will read them and approve of one’s ideas is not itself fantastically pretentious in the first place.*” – Steven Poole, “Pretentiousness by Dan Fox review – why anti-intellectualism is the real snobbery,” *The Guardian*, February 11, 2016 (emphasis added).

What I have written should not be ignored or considered ignoble out of hand because I don’t have Ph.D. after my name (*ad hominem*), nor should I have received a free pass if I did have Ph.D. after my name (appeal to authority, elitism). Compelling elegance of the simulation in explaining humanity and modeling the civilization phenomena will not alone redeem GGDM from being another silly space game (see EN 13, *ut supra*, p. 1550).

“One of the things that I find interesting about Dwarf Fortress is that (to use programming jargon) it’s sort of a declarative game rather than an imperative game. In e.g. StarCraft you select an individual unit and demand that it move to a specific point on the map; in Dwarf Fortress you configure which dwarves are allowed to perform certain tasks, then you place a task in a queue, and some dwarf somewhere will (eventually (hopefully)) take care of it (until they get distracted by a party, or decide to go fishing, or get hungry and wander off to the dining hall, or fall asleep in a stockpile, or drop anything they’re carrying and run screaming from the forgotten beast hurtling down the hallway at them). It’s a fascinating difference in paradigm, and I wish more games would explore the idea of actors in the world being chaotic/free agents which will only somewhat prioritize your wishes.”

– By kibwen, “The Brilliance of Dwarf Fortress (2011) (nytimes.com),” found on forums at <https://news.ycombinator.com/item?id=13754307>

EMERGENT ASPECTS OF GAMING: In a sense, the declarative format of Dwarf Fortress mirrors the answer that Western religion has settled upon in the question of human free will: That God generally shapes people’s lives and requests that we do certain things, but it is our free will to do or not do so, to execute when and where we feel compelled. That the relationship between God and individual humans is an imperative one or any sort of pre-destiny argument has been the dismissive stuff of freshman philosophy and religion courses for centuries.

- ❖ The declarative relationship is the core subject of the lampooning of Christian evangelists in Robert Heinlein’s Job: A Comedy of Justice (1984): If the relationship of Yahweh to humans was imperative, they would not be volitionals.

Emergent game play has become the sexy fascination and frontier of video gaming in the last decade or two, driven possibly by the concepts of Dwarf Fortress. The classic definition of emergent game play are complex systems or situations arising from simple game play mechanics; most definitions suggest that the emergence is unintended or unanticipated by the designers (sometimes via massive programming snafu, such as the famed Corrupted Blood incident in World of Warcraft), and all definitions necessarily imply – without saying so – that the emergent game play is (really) the human players.

- ❖ “Emergent narratives are stories that are not authored by a single person or by any person really. They are stories that emerge from the interaction between players and the systems that govern gameplay. They are random, transient, ephemeral things that only ever exist for one person at one moment in time. I like emergent stories as much as the next person. ... Yet when I look back at my emergent experiences or when I try to tell the stories to others, I realize just how shallow an experience they really are. Emergent stories feel more engrossing than authored stories because they’re personal for the player, and that personal interactivity gives it the illusion of importance.” – Nick Dinicola, “The Problem With Emergent Stories in Video Games,” Pop Matters, July 30, 2013.

Although emergence in video game play was initially ‘accidental,’ emergence is an intentional part of role-playing tabletop games and diplomacy or social tabletop gaming which precedes video gaming by a couple of decades.¹⁵ GGDM began as an expansion to a board game.

GGDM may be regarded as intentional emergent game play and emergent narrative via group storytelling, depending on what is considered as simple game mechanics – admittedly, most gamers would not regard the mechanics of GGDM as ‘simple’ but might agree readily that the situations created by the mechanics and human players are potentially complex. GGDM is as emergent as the players and Concierge wish and can find a way to implement.

GGDM invites and is built upon emergent narrative, see 3 Constructural Elements, p. 205, *supra*.¹⁶ The current game structure, based on the duality of Interpretations and Power Activations, has been in place since about 2002-2004. At that time, I was not familiar with emergence or various forms of the term, as now, when I invented the Interpretation mechanics, I was thinking in terms of adding role-playing opportunities to the game, as I had been familiar with tabletop role playing games since the early 1980s. The final game title occurred sometime in about late 2006, as I remember a very specific conversation about it. In the end, however it came about, Interpretations, News Events, and Interventions became the tools of emergent narrative in GGDM.

Technological emergence is exactly at the heart of the technological singularity. It is the thing we fear; it is the thing beyond our control; ‘event horizon’ is the current first order phenomenon metaphor for emergent behavior. That computers may reprogram themselves in ways we cannot predict and did not intend (and Deep Learning AI already has, see The AI Problem excerpts, Corporations, *supra*), and that they might find us abhorrent, primitive, slow, obsolete or consider us an existential threat, or a plaything of their emerging intelligence (like a little animal is treated by children as a toy), that we may be superseded by our own creations, is the stuff of our nightmares. Given our appreciation of the nature of things, we expect nothing else.

- ❖ I never heard of Dwarf Fortress or emergent gaming until an office conversation in June 2017, after 25 years of working on GGDM and after I had already written the sections about emergence and gestalt structures. I am not by any measure, a PC or video gamer, I have a PlayStation 2 that I have not turned on in over 10 years, and would not work with my current television in any case. I am from the Space Invaders – PacMan – Galaxian – Asteroids – Defender generation and spent way too many hours in the arcades, but really, my interest in video games waned in the mid-90s (Gex, Zoop, Time Bandit). My regular PC play now consists of FreeCell, Mahjongg, and Race for the Galaxy, which I regard as a mental break from my routine – a *placebo* for my mind when I am supposed to be focusing on GGDM editing – and at the same time, intense focus and problem-solving training. I’ve never MMOGed.
- ✚ AI EMERGENT PLAY?: An interesting area for study would be whether and when emergent game play occurs when all players are AI? We already know AIs can create their own language if not required to use standard English (see The AI Problem, Corporations, *supra*).

- ❖ This is probably as good or better a measure than the Turing Test.

In order for AI to experience emergent game narrative, the AI would first have to be a separate entity from the game, and second, experience the game as a human would; that is, create an imaginative semi-fact based story from game mechanical events that it experienced. Connecting dots that are not connected in the game mechanics. And to feel the need to do so as well, almost as if necessary to completing the experience.

- ✚ NO LOTUS FOR YOU: My obsession with GGDM in part arises possibly from the twin notions that the universe is a gestalt structure and that gestalt structures begat gestalt structures through emergences, e.g., see fractured universe discussion Order of Genesis, 1 Order, p. 522, *supra*. Thus, the Big Bang was an emergence event (or another botched creation, if you like David Hume’s arguments, see quote, 1 Fallen to Earth, p. 1495, also ON THE OTHER HAND, p. 1496, *supra*). This is not an assume-the-lotus-position-and-levitate enlightenment – GGDM should never become that. And it does not answer the question of the Prime Mover or First Cause. But it does suggest that entropy is part of a larger non-linear structure, that we are not ‘getting it’ by physical science alone (but science cannot become religion, we need something new, a nascent role currently being filled by the mental and social sciences).

“The greater the decrease in the social significance of an art form, the sharper the distinction between criticism and enjoyment by the public. The conventional is uncritically enjoyed, and the truly new is criticized with aversion.”

– Walter Benjamin

ENDNOTES.

¹ Commentary: I didn't make that up, it was on a poster for an anti-drug abuse campaign many years ago. Drug abuse, of course, goes back to the urge for non-existence, seeking the drug to cure sapience and meta-consciousness.

² Commentary: Which is why science fiction's envisioned sexual relations with bioroids or sophisticated human appearing androids (e.g., *Bladerunner* (1982), *Cherry2000* (1988), *The Stepford Wives* (1975)), while it may appeal to young men, would ultimately in the long term be personally unsatisfying and unwholesome to humanity.

³ Commentary: My progress on this project and the progress of our civilization in any sense, is only wondrous because we are humans, we have nothing else to compare to, and we love the sense of self-satisfaction. In other words, progress is always measured compared to a relative standard and contrasted with what existed before.

⁴ Commentary & Citation: As an aside, the description of his ideas in the current Wikipedia article about him (February 2019) *which reads somewhat like a promo for his books*, makes it seem like he was writing about the development of GGDM, to wit:

- ✓ “His book Where Good Ideas Come From advances a notion to challenge the popular story of a lone genius experiencing an instantaneous moment of inspiration. Johnson instead argues that innovative thinking is a slow, gradual, and very networked process in which ‘slow hunches’ are cultivated, and completed, by exposure to seemingly unrelated ideas and quandaries from other disciplines and thinkers. He lists the themes he has identified from studying which environments and conditions have been correlated, historically, with high innovation. He argues that they make theoretical sense because of their tendency to effectively explore the ‘adjacent possible,’ Stuart Kauffman’s concept (which Johnson cites) of the space of innovations waiting to be made from combining immediately-available notions and solutions.” – from Wikipedia article, “Steven Johnson (author),” February 14, 2019.
- ✓ Steven Johnson’s 2001 idea is echoed by Benjamin Aldes Wurgraff, “Thinking, Public and Private: Intellectuals in the Time of the Public,” *Los Angeles Review of Books*, July 15, 2016:
 - “In our focus on the immediate interventions that public intellectuals can make in the public sphere, is there room for private contemplation, and the glacial tempo at which ideas must sometimes develop?”
 - ‘Glacial tempo’ of ideas is an idea I can identify with... I ideate, cerebrate, percolate the noetic (all this, of course, is taradiddle, but you get the idea).

⁵ Commentary: The paper is undated, but I found it in February 2017 and shared it with a blockchain guy.

⁶ Commentary: Big, loud and dumb wins big about once every seven years, or wins all the time with about 1/7th of the population.

⁷ Commentary: It may seem a completely trivial thing, but in kindergarten, I used to say, “fumb” or “fum” instead of “thumb.” My teacher pointed it out to my mother who went to great lengths to make sure I learned to say it correctly and stopped pronouncing it incorrectly. I also used to drag out the tail ends of “5” when writing it in kindergarten. All of such education says: ‘This is the right way to do it because this is the way everyone else does it.’

⁸ Commentary: The *Babylon 5* television series overtly describes a sort of emergence with humans (of course) as the central catalyst. The ‘overtly’ part is what made the series story arc new and unique. Other science-fiction literature, in television or other forms, may naturally, but as almost an afterthought, describe an emergence of some kind. The reimaged *Battlestar Galactica* series also described an emergence in the form of a human-cylon hybrid, but did so in the context of (more than) a hint of divine intervention and as part of a greater cycle of history.

⁹ Commentary: While I have avoided being overtly political in designing GGDM, admittedly there is not much in GGDM that will be liked by the current right side of the political aisle. Especially those for whom conservative values equate to religious Christianity, who will immediately dismiss GGDM as a typical ASA-like liberal work (of which I am not and cannot be a member because I don't have the educational requirements) and that cursory dismissal will be the end of their argument and inquiry on GGDM. Sad for them it is true.

- ✓ Continuing the Kiss-Off Fallacy: Suppose I were offered an honorary membership in the ASA on the strength of GGDM... what exactly does that mean? It means you do not meet the normal criteria, but they think it would be beneficial – mainly for them – if you were an ‘honorary member.’ It's like being an honorary member of the Mensa Society; it says you are not really smart enough. It's like when a Make-a-Wish child is signed to a one-day contract to be an honorary Pittsburgh Penguin, Steeler or Pirate – it's not real, it's make-believe, cosplay, puffery. It's almost insulting actually *for an adult*.

¹⁰ **Commentary:** However, I suspect that GGDM might be like the Ptolemaic system of geocentric cosmology, which, with a lot of fudging, produced the demonstratively correct results (predictions) of heavenly movement from an incorrect assumption. Planetariums, which are geocentric, still use the Ptolemaic model.

¹¹ **Citation:** “Frigyes Karinthy, in his 1929 short story “L’ancszemek” (in English, “Chains”) suggested that any two persons are distanced by at most six friendship links. Stanley Milgram in his famous experiments challenged people to route postcards to a fixed recipient by passing them only through direct acquaintances. Milgram found that the average number of intermediaries on the path of the postcards lay between 4:4 and 5:7, depending on the sample of people chosen. We report the results of the first world-scale social-network graph distance computations, using the entire Facebook network of active users (≈ 721 million users, ≈ 69 billion friendship links). The average distance we observe is 4:74, corresponding to 3:74 intermediaries or ‘degrees of separation,’ prompting the title of this paper. More generally, we study the distance distribution of Facebook and of some interesting geographic subgraphs, looking also at their evolution over time. The networks we are able to explore are almost two orders of magnitude larger than those analysed in the previous literature. We report detailed statistical metadata showing that our measurements (which rely on probabilistic algorithms) are very accurate.” – Lars Backstrom, Paolo Boldi, *et al.*, “Four Degrees of Separation,” WebSci, June 22-24, 2012 (found on <http://www.leonidzhukov.net/hse/2015/sna/papers/web-sci12-fourdegrees.pdf>).

¹² **Commentary:** Suppose one declared that every human has to obey the Hayflick limit. While it is probably true, it is also probably an unfalsifiable statement because it would be impossible to test every living human now, and not every dead human has died of old age. After that, would come definition arguments, would someone like John in *The Man from Earth* (2007) be considered a human? Is the Hayflick limit central to the condition of being human?

- ✓ Thus, biology cannot be said to ‘predict’ senescence, other than by probability and experience, unlike physics prediction of gravity.

¹³ **Citation:** “‘It would be completely non-scientific to ignore that possibility just because it doesn’t conform with some preexisting philosophical prejudices,’ says Sean Carroll, a physicist at Caltech, who called for the ‘retirement’ of the falsifiability principle in a controversial essay for *Edge* last year. Falsifiability is ‘just a simple motto that non-philosophically-trained scientists have latched onto,’ argues Carroll. He also bristles at the notion that this viewpoint can be summed up as ‘elegance will suffice,’ as [George] Ellis put it in a stinging *Nature* comment written with cosmologist Joe Silk. ‘Elegance can help us invent new theories, but does not count as empirical evidence in their favor,’ says Carroll. ‘The criteria we use for judging theories are how good they are at accounting for the data, not how pretty or seductive or intuitive they are.’” *Id.*

- ✓ “So my book ... is an examination of what has gone wrong. As the subtitle says, the problem is that physicists rely on unscientific methods to develop new theories. These arguments are variations on arguments from mathematical beauty, though many physicists are not aware that this is what they are doing.” – Sabine Hossenfelder, “Physics is still in crisis,” Sabine Hossenfelder YouTube Channel, June 5, 2020.

¹⁴ **Citation:** “The Dunning-Kruger effect ... is simply the observation that incompetent people ... can’t know the shortcomings or incompetencies that they may possess. ... The key in the way that people ... get it wrong is that they ... think that this ... afflicts other people and it’s all about them ... but actually ... this is a phenomenon that sooner or later hits all of us. It’s really about us and ... our own shortcomings. ... The reason we have trouble is because of a paradox which is to spot expertise in other people, obviously you need expertise in yourself, but that’s also true for spotting lack of expertise. That is, to tell when someone has a shortcoming ... you need true expertise to judge that. Now, if you lack that expertise, it means that you lack the very knowledge you need in order to identify shortcomings, and that is true not only in judgments of other people, but it’s also true in the self. So ultimately what that means is that people who lack the knowledge lack the knowledge to know they lack the knowledge.” – David Dunning interview, *The Damage Report* YouTube Channel, February 24, 2019.

¹⁵ **Commentary:** Fans of the *Race for the Galaxy* card game may recognize “six drop” (a player term) developments as a simulation of emergences in an interstellar civilization. In many ways, Tom Lehman (designer) and I are covering similar conceptual ground, except that we are using vastly different game formats, with different objectives.

¹⁶ **Commentary:** I found an image on the internet that made an interesting point about Dr. Who:

- ✓ “The first Doctor tries to act old and wise, but deep down inside is pretty much a stropopy teenager while the eleventh tries to act young and silly but deep down is a tired old man.”

Now, as the story goes, the producers chose an older man to play the first Doctor because they didn’t know what a time lord should look like, but clearly the initial run of the show had to be targeted for a certain demographic – young British males in the ‘60s. It is possible that the writers of the Eleventh Doctor might have deliberately, cleverly created this contrast with the First Doctor, but it is just as or more likely that the comparison is an unintentional result of the post-Cold War and post-millennial reemergence of Dr. Who.

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“How is it that hardly any major religion has looked at science and concluded, ‘This is better than we thought! The Universe is much bigger than our prophets said, grander, more subtle, more elegant’? Instead they say, ‘No, no, no! My god is a little god and I want him to stay that way!’”

– Carl Sagan, shortly before his death ¹

“I don’t want to believe, I want to know.” – Carl Sagan

DEATH OF A YOUNG GROUNDHOG: Late in the afternoon of a late June workday, I was walking along Grant Street in front of the Federal Courthouse, on my usual way home. I glanced over toward the Federal Reserve Bank and was stunned to see a groundhog running to and fro in the rush hour traffic across the street. A bus pulled up to the stop in front of the Federal Courthouse on my side of the street, and I lost sight of the groundhog, so I walked back a bit hoping to see him safely on the sidewalk on the other side.

Suddenly, he emerged from under the Port Authority bus. I think some people must have slowed down to allow him to get that far. He emerged from under the center of the bus at least 20 feet from me, came up on the sidewalk, then suddenly went off the curb and back under the bus as it started moving forward. No one was near him, he just saw people, sidewalk, the big building in front of him, and turned to flee. I looked away and saw a lady standing at the bus stop avert and close her eyes. We both knew what was about to happen; when the bus cleared down the street, the critter was dead, killed under the wheels of the bus.

I admit to being slightly upset at the senseless death. No one could have saved him or helped him, unless they had the power to freeze him in place. Yelling or lunging for him would have been futile, if I had even thought of it at that moment.

I do not know where the groundhog came from or why he was there; he must have been living somewhere and was spooked out. He was not large by groundhog standards, I think he was young, maybe a yearling, with his coat still dark. The bus driver certainly didn’t know he was there and had the bus not hit him (or had stopped), he would have run back out into the center lanes traffic. Sadly, it reminds me of the video game Frogger that used to be fun and seemingly harmless, in the gaming arcade days of my youth.

Somehow the creature found itself in a situation outside of its normal habitat, a situation that evolution, instincts and its processing power, were not prepared to survive. Undoubtedly, the creature was scared and confused; cars are much larger and move much faster than anything a groundhog would know in the wild. Their movements would be completely *alien* to it.

Humans, and especially young children, and occasionally entire civilizations, sometimes find themselves in situations for which evolution, physical abilities, sentience quotient, and civilization, has not prepared them, such as migrations and displacement, peer and political pressure, epidemics, riots, crowd stampedes, accidents and catastrophes, sudden violence, warzones; the European invaders were *aliens* to the Native American world and brought death, diseases, alcohol.

- ❖ Situations and conditions beyond our evolution and civilization – the fish out of water scenario – are the core of horror literature, especially science fiction, supernatural

and post-apocalyptic horror, people placed in lethal situations for which they are not prepared and do not understand (but which the audience has a god-view).

Increasingly, this is the situation in which humanity has placed the rest of life on Earth – and probably itself – as population expands and pollution and climate change accelerate the process, the remaining wilderness of the world is the groundhog running in center city rush-hour traffic.

And, unless some creature of higher intellect – probably *alien* – observes the demise of groups of humans and life on Earth, whom they cannot save or help, and chooses to remember and reflect upon it, we will simply perish, fates unknown to a meaningless universe.

✚ HUMAN WORTH: ‘Human Worth’ is like religion; if I do not believe in it, you cannot convince me otherwise, if I do believe in it, you will never take my dignity. How many really believe in human worth other than their own?

- ❖ The value of someone’s life in our legal system is expressed in dollars. We have no other means to frame compensation and survivorship. The system creates an inherent inequality between the dead, the life of a McDonald’s employee is less valuable than the life of an attorney based on their projected lifetime wages and economic support benefit to their parents, children, and spouses. It creates a *cognitive dissonance* because most of us don’t think of it in this way; I discussed this many, many times at the law firm where I worked. But some have taken it to heart as if that is the measure of someone’s human worth; it may be that it is factual and calculable, but it is most likely also that it reinforces their ego *vis-à-vis* others who make less money than they.
- ❖ “It’s a little hard not to be an elitist when you’re making millions of dollars a year.” – Walter Cronkite.

People who point out the value of a life, the contributions to culture and society of each individual, how many people were enlightened, entertained, or made to laugh, are answering *the wrong question*: The value of someone’s contributions to the world of their time and to posterity is not an answer to the question of absurdity, the self-evident injustice (in the Kantian sense) of having been placed here without our consent (however absurd that may seem).

Their answer is the favorite of fiction writers, priests, motivational and positive psychology speakers, it makes us feel human worth of our lives until the moment you realize that it’s not an answer to the question.

“Where did the universe come from? Asking this question is a hallmark of our species. There’s a natural tendency to understand the origin of the cosmos in familiar biological terms. The mating of cosmic deities or the hatching of a cosmic egg or maybe the intonation of some magic phrase. The big bang is our modern scientific creation myth. It comes from the same human need to solve the cosmological riddle.”

“These are not easy questions. Cosmology brings us face to face with the deepest mysteries with questions that were once treated only in religion and myth. ‘Who knows for certain? Who shall here declare it? Whence was it born? Whence came creation? The gods are later than this world’s formation. Who then can know the origins of the world? None knows whence creation arose or whether He has or has not made it. He who surveys it from the lofty skies. Only He knows or perhaps He knows not.’ These words are 3500 years old. They’re taken from the Rig-Veda a collection of early Sanskrit hymns.” – Carl Sagan, Cosmos, Episode 10

RELIGION: Conspicuously absent from the human structures in GGDM is any direct treatment or description of religion as a part of the gestalt structure of civilizations.² Like most science fiction (much of which is distinctly uncomfortable with religion³) literature, Gestalt Genesis-Day Million assumes as a baseline that technologically-advanced civilizations would be secular and scientific with some pre-technological religion vaguely hovering in the background as a historical leftover, whose creation myths⁴ have been debunked by science. However, such assumption leaves a large gaping hole in the identification of the internal structures of human societies.

- ❖ This discussion immediately bypasses the thorny threshold question of whether sapient alien life (technologically advanced or not), whether ‘humanoid’ or otherwise, would have, need or conceive of religion (and what that might imply). The model of the game is quite obviously human civilization, and players are free to adapt.

I have some ideas of where the inquiry might begin and the probable outcome within the structures described in this game design. Here are some important initial questions to ask:

✚ IS THE RELIGION PROSELYTIZING OR NON-PROSELYTIZING?: This is a key question for game purposes; history has shown what happens when a proselytizing (i.e. missionary) religion obtains sovereign power. This is the stuff of literary historical drama and catastrophe.

- ❖ “In the case of the righteous unlearned, ‘It may be supposed that such persons would have desired Baptism explicitly if they had known its necessity’ and, by extension, God may permit them to attain salvation. ...

With regard to the fate of the unlearned, Willard Francis Mallalieu, a Methodist bishop, wrote in Some Things That Methodism Stands For:

Starting on the assumption that salvation was possible for every redeemed soul, and that all souls are redeemed, it has held fast to the fundamental doctrine that repentance towards God and faith towards our Lord Jesus Christ are the divinely-ordained conditions upon which all complying therewith may be saved, who are intelligent enough to be morally responsible, and have heard the glad tidings of salvation. At the same time Methodism has insisted that all children who are not willing transgressors, and all irresponsible persons, are saved by the grace of God manifest in the atoning work of Christ; and, further, that all in every nation, who fear God and work righteousness, are accepted of him, through the Christ that died for them, though they have not heard of him. This view of the atonement has been held and defended by Methodist theologians from the very first. And it may be said with ever-increasing emphasis that it commends itself to all sensible and

unprejudiced thinkers, for this, that it is rational and Scriptural, and at the same time honorable to God and gracious and merciful to man. ...

According to Qur'an, the basic criteria for salvation in the afterlife is the belief in one God, the Last Judgment, acceptance and obedience of what is in the Quran and ordained by the prophet, and good deeds. As the Qur'an states:

Surely those who believe (Muslims) and those who are Jews and the Sabians and the Christians whoever believes in Allah (God) and the last day and does good – they shall have no fear nor shall they grieve.

The problem of the unevangelized does not arise in religious or spiritual traditions such as deism, pandeism, and pantheism, which do not include any revelation or require obedience to revealed rules. In deism, some believe that individuals will be judged by one's obedience to natural laws of right and wrong to be obtained by the exercise of reason alone, and so, failure to exercise reason in the effort to make this determination is itself the cause for punishment.

In Buddhism, all beings, whether evangelized or not, will continue to be reborn until they have achieved Nirvana. However, Buddhist scholars have said that '*any suggestion that enlightenment is immediately available to anyone who really wants it, even if he has never heard of Buddhism, is likely to be received with incredulity or even resentment.*'

Dante attempted to answer this question with the first level of Hell in the Divine Comedy, where the virtuous pagans live. They are described as those who lived before the time of Jesus and therefore unable to enter Purgatory or Heaven. Amongst them is Virgil, Dante's guide through Hell and Purgatory." – from Wikipedia article, "Fate of the Unlearned," captured October 1, 2019 (emphasis added).⁵

✚ IS THE RELIGION WORSHIPFUL, DEFERENTIAL OR PHILOSOPHICAL?: Or put another way, to what extent did the Greeks (and other ancient polytheistic religions) *actually believe* their gods existed and did they worship them the same way that later pejorative monotheistic religions worshipped? See also Dream Police, 1 Dreamtime, p. 132, *supra*.

- ❖ For example, Roman religion has been described as 'contractual' in nature. Roman religion was an element of the state, rites were important to state functions and leaders would often hold both state and religious office. The Romans were non-pejorative, they did not seek to convert anyone to their religion, only requiring that conquered peoples recognize the Roman religion in mesh with local traditions and myths (syncretism) and build a Roman temple. The Romans were not fanatical, extremist or militant with regard to their religion; they were practical and economic in administration of the wider empire. Finally, the 'contractual' sense implies that they have the right and position to bargain with the Gods; that is, that the Gods needed their worship as much as they needed the Gods' favor. Compare to Abrahamic religions.⁶ Yet, even Abrahamic religions (and possibly all religions) have a 'contractual' feeling or arrangement, the modern kind is deferred mostly to the afterlife.

The most direct expression of the 'contractual' relationship in fiction that I recall is Fred Saberhagen's Books of Swords series (1983-1984), where the 'gods' are infinitely powerful as long as they are worshipped, but fade away at the end when people start to question them and stop deferring to them.

✚ IS THE RELIGION ORGANIZED OR INDIVIDUALIZED?:

- ❖ “Spirituality vs. Religion. These two concepts often coexist, but they certainly don’t have to. Spirituality occurs and exists within. It’s an experience that one harbors inside their soul and mind. On the other hand, religion exists within the masses. You join others in one set of beliefs to practice and worship a higher being and holy books that exist outside of yourself. Look at religious leaders if you need help distinguishing between the two. They weren’t part of the religion they created, but spiritually-oriented individuals. Buddha didn’t subscribe to Buddhism and Jesus didn’t subscribe to Christianity. They weren’t religious, they were spiritual. People can also be religious but not spiritual if they don’t view themselves as containing the ultimate knowledge they seek and simply accept the word of another individual or establishment without question. Or if religion and spirituality function as a trend or something to tout over other people, you unquestionably are not spiritual.” – Sarah Braddock, “Spirituality vs. Religion: Which is Best for You?” undated article appearing on metiza.com and metizamagazine.com.

Incidentally, Ms. Braddock just admitted that Christianity (and Buddhism) are ‘made up’ religions; Buddha wasn’t a Buddhist, and Christ wasn’t a Christian.

- ❖ “Religion is belief in someone else’s experience. Spirituality is having your own experience.” – Deepak Chopra.

✚ HOW HAS THE RELIGION ADAPTED TO SCIENCE, TECHNOLOGY, INTERSTELLAR TRAVEL AND EXPOSURE TO THE LARGER UNIVERSE?:

- ❖ “‘How could he be God and leave extraterrestrials in sin?’ asks the Rev. George V. Coyne, the former director of the Vatican Observatory ... ‘After all, he was good to us. Why should he not be good to them?’ This has engendered a sort of how-many-angels-can-dance-on-the-head-of-a-pin argument about whether Christ died for the entire cosmos, or whether the son of God or the metaphysical equivalent has to be born and die on every populated planet. Each alternative sounds ridiculous on the face of it. The first alternative would make Earth the center of the universe again, not just in space but in time, carrying the hopes for the salvation of beings that lived and died millions or billions of years ago and far, far away. The second alternative would be multiple incarnations, requiring every civilization to have its own redeemer – ‘its own adventure with God,’ in the words of Professor Peters. That is hardly better. As the old troublemaker Thomas Paine wrote in *The Age of Reason*, ‘In this case, the person who is irreverently called the son of God, and sometimes God himself, would have nothing else to do than to travel from world to world, in an endless succession of deaths, with scarcely a momentary interval of life.’” – Dennis Overbye, “Do Aliens Know It’s Christmas?” *New York Times*, December 22, 2014.
- ❖ *Cf.* “Let’s suppose that, against all odds, they do find life. What would it mean for biblical interpretation? It depends on the type of life discovered. Intelligent life is ruled out, because we know from Heb. 9:24–26 that Christ died for sins once, and only once – for the sins of humanity. He did not have to ‘suffer repeatedly since the foundation of the world’ (i.e., the universe). Nowhere in Scripture is there any hint that Christ became incarnate for the sins of any other beings. For this reason, it is

highly unlikely that alien intelligence (as opposed to fallen angels impersonating aliens) will ever be found. But what about non-sentient, e.g. microbial, life? Though one cannot rule it out, it is highly unlikely that this exists, either. All of creation seems focused around mankind on earth, and the plants and animals are part of our life support system.

All life is intelligently designed. Only humans are made in the image of God, have fallen into sin, and are in need of salvation. Christ Jesus provided grace uniquely to humans by His death on the cross and His glorious Resurrection. Unverifiable speculation about life on other planets may be fun, but in the end, it is futile. We can know for sure what we need to know: that God has provided for our physical and spiritual needs on our superbly designed planet.” – David F. Coppedge, “Extrasolar planets: a challenge to biblical cosmology?” *Creation* 36(3):42–44, July 2014 (creation.com).

- ✚ WHAT IS THE EMOTIONAL CORE OF THE RELIGION?: This inquiry began when I asked the question of why Iceland converted to Christianity? Is the destruction of pagan sacred places by invaders, as happened to the Saxons (a deliberate subjugation campaign by Charlemagne), enough or is there something more? Eventually, my thinking arrived at the idea that each religion has an emotional core, or core group of emotions to which it appeals. Religion then, is an emotional need or experience, and all accounts that do not address this are fallacious. So it should come as no surprise that the competition between religions is a competition for base emotions of the audience. The competition is won when a religion becomes the culture.
- ✚ WHAT DOES THE RELIGION SAY ABOUT THE AFTERLIFE⁷ AND THE EXISTENTIAL VOID?: Empiricism is a *rejection of the habit of making factual statements about things of which the speaker cannot possibly have knowledge*; it stood thus in stark contrast to the world of religious dogmatism and scholasticism in which Sir Francis Bacon lived (see PANGLOSS DOESN'T VISIT OFTEN and WHEN THE WORLD WAS NEW, WHEN THE WORLD WAS OLD, 1 Fallen to Earth, pp. 1495, 1497, *supra*). Conversely, empiricism by its nature must abide strictly by its own limitations, to which sapience refuses to be held. And thus, we come full circle as philosophical conjecture and new age religion leap into the twilight, always keeping just beyond the bounds of empirical knowledge.
 - ❖ “You’re in such a strong position when you understand the scientific process because all you say is, ‘Do you understand that the great breakthrough of humanity was figuring out how to make decisions about things whilst discarding human foibles? So, anecdotal evidence involves all your subjectivity – if we do it like this we don’t have that anymore. Why, surely do you understand how powerful that is?’ And if they don’t, then that’s what you have to explain to them. It’s an extremely powerful thing and a very basic thing.” – Tim Minchin interview, The Skeptic Zone (podcast), April 17, 2009.
 - ❖ I think that if on any one day, each of us individually had the choice to have never existed, the world’s population would be immediately halved, the other half having – not merely died or vanished – but never existed. In some religious sense, this might pass for Judgment Day. But do not miss the forest here for seeing only the trees, it is very likely that only humans – of all the creatures of the Earth – question their existence and it likely that only humans would wish to have not ever existed. The Existential Void is the curse of intelligence.⁸

- ❖ It seems most likely that the universe is a prison to torment and annoy us for no particular reason at all. All things being equal, it is as good an explanation as any. I might offer that we are constantly being punished for being alive and trying to accomplish anything, or for doing nothing – it doesn't matter which, except that the punishment is just as likely to be for no reason at all, for no transgression, for none other than the 'amusement' of the universe. Some people think god and the universe are the same (which would be very sad if true). And further, if anything at all happens after we die, there is no reason to believe that the punishment will end, that we will go to heaven or wherever, or that the punishment and torment will not simply continue in another guise. Heaven may well be punishment too.

You can tell me I am wrong, write volumes, I don't care, I am a 'big boy' and I can handle it (especially after I am dead, a curious fringe benefit of that condition in the 'marketplace of ideas'). But can you honestly tell me that you think what I say might not be true? Does it seem true to you? If you think this is moral, mortal sickness, who do you blame? My statements do not violate any sense of empiricism because they are being offered not as facts that I know, but rather, as the daily feelings of an intellectual who has parted and peered through the layers of veils our ancient ancestors constructed separating us from the Existential Void.

- ✚ ONE RELIGION OR MANY?: How many religions or spiritual traditions are being carried into galactic space? Is one religion dominant and can all the religions be grouped as similar enough to be considered one for game purposes? Has one or more major religious groups stayed at home?

- ❖ "Dr. [Geoffrey] Marcy, with tongue fairly firmly in cheek, evoked what he called 'the multi-god model of the universe.' There might be room in the universe for more than one truth, he said, if every inhabited planet had its own gods. The inhabitants might be as certain of their beliefs as we humans are of ours. 'The deities have carved out their operating galactic territories, like so many cosmic Corleone families,' Dr. Marcy said. 'Only with SETI research,' he went on, referring to the search for extraterrestrial intelligence, 'will we learn whether our particular God is alone in the universe.'" – Dennis Overbye, "Do Aliens Know It's Christmas?" New York Times, December 22, 2014.

What a fun idea for a game! How much of science-fiction's vast content has dared to discuss any other than one particular Western religion being carried into space and to the stars? Christianity only makes sense within the limited framework of the time it was created and the mortal thoughts of humans.

- ✚ IS THE RELIGION PORTABLE?: That is what is the relationship or dependency of the religion on the original Homeworld for context, organization and sacred places and qualities?

- ❖ "Some 500 'Saudis and other Arabs,' most of whom are probably Muslim, have signed up with a private company, Mars One, which promises to bring them to the Red Planet to establish a permanent human colony. But a new fatwa may force those would-be astronauts to put those plans on hold. This week, a United Arab Emirates-based group called the General Authority of Islamic Affairs and Endowment (GAIAE) has issued a fatwa against living on Mars, reasoning that such an attempt would be akin to suicide, which is prohibited in Islam. 'Such a one-way journey

poses a real risk to life, and that can never be justified in Islam,’ the committee said. ‘There is a possibility that an individual who travels to planet Mars may not be able to remain alive there, and is more vulnerable to death.’ (In case you’re wondering: There is a fierce debate among Islamic scholars as to whether suicide bombings are forbidden or permitted because they are a ‘supreme form of jihad,’ in the words of influential cleric Sheikh Yusuf al-Qaradawi. Some Muslim clerics have even issued fatwas in support of suicide attacks despite the seemingly rock solid prohibitions against it under Islamic law.)” – Katelyn Fossett, “What a Bummer for Muslim Astronauts: A New Fatwa Bans Travel to Mars,” Foreign Policy, February 20, 2014.⁹

Mars One’s Response (in part):

- ❖ “If we may be so bold: the GAI AE should not analyze the risk as they perceive it today. The GAI AE should assess the potential risk for humans as if an unmanned habitable outpost is ready and waiting on Mars. Only when that outpost is established will human lives be risked in Mars One’s plan. With eight successful consecutive landings and a habitable settlement waiting on Mars, will the human mission be risk-free? Of course not. Any progress requires taking risks, but in this case the reward is ‘the next giant leap for mankind.’ That reward is certainly worth the risks involved in this mission.

Mars One respectfully requests GAI AE to cancel the Fatwa and make the greatest Rihla, or journey, of all times open for Muslims too. They can be the first Muslims to witness the signs of God’s creation in heaven, drawing upon the rich culture of travel and exploration of early Islam.

The lives and journey of the first Mars settlers will tell us more about our place in the universe than any other humans before us.

The Fatwa prohibits Muslims from going to Mars, but not from applying to Mars One’s mission or training for the mission. In the next ten years, Mars One is open to working with the GAI AE to assess the risk of the mission as the unmanned settlement is under construction. Hopefully before departure of the first crew, the GAI AE will cancel the Fatwa and support the Mars One mission.

As Ibn Battuta also wrote: ‘Travelling – it leaves you speechless, then turns you into a storyteller.’” (available on marsone.com)

Walter M. Miller, Jr.’s novel, *A Canticle for Leibowitz* (1959), ends with the transfer of Church authority to a colony ship bound for the stars to escape a second pending nuclear apocalypse on Earth.

“You can safely assume you’ve created God in your own image when it turns out that God hates all the same people you do.”

– Anne Lamott, *Travelling Mercies: Some Thoughts on Faith* (1999)

PROBLEM TO SOLVE: It seems likely that Ms. Lamott might have been thinking of the late Fred Phelps at just that moment.

That religion has not been directly simulated in the structures of GGDM suggests that it’s a frame of reference problem, very similar to quantum mechanics.

- ❖ “Unlike classical physical processes, some quantum mechanical processes (such as quantum teleportation arising from quantum entanglement) cannot be simultaneously ‘local,’ ‘causal,’ and ‘real,’ but it is not obvious which of these properties must be sacrificed, or if an attempt to describe quantum mechanical processes in these senses is a category error such that a proper understanding of quantum mechanics would render the question meaningless.” – from Wikipedia article, “List of Unsolved Problems in Physics,” captured June 18, 2018.

That is, *strictly within the framework provided by the GGDM rules*, religion may act like a quantum mechanical category error, as described above. Religion has been discussed in relation to happiness (i.e. as the meta-aspect), legitimacy (religion’s secular ‘unity of opposites’ being security, the ‘supra-legitimacy’), aspects (Kairotic Moments, faith Aspect) and Constructural Elements (i.e. apostasy). When presented in this way, the problem seemed better handled by judgment and interpretation of the participants, and Concierge Interventions to determine which properties to sacrifice to manifest religious effect in that moment of the game.

This is not to say that a ‘meta-structure’ could not be developed by participants if desired; we are not entirely clueless on this issue. For example, a possible starting point might be Mircea Eliade’s classic hierophany:

- ❖ “HIEROPHANY (from Greek hiero-, ‘sacred,’ and phainein, ‘to show’) is a term designating the manifestation of the sacred. ***The term involves no further specification.*** Herein lies its advantage: It refers to any manifestation of the sacred in whatever object throughout history. Whether the sacred appear in a stone, a tree, or an incarnate human being, a hierophany denotes the same act: A reality of an entirely different order than those of this world becomes manifest in an object that is part of the natural or profane sphere.

The sacred manifests itself as a power or force that is quite different from the forces of nature. A sacred tree, for instance, is not worshiped for being a tree. Neither is a sacred stone adored, in and of itself, for its natural properties as a stone. These objects become the focus of religious veneration because they are hierophanies, revealing something that is no longer botanical or geological, but ‘wholly other.’” – from Encyclopedia.com article, “Hierophany,” captured October 2, 2019 (emphasis added).

Expressed in this manner, a hierophany is a ‘fuzzy concept’ and ties religion, or at least expression of the sacred, to Fuzzy Groups in GGDM terminology (see Fuzzy Concepts, 4 Culture, p. 404, *supra*), and as such, might find expression in Writ activations. A hierophany is also implicitly an interpretation, as the previous quote makes clear, the stone or tree has no innate quality or intrinsic value of ‘sacredness.’

- ✚ **STEPPING STONES:** Within the game, religion would have to consist of a number of interrelated structures, but the relationship of these structures would have to exist in a slightly different way than can be currently described in the game terms. Or perhaps more accurately, religion might be a ‘quasi-structure’ or ‘meta-structure’ which the game is not designed to handle directly. This would be an interesting problem for the players to solve; I have twisted my ankle a few times on stepping stones while crossing shallow creeks and runs...¹⁰

1. A religion would almost certainly have to begin with a Fundamental Reality; the pre-technological religion – if it still has any force at the beginning of the game – would have to begin as a Fundamental Reality. It is possible that a new religion could develop

as a result of the story of the game, but in most cases, the religion of the Native Populations would be ancient and pre-technological.

- ❖ The Fundamental Reality ‘religion’ is not as onerous as it might seem in the game, it is well known that religion can be bent any way desired, e.g., preceding quote discussing fatwas for or against suicide bombings in Islam.
2. Religions address psychological and emotional needs of their society (must have a function), legitimacy and worldviews and as such, in game terms, they would have some relationship to Aspects and Constructural Elements (see ‘asabiyyah’). Perhaps Aspects that are identified with the emotional core of the religion would have more staying power and certain other Aspects would be eliminated or marginalized.
 - ❖ One interesting effect or consequence of the major world religions has been the spread and internalization of ‘reproductive consciousness’ in the population. Marriage and various measures to control who can reproduce and when have embedded firmly the idea that heterosexual intercourse causes pregnancy.
 3. Other parts of the civilization might be affiliated with the religion, depending on circumstances, for example, Colleges (e.g., Madrasa in Islam, and/or the original Medieval European universities requiring theology studies) or Government Titles (especially social titles, but religious organizations historically have been an estate title as well).

Religion would certainly be involved – positively or negatively – in conversion and naturalization or genocide of **alien colonies**. We have discussed that already...

- ❖ An interesting and informative historical example is the introduction of Christianity into Japan, China and Southeast Asia. In Japan, Christians were persecuted, segregated, and marginalized; the community there remained small and isolated. In China, the result was one of the largest and most brutal civil wars in history (the Taiping Rebellion, little known to the West), followed by a collapse and rejection of Christianity (and the duality) and return to traditional Chinese culture. Another interesting study is the introduction of Islam into India, the birthplace of the ancient Hindu and Buddhist religions and the rise of the anti-Muslim Sikh Confederacy.¹¹

Religion could certainly continue to effect populations on Conquered, Converted and Naturalized Colonies. Religion could also make planet Balkanization (as the term is used in this game) impossible, difficult, or easy. Religion has also played a large role in the legitimacy.¹²

- ❖ Science-fiction, the “literature of ideas” according to James Gunn, developed in the very milieu that serves as the baseline assumption of future society. Science-fiction literature has not fared well outside of Japan and Western technological/industrial culture; there is, to my knowledge, very few Islamic or Hindu/Buddhist science-fiction writers, nor is science-fiction – especially as satire – welcome by religious extremist (e.g., where they kill atheist bloggers and the police do nothing) or places where authoritarian regimes don’t want people to dream or have unapproved ideas.
 - See also “Defining ‘Science Fiction,’” Gunn Center for the Study of Science Fiction (<http://www.sfcenter.ku.edu/SF-Defined.htm>).

✚ **NO TRANSFER, NO TICKET:** While I have been significantly tempted to apply the structures of GGDM to situations in the real world, I would advise caution in doing so, as the game itself is a simulation or ‘model’ of civilization made on conjecture; not a coherent theory.

The simulation has grown to the level of being very complex, but it falls far short of the complexity of the real things that it simulates (e.g., a combat simulation is cannot really be like the real thing!). It is as if I painted a picture (albeit, a dynamic picture, not static), theories can and have been developed about various paintings and pictures, and pictures can be painted based on an art theory, but the painting or picture itself is not a theory.

There are significant areas of human history and civilization (or even scenarios dreamt by fiction writers, intellectuals and academics) that would be difficult to simulate within the structures of GGDM. The game therefore, is not Asimov’s psychohistory (and I admit to being peculiarly infatuated with the idea, merging with Alan Parsons’ “Games People Play” (1980) when I was young); it has **no** predictive value, it is **not** testable or verifiable, it is therefore, a work of intuition and philosophy (as is most of social science in a Baconian sense), and probably some wishful thinking, in the guise of macrosociology and with a whiff of ontology. The best possible result is that some of the ideas and simulation inspire discussion and learning. I have, however, described a framework for why it *matters*.

“A knowledge of the existence of something we cannot penetrate, of the manifestations of the profoundest reason and the most radiant beauty – it is this knowledge and this emotion that constitute the truly religious attitude; in this sense, and in this alone, I am a deeply religious man.”

– Albert Einstein, The World as I See It (1949)

“Einstein’s conception is closer to mine. His God is somehow involved in the immutable laws of nature. Einstein has a feeling for the central order of things. He can detect it in the simplicity of natural laws. We may take it that he felt this simplicity very strongly and directly during his discovery of the theory of relativity. Admittedly, this is a far cry from the contents of religion. I don’t believe Einstein is tied to any religious tradition, and I rather think the idea of a personal God is entirely foreign to him. But as far as he is concerned there is no split between science and religion: the central order is part of the subjective as well as the objective realm, and this strikes me as being a far better starting point.”

– Wolfgang Pauli (1927), quoted by Werner Heisenberg in Physics & Beyond (1971)

THE ZERO SUM PROBLEM OF RELIGION: In the inherited and developed Abrahamic Tradition, there is but one God, who is all powerful, all knowing and all good (more formally described as ‘omnipotent,’ ‘omniscient,’ ‘omnipresent,’ ‘omnibenevolent,’ ‘almighty,’ ‘transcendent,’ etc.).

If this is so, God does not need us to do anything, such a being can do what it wants, does not need to waste any effort on what we want or trying to convince us to do what it wants, and we are just in the way. It doesn’t need our volition. It doesn’t even need to convince us to be good and moral or worshipful; we could simply be changed or remade to be so at a whim.¹³

- ❖ “Are you never afraid of God’s judgment in denying Him? Most certainly not. I also deny Zeus and Jupiter and Odin and Brahma, but this causes me no qualms. I observe that a very large portion of the human race does not believe in God and suffers no visible punishment in consequence. And if there were a God, I think it very unlikely that

He would have such an uneasy vanity as to be offended by those who doubt His existence.” – Bertrand Russell, “What is an Agnostic” (1953).

- Despite Bertrand Russell’s excellent explanation of “What is an Agnostic,” most agnostics are people who don’t really want to argue about whether or not there is a God (in any sense), especially with certain people who haven’t a care about evidence, facts or reason. There are many more interesting things; “bugs, for instance” – quoting Clarence Darrow, another famous early 20th Century agnostic (see excerpt of Closing Arguments in the Sweet case, The Next Season, *supra*).

If God needs to counsel, cajole, guide, teach, impose laws, punish, test, or anything else described in the Bible, if it needed to sacrifice its ‘son’ or avatar on Earth for us, then it is not all powerful, all good, and all knowing in the absolute sense. If it even needs our worship, it is so lessened (even more narcissistically absurd is the oft-repeated claim that God has a plan for us). The all-powerful God would have made golems (as in Robert Heinlein’s Job: A Comedy of Justice (1984)); in the strict zero-sum sense, God is diminished by having created volitionals.

- ❖ This is the zero-sum problem of Christianity, Judaism and Islam: No one has ever explained or examined why God needs us; we simply have no evidence on the issue other than idealized parental assumptions.

The other frequently asked question in Christianity, “If God is all knowing, all powerful, and all good, why is there Evil in the world?” almost gets there, but also misses the point. The answer is obvious when the question is answered out of context. The fact that the question is asked is the answer to the question.¹⁴ He/She/It isn’t.

- ❖ People don’t realize what a thorny problem they create when they proclaim “God Hates Fags” (popularized by Fred Phelps, Westboro Baptist Church protest signs) – as if their God is powerless to do anything about ‘fags.’ ‘Fags’ everywhere should rejoice because the powerlessness of their God (not to mention their intellect) is inherent in the statement. God is apparently powerless before volitionals or is restrained by a higher power still or by circumstances we don’t know – or doesn’t hate ‘fags’ enough to do anything. Or doesn’t exist. Occam’s Razor; Hitchen’s Razor.

This then must have been one of the first points of contention with the existing and established Roman state religions which were ritualistic and contractual in nature; the Romans believed that the gods needed their worship and they needed the gods’ favor. The Romans believed in a *quid pro quo* relationship with their gods that was incomprehensible to Jews and early Christians whose god was tyrannical, paternal, and demanded utter submission, whose only benefit was a “pocketful of mumbles, such are promises” (Simon & Garfunkel, “The Boxer” (1970)).

- ❖ There is probably a colorable correlation between the decline in practicing Christianity and decline in the understanding and knowledge of the Roman Empire. The New Testament is an artifact of the Roman world; study of the New Testament leads to study of the Roman Empire in general, can also stretch to ancient Greece and ancient Egypt, but leads to widespread ignorance of cultures and history beyond Europe.
- ✚ CHILDREN’S GOD: The Genesis Mandate and Ten Commandments seem like they were written for children. Because they were. By children. Like Doctor Moreau’s laws to the Beast Folk. See Mythopoeic Thinking discussion, 1 Temporal Technology, p. 809, *supra*.

- ❖ **God:** (standing on a chair behind Noah, he rings a bell once) NOAH! **Noah:** (Looks up) Is someone calling me? (Shrugs and goes back to his work) **God:** (Ding) NOAH!! **Noah:** Who is that? **God:** It's the Lord, Noah. **Noah:** Right ... Where are ya? What do ya want? [whining] *I've been good.* – Bill Cosby, “Noah” skit, transcript from iComedy TV (emphasis added).
- ❖ “Swing your partner by the hand; Have a baby if you can; But if the voices in your head; Say to sacrifice your kid; To satiate your loving God's; Fetish for dead baby blood; It's simple faith, the Book demands; So raise that knife up in your hand! ... Good is good and evil's bad; And kids get killed when God gets mad; And you'd better take a good look; At the Good Book.” – Tim Minchin, “The Good Book” (2009).

We have made progress: If anyone attempted now to do what Abraham tried to do to his infant son, Isaac, in the name of God, they would be heavily sedated and locked in a padded room. Or incarcerated for life for murder. *Yet, this story is the basis and the core of three major world religions!* As the BBC pointed out (Kelly Grovier, BBC Culture, “The second a father saved his son,” March 11, 2016), the rote repetition of the Biblical story of Abraham's intent to kill his son at God's command has rendered the horrific moment of ritual infanticide emotionally empty. The parental horror of the concept is gone, the moment of salvation is lost in the empty stares of bored students filing past old paintings in the museum. And it doesn't take long for novelty to wear off now:

- ❖ “The realist in Snider knows that the schoolyard-fence-rattling message of Twisted Sister and its crown jewel ‘We're Not Gonna Take It’ has been diluted by karaoke bars, commercials and sports arenas – and yes, a certain Broadway musical.” – Rolling Stone Magazine, October 28, 2016.

✚ FREE WILLY: That we have and/or were given free will to choose detracts even more from God's absolute power, goodness and perhaps, knowledge, in the zero-sum sense. Conversely, to the extent that we are compelled by divine will or intervention to do anything or refrain from doing anything at all, is a corresponding reduction in our free will (like GGDM Interventions...). This has always been a thorny problem in religion and philosophy. Most religion easily settled on the concept of surrendering to divine will as it went hand in hand with the superiority of divine wisdom and/or obedience to the creator, *in loco parentis*.

- ❖ “The problem of freewill makes its first large-scale appearance in a religious context, when men had come to believe that here was one God, omnipotent, omniscient, and concerned with human action. The problem of freewill was first definitely stated as a problem of Christian theology. The problem arose, in fact, from a number of different roots in Christian belief: Christianity asserts on the one hand that man does freely choose his actions, but also asserts on the other hand statements not evidently compatible with this, for instance that God being omniscient knows from all eternity what actions a man will in fact perform.” – Bernard Williams, Freedom and The Will (1963), p. 5.¹⁵

From a philosophical point of view, free will might just as well be a myth as we are all hemmed in by decisions made by others both before we were born and during our lifetime;¹⁶ none are actually free, and cultural rebels trade their little freedom for delusion of freedom.

- ❖ “Rebels can never really be free.” – Dr. Stephen Griffith, Lycoming College. I think this memorable line was part of a lecture in the Philosophy of the Occult course. The

point was that rebels must always be against something and that forms their existential boundary. See also *Rebels, Romans and Ruins of Religions*, 1 Constructural Elements, p. 182, *supra*.

It is thus in the latter half of the 20th century that philosophy and psychology (in the wake of WWII, and during the Cold War) settled on the idea of existential freedom; that we are all free to act and live within the confines of our existence, which is determined by the universe and the world we inherited from others. Existential freedom does not exclude the idea of divine will or intervention, as those would simply add *additional boundaries* to our existence.

“I would love to believe that when I die I will live again, that some thinking, feeling, remembering part of me will continue. But as much as I want to believe that, and despite the ancient and worldwide cultural traditions that assert an afterlife, I know of nothing to suggest that it is more than wishful thinking.”

– Carl Sagan, *Billions & Billions: Thoughts on Life and Death at the Brink of the Millennium* (1997)

POINT OF NO RETURN: A fully developed human religion has four essential parts: Creation and cosmology, life and death, moral and ethical codes, and symbols and rituals. All of the world’s major religions cover these areas, any belief system that does not is not generally a religion.

With regards to life and death, human religions, very broadly speaking, have settled on two models over the millennia: afterlife and reincarnation.

- ❖ Models that posit an immediate afterlife (that is, the soul continues to exist in another place) tend to regard life on Earth as a transit across the stage, a momentary imprisonment, and the afterlife as a moral judgment of your deeds on Earth.
- ❖ Whereas the reincarnation idea seeks to connect life with death, such that death is never really the end, but just a stage in a cycle; the concept here is not one of punishment but of just deserts, that is, one gets what they deserve in the next incarnation. All of it seemingly comforting. The cosmology of reincarnation then usually goes on to express that the cycle has an ultimate philosophical end, a teleological purpose, of creating perfect, enlightened beings, that one may eventually attain no matter what is their current station in life on Earth.

Escape from the *saṃsāra* – “the cycling of all life, matter and existence” or the “cycle of aimless drifting, wandering or mundane existence” (from Wikipedia article, “*Saṃsāra*”) – is the goal of even religions that embrace karmic concepts. Thus, ‘reincarnation’ religions are actually based on a trick of *reverse psychology*. It is thus an error to think that those religions want or think in terms of eternal imprisonment on this Earth; rather the point of their philosophic traditions is escape by a somewhat longer route than those same concepts in the West, to wit:

- ❖ “The *Saṃsāra* doctrine is tied to the Karma theory of Indian religions, and the liberation from *Saṃsāra* has been at the core of the spiritual quest of Indian traditions, as well as their internal disagreements.” – Wikipedia, *Id.*
- ❖ “Adherents engage in practices such as prayer, veneration of ancestors, nonviolence, and vegetarianism with the goal of union with God and freedom from *saṃsāra*.” –

from Wikipedia article, “Caodaism,” June 19, 2019. Caodaism is a monotheistic syncretic religion from 19th Century Spiritism created by a native colonial French administrator in Vietnam in 1926.

Viewed in this light, Christianity’s direct ascension to heaven or damnation in hell looks like a cheap parlor trick. Earth then, is a school, a petri dish, a morality play on the road to somewhere. Both believe, necessarily, in a soul that is indivisible and indestructible, eternal yet Earthly.

- ❖ Even new religions, New Age, neo-Pagan and UFO religions, follow these models. There is truly nothing new in religions in this sense for the last 10,000 years. If you want to start a truly new and innovative religion, start with a new model of life and death and build from there. The third alternative, that absolutely nothing happens after death, that you just cease to exist, has not worked out well as the basis of any religion or politics; logic, practicality and empirical evidence have no place in religion.

Religion began and continues to exist mainly because we are afraid to die and irked to live – avoiding the Void. Animals probably do not have religion precisely because they probably don’t have any *concept of death*, especially their own (they seem to only be afraid of bodily injury),¹⁷ both of which go hand in hand with whatever is the advanced mental state we call sapience.

- ❖ **Regarding Concepts:** “...but a cat can’t understand the concept of anticipation and therefore is unable to allow for it in other species. So this is where we have them almost surely. Cats virtually always underestimate human intelligence just as we, perhaps, underestimate theirs.” – Roger Caras, *A Cat is Watching* (1989), p. 17.
- ❖ **Regarding Mortality:** “They [dogs and cats] seem closed off from their own mortality and the peril of it all. That level of comprehension would appear to be ours alone.” – *Id*, p. 208.

We still have difficulty explaining death to children, we choke up and don’t know what to say when their pet or grandparent dies. When I was young, the typical cover was that the decedent went to sleep but could not be woken up, most children don’t notice the decedent isn’t breathing. Among the very first archeological signs of religion are deliberate and ritualistic burials at least back to 80,000 years ago. Until science and philosophy can state definitively what happens when we die (and not as a matter of faith in what we cannot possibly know), religion will remain the main human psychological element.

- ❖ The veneration of human skulls by Neolithic peoples suggests that they intuitively understood that the human head is the center of our personhood. We should not make the assumption that they were only displaying trophies of enemies killed in war (for example, the way hunters mount animal heads for display), as there is evidence, from other sites in the period, that skulls of family members and friends were also kept, altered and decorated for veneration. Perhaps this is some precursor to the idea of afterlife featured in every world religion for the last 3,000 or more years. The key with the finds is we have no context in which to place them, we don’t know the language spoken, there are no writings from this period, no real idea of their social structures, religion or relationships, we don’t know what they believed or what the ritual veneration of skulls meant to them. We are not even sure of what *we* believe now.

Life and death are so central to religion that all else bends to it;¹⁸ cosmologies, creation myths, moral and ethical codes, symbols and rituals all revolve around how a religion chooses to address birth, life, and death.

- ❖ And for those who believe in reincarnation, living over and over again, “*déjà vu or what you please*” (Aerosmith, “Kings and Queens” (1977)), instead of a straight trip to the afterlife – are you sure that this is what you really want to believe? To live over and over again, century and millennia, shackled to this stupid reality? How do you know you are not living in a prison cell? Like the characters in a science-fiction television episode who thought they were in an underground prison when in fact, they were in an orbital prison (with artificial gravity – because it’s science fiction!)? Of course, the Western heaven may equally be a prison cell (a padded room instead of a dungeon cell in hell) – one with no exit and no chance for renewal. The universe makes no guarantees of teleological transcendence. What evidence is offered other than wishful thinking and human psychological need?

“Agnosticism, in fact, is not a creed, but a method, the essence of which lies in the rigorous application of a single principle ... Positively the principle may be expressed: In matters of the intellect, follow your reason as far as it will take you, without regard to any other consideration. And negatively: In matters of the intellect do not pretend that conclusions are certain which are not demonstrated or demonstrable.”

– Thomas Henry Huxley, “Agnosticism,” *Popular Science Monthly* (April 1889) ¹⁹

“... many professing agnostics are nearer belief in the true God than are many conventional church-goers who believe in a body that does not exist whom they miscall God.”

– Leslie Weatherhead, *The Christian Agnostic* (1965)

Endnotes.

¹ Citation: ““This is a deathwatch,” Carl told me calmly. ‘I’m going to die.’ ‘No,’ I protested. ‘You’re going to beat this, just as you have before when it looked hopeless.’ He turned to me with that same look I had seen countless times in the debates and skirmishes of our twenty years of writing together and being wildly in love. With a mixture of knowing good humor and skepticism, but as ever, not a trace of self-pity, he said wryly, ‘Well, well see who’s right about this one.’ Sam, now five years old, came to see his father for one last time. Although Carl was by now struggling for breath and finding it harder to speak, he managed to compose himself so as not to frighten his little son. ‘I love you, Sam,’ was all he could say. ‘I love you, too, Daddy,’ Sam said solemnly. Contrary to the fantasies of the fundamentalists, there was no deathbed conversion, no last minute refuge taken in a comforting vision of a heaven or an afterlife. For Carl, what mattered most was what was true, not merely what would make us feel better. Even at this moment when anyone would be forgiven for turning away from the reality of our situation, Carl was unflinching. As we looked deeply into each other’s eyes, it was with a shared conviction that our wondrous life together was ending forever.” – Ann Druyan, Epilogue to Carl Sagan’s last book *Billions and Billions* (1997), p. 271.

² Citation: “Science does not require theory to explain all ([Braverman] 282-283). Marxists are insistent that their brand of social science is truly scientific.” – Frank Elwell, *Macro Social Theory* (2009), Kindle Edition, p. 75.

³ Commentary: Notable exceptions being the classic books, *A Canticle for Lebowitz* (1959) and *Dune* (1965), and the Babylon 5 television series (1993-1998), and the reimaged Battlestar Galactica television series (2004-2009).

⁴ Citation & Commentary: “Many people who say they believe in God no longer mean a person, or a trinity of persons, but only a vague tendency or power or purpose immanent in evolution.” – Bertrand Russell, “What is an Agnostic” (1953).

- ✓ Most Westerners who accept evolution and modern science tend to think, assume, without realizing it, that humans are the purpose of evolution, life on Earth and perhaps the universe. That is, secular teleological beliefs have simply replaced ancient creation myths in Western secular society.

⁵ Commentary: Once you make factual assertions about God of which you cannot possibly know, what’s the difference in saying that ‘virtuous pagans’ who lived before Christ would have embraced Christianity?

⁶ Commentary: Because religion was a state matter in Rome, that is, religious observances were state ceremonies, the Roman leadership had divine sanction and claimed divine lineage (later the Imperial Cult), priests were state officers often holding other military and civil authority appointments, and the Roman Senate had the power to confer *divus* on living and deceased leaders, failure to observe or neglect of the Roman gods was *treason*. The Jews (and Christians) simply could not accept this.

- ✓ “Stricter Christians didn’t mix with non-Christians. More importantly, they didn’t worship other gods along with their one god. Much of ancient civic life – the holidays and public festivities which were many people’s only opportunity to eat any quantity of meat – was wrapped up in sacrifice to the various deities of a flexible and syncretic Greco-Roman pantheon. Good Christians were expected to shun these celebrations, the festivals and ceremonies their fellow townsfolk kept at the centre of their social lives. That made Christians very strange.” – Prof. Michael Kulikowski (Pennsylvania State University), “Christians were Strangers: How an obscure oriental cult in a corner of Roman Palestine grew to become the dominant religion of the Western world,” *Aeon*, January 30, 2017.

We cannot imagine with anything but horror, a state where it is treason to neglect worship of the official state religion; though the Church in the recent past has been happy to crusade against and execute people (e.g., Catharism) for heresy – a form of doctrinal treason within the Church.

⁷ Commentary: Any claim by any church or religion to have any authority or influence (or knowledge even) over what happens after death is just an absurdity beyond words. Is the Church or religion greater than the god it worships? This was no small matter five centuries ago when the Protestants objected to claims of Papal authority over purgatory. Nor is it a minor matter when it leads to mass suicides, such as Heaven’s Gate or Jonestown.

⁸ Commentary & Citation: It appears as though I have naturally wandered into a sort of anti-natalist position (e.g., 2 *Constructural Elements*, EN 9, p. 202: “the gift of life is a set of shackles” and *THE ONTOLOGICAL TERRORISM OF GGDM*, 3 *Fallen to Earth*, p. 1529, *supra*), though I had never heard of anti-natalism as a formal philosophical argument until I stumbled upon an interesting quote from David Benatar in September 2018. I have, of course, long been aware of the sentiment of one wishing they had never been born (e.g., “I don’t want to die, I sometimes wish I’d never been born at all.” – Queen, “Bohemian Rhapsody” (1975)) – I think it is common to humanity, and that anti-natalist sentiment can be traced back to ancient Greece (long before it was given a formal name in modern philosophy) and even to the ancient Biblical Israelites, suggests that I am correct.

- ✓ “Did I request thee, Maker, from my Clay, To mould me Man, did I sollicite thee, From darkness to promote me, or here place?” – John Milton, *Paradise Lost* (1667), Book 10, 743-745. Mary Shelly cites these lines in *Frankenstein*.
- ✓ “Mr. Samuel says he remembers first having anti-natalist thoughts when he was five. ‘I was a normal kid. One day I was very frustrated and I didn’t want to go to school but my parents kept asking me to go. So I asked them: ‘Why did you have me?’ And my dad had no answer. I think if he’d been able to answer, maybe I wouldn’t have thought this way.’” – Geeta Pandey, “Indian man to sue parents for giving birth to him,” *BBC.com*, February 7, 2019.

⁹ Commentary: A Fatwa is the very same instrument issued by Ayatollah Ruhollah Khomeini, the Supreme Leader of Iran, for the assassination of Salman Rushdie in 1989.

- ✓ If you were on Mars, which way is Mecca?

¹⁰ Commentary: Un-construction of Scientology: Scientology is a reconstructed late Greco-Roman ‘Mysteries’ cult/religion (probably largely Mitras), moved to a science-fantasy setting, and sprinkled liberally with new wave, neo-pagan, psychobabble, amateur psychotherapy, and a little Christianity. It is interesting what L. Ron Hubbard attempted, resurrecting an ancient Mysteries religion in a modern context. It just doesn’t work well, the results have been thus far unimpressive.

¹¹ Commentary: Sadly, it became apparent that Americans don't know the difference between Muslims and Sikhs.

¹² Commentary: If you want to tie a priest in knots for an hour, ask him if you can baptize yourself and keep pushing with questions. The ensuing hour-long dissertation goes to the heart of the priestly power in a given society.

¹³ Commentary & Citation: How long did it take God's perfect plan to fall apart?

- ✓ “First, regardless of what defenders of an ancient Earth may wish were true, the simple fact of the matter is that the Bible sets an outer limit on the amount of time that man could have lived in the Garden of Eden. Genesis 5:5 states clearly that ‘all the days that Adam lived were 930 years.’ We know, of course, that ‘days’ and ‘years’ already were being counted by the time of Adam’s creation because in Genesis 1:14 (day four of the Creation week) God mentioned both in His discussion of their relationship to the heavenly bodies. Therefore, however long Adam and Eve may have been in the garden, one thing is certain: they were not there for any time period that exceeded Adam’s life span of 930 years. But there is additional information that must be considered as well. Genesis 4:25 explains that Seth was born after Cain slew Abel. Since the biblical account makes it clear that Seth was born outside the garden, and since Genesis 5:3 informs us that Adam was 130 years old when Seth was born, it is obvious that Adam and Eve could not have been in the Garden of Eden any longer than 130 years! Second, surely it is not inconsequential that all the children of Adam and Eve mentioned in the Bible were born outside the Garden of Eden. Not one conception, or birth, is mentioned as having occurred while Adam and Eve lived in the garden (see Genesis 4:1 for the first mention of any conception or birth – only after the couple’s expulsion from Eden).” – Bert Thompson, Ph.D., “How Long Were Adam and Eve in the Garden of Eden?” Apologetics Press, 2002 (bolds removed). **[This has been taken to suggest that the knowledge for which they were expelled was carnal]**

And who was Cain’s wife, if Eve is the mother of all? Oops. I think you have a few guesses already. More likely, the concept of Cain’s wife was added later to clean up the story to conform to the commandments, otherwise, not only was Cain committing incest, but also adultery if the mother of his children was not his wife.

But like any lie, it falls apart under any sort of inquiry, and the story became a vague, convoluted mess. But because it’s a Big Lie (see Adolf Hitler feature quote, 1 Diplomacy, p. 1106, *supra*), the bamboozle (Carl Sagan feature quote, *Id.* at p. 1107), it has been taken as literally true by believers, because they would not contemplate such a lie themselves, even as the absurdity becomes plain under any sort of questioning.

¹⁴ Commentary: Note to the Fifth Monarchists: It has been over 550 years since the English Civil War. Christ has not returned to Earth. Or if he did, he hasn’t told anyone, and there is no Kingdom. Many things have passed since and many candidates for the title of anti-Christ have arisen and died. Perhaps the universally accepted best candidate for the title committed suicide in April 1945. Most of the world now finds the idea of monarchy quaint in the least, and very objectionable in practice. Especially a Heavenly Kingdom based on someone else’s religion.

¹⁵ Commentary: Some argue that ‘free will’ is a concept that long predates Christianity or even Judaism. It would be hard to imagine – for example, given the long history of criminalization of certain behaviors – that ‘free will’ was not an issue from the very beginning of criminal law: To be criminalized, the act must imply free will; one cannot criminalize breathing. Origins questions aside, the quote does succinctly address the contradiction and zero-sum problem of Abrahamic religion.

¹⁶ Commentary: But not after we die, as the argument would imply all sorts of absurdities (more than the usual); similar to any argument about “deserving to be born,” see Planet Narn, 3 Taxation & Census, p. 316, *supra*.

¹⁷ Commentary: People might say that a cat or dog is ‘running for their life.’ That is not likely, it is more likely that the animal is running to avoid pain, from fear of bodily injury; it is unlikely they understand their imminent death.

¹⁸ Commentary: My 9th Grade English teacher introduced the class to the idea that everyone is dying slowly after 18 years old. If you are not growing, you are dying, thus, most of our lives are spent slowly dying (e.g., Hayflick limit), until we actually do. *This is the essence of literary*. I had some very cynical teachers in high school, the most cynical one was my American Culture teacher. At the beginning of the year, I thought he was cool, his class was fun, he was cynical in a funny way (i.e. satire). By the end of the year, his constant cynicism made me feel ill.

- ✓ “We live for just these twenty years, Do we have to die for the fifty more?” – David Bowie, “Young Americans (1975).

¹⁹ Commentary: Thomas Henry Huxley, aka “Darwin’s Bulldog,” is the ancestor of the Huxley family, grandfather of Aldous Huxley, author of Brave New World (1932). The family includes accomplished engineers and physicists.

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“Does an agnostic do whatever he pleases? In one sense, no; in another sense, everyone does whatever he pleases. Suppose, for example, you hate someone so much that you would like to murder him. Why do you not do so? You may reply: ‘Because religion tells me that murder is a sin.’ But as a statistical fact, agnostics are not more prone to murder than other people, in fact, rather less so. They have the same motives for abstaining from murder as other people have. Far and away the most powerful of these motives is the fear of punishment. In lawless conditions, such as a gold rush, all sorts of people will commit crimes, although in ordinary circumstances they would have been law-abiding.

There is not only actual legal punishment; there is the discomfort of dreading discovery, and the loneliness of knowing that, to avoid being hated, you must wear a mask with even your closest intimates. And there is also what may be called ‘conscience’: If you ever contemplated a murder, you would dread the horrible memory of your victim’s last moments or lifeless corpse. All this, it is true, depends upon your living in a law-abiding community, but there are abundant secular reasons for creating and preserving such a community.

I said that there is another sense in which every man does as he pleases. No one but a fool indulges every impulse, but what holds a desire in check is always some other desire. A man’s anti-social wishes may be restrained by a wish to please God, but they may also be restrained by a wish to please his friends, or to win the respect of his community, or to be able to contemplate himself without disgust. But if he has no such wishes, the mere abstract concepts of morality will not keep him straight.”

– Bertrand Russell, “What is an Agnostic” (1953) ¹

THE AXIOM AND THEORY OF OPPOSITES: Humans naturally look for opposites; we understand best when presented with clear opposites. Our entire cognitive structure is built on opposite ideas and identities in our world and degrees more or less by which they are opposite. ‘Oppositeness’ is the first quality a child understands – hungry, not hungry, mom, not mom, cry loudly.

- ❖ “Anyone with a child knows that children learn about the world through binary options: up or down, hot or cold, big or little, inside or outside, wet or dry, good or bad, boy or girl, man or woman.” – Phyllis Schlafly.
 - The venerable children’s program Sesame Street uses this frequently.

The major component of sapience is our ability – not to judge moral right and wrong – but to judge degrees of oppositeness.

- ❖ “Time and again in this book I have placed the cat and ourselves in analogous positions although I vowed to avoid that pitfall whenever I could. As it turns out, that was not possible *because nothing could be quantified without some kind of comparison*. Using a dog, ape, or crocodile would not have worked well in any but very few instances cause those animals, all animals, are as little understood as the cat is. No sense comparing apples to oranges for someone who doesn’t know either fruit.” – Roger Caras, *A Cat is Watching* (1989), p. 219 (emphasis added).

The easiest opposite is two: Male and female, child and adult, younger and older, good and bad, doing or not doing, me-not-me, us and them. As a third thing, fourth thing, more things are added to the group, each thing tends to become *less opposite* in relation to all other things in the group until it all gets quite fuzzy. Complexity then, *can be defined as the process by which the*

relationships between things become less and less clearly opposite through the addition of new things to the group (complexity of numbers) and/or the discovery of new relationships and dynamics between previously existing parts that make their relationships less starkly opposite (complexity of depth). Both occur regularly in every part of our lives and complexity can grow exponentially. Tainter describes ‘layers of complexity’ in societies trying to solve problems.

- ❖ The ‘theory’ arose out of considerations of the cognitive structure of human knowledge, early child learning, and complexity of groups – and rules writing; ‘opposites’ sits at the base of the many asymmetrical relationships of parts in GGDM.

So, when Carl Sagan complains that the ancient philosophers separated the mind from the body, the heavens from the Earth (Cosmos, Episode 7), he is complaining (unfairly) in part about the basic human tendency to learn and frame in opposites.² Empirical science considers itself the opposite of religion and nearly the opposite of philosophy (on whom it keeps a wary eye to make sure it doesn’t cross the boundary fence); whilst philosophy I don’t think considers itself exactly the opposite of either, but recognizes the militant tendencies in the other two.

- ❖ Philosophy and religion were for much of history the masters of civilization; not quite opposites, not quite the same. Science is the newcomer that makes modern civilization truly complex compared to what came before.
- ❖ Is there anything that prevents something from being both an axiom and a theory?

It is true that such tendency from our infancy, propagated through the epistemology we absorbed growing up, does retard a holistic view of things, until at some point it can be established an underlying unity between holistic and non-holistic worldviews. Holism serves as both the closure of the ends of the opposites and a pull against increasing specialization and compartmentalization (i.e. nexialism) that has been noted both in current Western professions, and as a general trend of urbanized and complex civilizations through history, who suffer the most in collapse.

- ❖ Paradoxes are usually presented as two things that are both true, but cannot both be true. *That is, they are presented in pairs of truths.* Because that is what we can readily comprehend. What if there were paradoxes where three things were true that could not all be true, but are not quite opposite? Like, uh, quantum mechanics?
- ✚ UNITY OF OPPOSITES: The concept of opposites has a long intellectual history; ancient pre-Socratic philosophers debated about what it meant in terms of the universe (i.e. what it told us about the nature of reality), and came to the conclusion that it was both a duality and a continuum of change or underlying principle (Heraclitus of Ephesus). Despite all that we ‘know’ now, the concept is still relevant and debatable:
 - ❖ “Dialecticians claim that unity or identity of opposites can exist in reality or in thought. If the opposites were completely balanced, the result would be stasis, but often it is implied that one of the pairs of opposites is larger, stronger or more powerful than the other, such that over time, one of the opposed conditions prevails over the other. Yet rather than ‘stasis’ the identity of opposites, there being unity within their duality, is taken to be the instance of their very manifestation, the unity between them being the essential principle of making any particular opposite in question extant as either opposing force.

For example ‘upward’ cannot exist unless there is a ‘downward’, they are opposites but they co-substantiate one another, their unity is that either one exists because the

opposite is necessary for the existence of the other, one manifests immediately with the other. Hot would not be hot without cold, due to there being no contrast by which to define it as ‘hot’ relative to any other condition, it would not and could not have identity whatsoever if not for its very opposite that makes the necessary prerequisite existence for the opposing condition to be. This is the oneness, unity, principle to the very existence of any opposite. Either one’s identity is the contra-posing principle itself, necessitating the other. The criteria for what is opposite is therefore something *a priori*.” – from Wikipedia article, “Unity of Opposites,” October 1, 2019 (emphasis in original).

Some philosophers or religious thinkers have suggested that everything in the universe has an opposite, implying that the universe is always in ‘balance’ despite constant changes. This is a sort of statement that is neither provable nor falsifiable to humanity; one would need to understand every possible opposite condition or existence, what time frames are involved, and also be able to *grok* the entire universe in a given moment to test the truth of the proposition.

Although direct ‘oppositeness’ is presented above as *a priori*, humans are able to recognize ‘sorta opposite’ and ‘mostly opposite’ conditions which allows us to grasp more complex relationships. It creates a situation where a hot thing might be balanced by a cool (not cold) thing and a wet thing that is at room temperature; the hot thing is the ‘more powerful’ and will eventually dry the wet thing and warm the cool thing, but will lose much of its hotness in the process through the laws of thermodynamics which will eventually average the energy in the system (as the common example goes, why your cup of coffee gets cold), i.e. a high entropy state.

“Well, most folks seem to think they’re right and you’re wrong ...”

“They’re certainly entitled to think that, and they’re entitled to full respect for their opinions,” said Atticus, “but before I can live with other folks I’ve got to live with myself. The one thing that doesn’t abide by majority rule is a person’s conscience.” – Harper Lee, To Kill a Mockingbird (1960), p. 101

RIGHT AND WRONG: Most arguments about what is right and wrong are really arguments about what behaviors are *useful and not useful to society as a whole*, and are much better framed in that way. Conscience is quite another thing.

- ❖ For example, once it was decided that individuals own chattels, it immediately becomes apparent that there must exist socially recognized procedures for the transfer of chattels, that the chattels of the deceased must be passed on in an orderly manner, and that behaviors such as taking chattels by force or surreptitiously, must be discouraged or prohibited by the group. Chattels were the first things that people owned, even in groups where ownership of real property was unknown or communally held, people had things they thought belonged to them. The necessity of ownership of chattels begins with food and clothing, tools, and hunting implements, and the skill and labor required to make them and enables specialization and the beginning of trade.
- ❖ For example, once it was decided to create public office as a necessity of civilization, it became immediately apparent that the power of the office was tempting, could be exploited as property, and that for the concept to work properly, it was necessary to

criminally prohibit certain non-useful behaviors and results, such as bribery, kick-backs, illegal seizure, embezzlement and official oppression and official dishonesty.

Humans do not really have the capacity for recognizing right and wrong in any absolutely objective sense outside of ourselves (if such even exists); *our civilization* is the one place where we are *the actual center of the universe in every sense*, just as we used to believe we were the center of the physical universe until science disabused us of that notion.

- ❖ Prior to empiricism, we projected ourselves upon the universe through mythopoeic and increasingly complex religions. We were the center of the universe, both literally and religiously (e.g., David Coppedge). Empiricism separated us from the universe.

To recognize what is morally right objectively, we need to see what is morally wrong objectively, and we have neither; we have only ourselves and what happens to prove useful or not useful to gauge our actions. Conscience then is not really related to wrong or right, but to mental satisfaction (or mental utility).

- ❖ The question and measure of ‘usefulness’ applies not only to behaviors and right and wrong, but to every intellectual endeavor, social or public policy decision, every part of every system devised by humanity. Scientific theories and philosophical arguments go through predictable cycles; that is, when first articulated, they seem to be useful at solving a particular problem or shedding light on an area of intellect. Later, under critique and expansion, their limitations become apparent, but the idea remains as a useful approach for discussion and education.

The extent that you believe that my right and wrong analysis of morality is correct, is the extent to which morality has been unable to make itself objective reality and to separate itself from specific social situations. In the *objective morality view*, morality is lessened, diluted and derailed by implementation of ethical codes in the same way that some felt that Catholicism was damaged by being reduced to catechisms in the late 17th Century or the way that education was squashed by the Lancastrian method of mechanical factual recitals modeled on the catechisms.

It has been suggested that the human capacity to reason is an evolutionary survival adaptation and that reasoning is best accomplished in groups; groups that could solve complex problems together through civil argument and cooperation had a better survival chance than groups that could not reason together. See Mo-Jo, 2 Beginnings, p. 34, *supra*. It is natural then that such groups must decide what behaviors are to be encouraged and what behaviors are to be discouraged. Expulsion from the group into the wild was the ultimate punishment short of death (but was also useful). Later, when awareness of the universe beyond ourselves developed, the rules of the group were codified into religions to be passed on, their origins forgotten in the lost past.

- ❖ “Institutions get the behaviors they reward.” – Gen. Jim Mattis (USMC Ret.) op-ed, “Jim Mattis: Duty, Democracy and the Threat of Tribalism,” Wall Street Journal, August 28, 2019.³

GGDM does not discuss or address in any way, right or wrong, ethics or morals (excepting the discussion of explicitly cheating in the game). There simply was no place for it within the structure of civilizations presented in the game, this is perhaps a shortcoming of the simulation; tangentially, it is or could be a part of government legitimacy and interstellar diplomacy. Probably, players will develop some rules of interstellar diplomacy and order that include the players’ pregame concepts of right and wrong (“bust the deal, face the wheel!” or “two men enter, one

man leaves.” – Mad Max, *Beyond the Thunderdome* (1985)). How will such rules be enforced in the game and who will enforce them? I think you already know the answer.

❖ **Thug:** [returning to consciousness after being knocked out finds himself in a stranglehold from behind] Come on, give me a break! **Marcus Cole:** Certainly, what would you like? An arm? A leg? We’re fresh out of broken hearts. We just had a run on those. How about we start with your fingers and work our way up? – Babylon 5, “Ceremonies of Light and Dark” (1996).⁴

➤ **Marcus Cole:** You see? It’s like I’ve always said. You can get more with a kind word and a two-by-four than you can with just a kind word. *Id.*

❖ **Rhetorical Question:** Is it more useful for a work to be technically correct in an objective sense, or to be not completely objectively correct while significantly advancing our understanding of a subject? This would be a great debate question and how you answer the question says much about perception of truth and worth.

✚ **VISCERAL REACTIONS:** Human sexual conduct has long been the most intense example of ‘morality’ in terms of what is useful or not useful to society (e.g., *To Kill a Mockingbird*). Right and wrong are about acts and consequences, any discussion of morality and ethics without acts and consequences is pure æther and about as useful.

Society has decided that sexual acts for the purpose of oppression, control, gain, exploitation, and for most of our history, recreation, are wrong acts because of various consequences, not the least of which is unwanted *or illegitimate* pregnancies (e.g., *The Scarlet Letter* (1850)). From this base then extended prohibition of sexual conduct between siblings and parents and their children (this, long before inbreeding genetic problems were understood), sexual relations between or with minors, and adultery or pre- or extra-marital sexual relations.⁵ At the same time, however, modern birth- and STD-control has mitigated the risks of bad consequences, temporarily moving the dial toward libertine sex.

❖ “Rose [Elizabeth ‘Libby’ Cleveland] struggled to name their relationship – ‘I cannot find the words to talk about it,’ ‘the right word will not be spoken.’ Indeed, there was not a word for a same-sex relationship between women at the time. The word ‘lesbian’ existed, but only in reference to the Greek poet Sappho. ‘This was before there was a concept of sexual orientation the way that we know it today,’ said Lizzie Ehrenhalt, co-editor of the book. ‘That was really being invented right at the time they were writing letters in the 1890s, because that’s when sexology as a field gets going.’ The concept of ‘romantic friendship’ was popular among women of the day, which were emotionally and intellectually intimate friendships, though not necessarily sexual, Ehrenhalt said. ‘That created a sort of bubble of freedom’ for women, particularly wealthy white women, to have ‘more or less open relationships with each other,’ she said. Rose and Evangeline’s relationship was undoubtedly sexual, in addition to loving and intimate, Ehrenhalt said. One letter describes ‘long rapturous embraces’ that ‘carry us both in one to the summit of joy, the end of search, the goal of love!’ ... They vacationed together in Europe and the Middle East. They bought property together in Florida. They didn’t hide their relationship from family, and it appears to have been accepted. Rose even wrote to Evangeline’s [Evangeline Simpson Whipple’s] mother about her love for her daughter.” – Gillian Brockell, “A gay first lady?”

Yes, we've already had one, and here are her love letters," Washington Post, June 20, 2019.

- ❖ "Contemporary accounts described [Frances E.] Willard's friendships and her pattern of long-term domestic assistance from women. She formed the strongest friendships with co-workers. It is difficult to redefine Willard's 19th-century life in terms of the culture and norms of later centuries, but some scholars describe her inclinations and actions as aligned with same-sex emotional alliance (what historian Judith M. Bennett calls 'lesbian-like')." – from Wikipedia article, "Frances E. Willard," captured August 8, 2019.
- ❖ "I still can't figure out sexuality; I mean it's such a big mystery to us all. It's like violence and aggression, it's something we try to understand with our heads, our intellect, but they're really to do much more with the instinctual side of us. It's old brain versus new brain, you know.

So dealing with something like sexuality and women... If you're talking about it in conventional mythology, being nothing fancy, just simple storytelling, if you look at stories like Beauty and the Beast, which is a myth that was very common – you know, King Kong, right up to the fifties – and then I guess they invented the pill and abortion and a freer sexuality, and a certain liberation of women, which most of us agree was long overdue.

The Beauty and the Beast story is no longer a viable one in society, because women aren't as mystified – they're much more people than they are mystical. Yet women are still sex objects, yet they're not demystified sex objects. And yet we have more women artists, women this and there are women that, so it seems clear that you can have a female hero. [But] historically there haven't been very many." – George Miller as quoted by Anne Billson, "George Miller Talks about Mad Max, Heroes & Tina Turner: The 1985 Interview," previously unpublished interview published on Multi-glom: The Anne Billson Blog, May 12, 2015.

Homosexuality has been at the tip of this discussion for a very long time. Visceral reaction against homosexual relations – especially in males against male homosexual relations, behavior, personality and lifestyle struggle against intellectual reasons prohibiting certain sexual acts as wrong or immoral due to possible consequences; e.g., it is very difficult to state that homosexual relations might result in unwanted pregnancies! Visceral reactions also notably produce *inconsistent results*, e.g., lesbian sex and female bisexuality is common and normal in *mainstream pornography* made for *heterosexual males*, but male homosexuality or bisexuality is never shown.

- ❖ The first rule you learn in philosophy is consistency; inconsistent application of beliefs or philosophical principles is hypocrisy. The Romans were experts in political and philosophical convenience which colored their post-Empire reputation.

Thus, philosophers have usually ruled out visceral reaction as a or even the *measure of what is right or wrong*, but this dismissal is also problematic on its own, for example, visceral reaction to the horrors of war, especially the images of the aftermath in Hiroshima and Nagasaki (which the U.S. government tried to suppress for a short time) were key in preventing the Cold War from ending in World War III. Is there any argument against this? History

strongly suggests that whatever temporary restraint occurred as a result of WWII and Hiroshima prevented us from going down the nobody-wins, everyone-loses path to WWIII long enough for the ridiculousness of the situation and the systemic inefficiencies to work themselves out to a useful ending (i.e. we are still here, you are reading this now).

Thus, to the extent that visceral reactions (see Aspects and active/inactive Constructural Elements) lead to useful acts and consequences, they are equally potent as a measure of right and wrong.

- ❖ Visceral reactions are also why most people think that the major crimes – rape, murder, robbery (i.e. theft, burglary, corruption), kidnapping – are wrong. Are they wrong in thinking this, or do visceral reactions serve useful social purposes (e.g., see *The Future is Coming*, 7 Beginnings, p. 69, *Losing My Religion*, 1 The Sidereal Stage, p. 111, regarding ‘cheating’; *The Other Hole In Your Head*, 1 Order, p. 520, and *Homo reciprocans* discussion, Big Endian, Little Endian, 6 Diplomacy, p. 1174, *supra*) as many or more times than not? Of course, there are also very convincing utilitarian reasons why these acts are wrong based on consequences to society, which is why they are considered *the major crimes* in all nations and times.
 - “Metaphysics, said the late nineteenth-century idealist philosopher Bradley, is the finding of bad reasons for what we believe on instinct; but metaphysics has changed in the meantime, and is now the finding of bad reasons for what we cannot possibly believe however hard we try.” – Theodore Dalrymple, *Admirable Evasions: How Psychology Undermines Morality* (2015).
 - Many years back in Texas during a school field trip, a young schoolgirl went missing. Her father looked for her and discovered a man molesting his daughter on the ground, he was on top of her with his pants down around his ankles. The father grabbed the perp by the collar to yank him off his daughter, there was a struggle, the perp hit his head on a rock and died. The District Attorney investigated and wisely decided not to charge the father with the death: No jury would have convicted a man for accidentally killing another man molesting his grade-school daughter.
- ❖ I must also acknowledge that visceral reactions, especially those manipulated for ideological reasons and by leaders of nations, have also led to very bad consequences, even to the extent of making systematic commission of major crimes (theft, murder, rape) part of the national policy; this is both Plato’s criticism of rhetoric and the sophists (e.g., Gorgias) and the lesson of WWII and the events leading to it. Thus, neither reason nor visceral reactions alone are sufficient guides for humanity, both must be present and applied carefully. It is the tightrope act, the path we tread.
- ✚ BEING RIGHT VS. RIGHT BEING: The Christian end of the world is *yawn* material, it’s all been seen, heard and done before:
 - ❖ “But my serious advice is to please ignore people like [Alexander] Cain who are in my opinion ends times hucksters. We’ve seen it all before folks. It’s always been wrong before. How many times do these people have to be wrong before we finally stop taking them seriously?” – Nick Peters, “A Brief Look At Alexander Cain,” May 6, 2015 (forum post, TheologyWeb).

- Now, that is an odd question, considering the religion is built on prophets... might the Biblical prophets have been called hucksters in their time? Because it is organic to the religion, should we be surprised; isn't lack of evidence and "wild conclusions from flimsy evidence" (*Id.*) the very definition of faith?

I have watched with amusement the passage, one after another, of millennialist and end-of-the-world-now religious groups whose overt and fondest wish is to witness the religious, divine, prophesied ending of the world during their lifetime (in my youth, I watched the similar near glee of some who thought the Cold War would end in the world nuclear holocaust). It doesn't really matter what religion they claim, though in our time mostly they are apocalyptic Christian groups; why would anyone be in such a hurry for the end of the world? Simply, because they believe when the divine end of the world occurs, they and their usually small, closed group will be right and everyone else will be wrong and suffer various degrees of divine judgment and damnation. So basically, it comes down to their need to be right and everyone else is wrong, and you can hear that in their words if you are listening. It's a full feature, not a bug as they say, of Western religion.⁶

This is religion that is simply not useful; why not instead, fight to hold off the end of the world and save everyone from divine damnation? Isn't that what the holy books teach? Because, then everyone else wouldn't be wrong. *Capisce?*

- ❖ In the movie *March or Die* (1977), both Maj. Foster and the Moroccan rebel leader El Krim were correct in their comments, but still, hundreds of men had to die in battle.
- ❖ See also Prophecy discussion, *2 Wheels in the Sky* generally, *supra*.

✚ NO CHATTELS, NO REALTY: Could some civilization exist that has no concept at all of ownership of property, even of chattels? I suppose it could, but it is difficult to mentally embrace the vision of such a place, evidence of how deeply the concept of property ownership is embedded in our civilization. Players in GGDM may attempt such a civilization within the game, and while the idea may at first evoke Shangri-La visions (or maybe leftist utopias), removal of the concept of ownership of any sort of property from civilization (it simply never occurred to their ancestors, for example) would have a profound effect and produce a civilization, coming into the game, radically different and alien to us. I don't think you could even really sidestep the issue by substituting the concept of possession without ownership; the possessor of the chattel or real property would have a certain bundle of rights, privileges, duties and responsibilities while in possession and rules would have to exist for transfer of possession, abandonment of possession and failure to adhere to communal duties and responsibilities of possession. This is ownership by another name.

- ❖ Rhetorical Question: Could 'sovereignty' be construed as a sort of 'group ownership' of a geographical area, even though individuals (both nationals and extra-nationals) may own parcels within the area? Consider that legal enforcement of individual ownership rights to individual parcels is only possible through the sovereign judicial systems who have the exclusive right to the use of legitimized physical force? Thus, as frequently occurs in history, when sovereignty is forcefully changed, individuals lose ownership of real property, frequently fleeing, and even sometimes chattels (through looting, seizure). The property and titles are then redistributed to the victors, e.g., the Norman Conquest of England and Ireland, the Ottoman Turks system of conquest,

various monarchical changes in England (e.g., the family of Elizabeth Woodville, Richard Neville, Earl of Warwick).

*“And do you think that unto such as you
A maggot-minded, starved, fanatic crew
God gave the secret, and denied it to me?
Well, well – what matters it? Believe that, too!”*

– Richard Le Gallienne’s translation of Omar Khayyám as quoted by Richard Hitchens in his 2007 book

SOMEWHERE A TRUTH: Everyone who takes the time to write or do, asserting an opinion or argument, whether intended or not, has an ‘agenda.’ Science and science-fiction are not immune.

- ❖ Merriam-Webster online dictionary at *agenda*: **2:** an underlying often ideological plan or program.
- ❖ “Back in Sudan he struggled to find a cinematic language that could reach people on an emotional level, that could be political without being owned by any particular government or movement. ‘We must open our eyes and develop a means of resistance,’ he told one interviewer. ‘All films are political. They carry a message. Cinema is a language. If you make a good film, you are understood by society.’” – Nadja Kornith (quoting Gadalla Gubara), “The Omega Man – Gadalla Gubara and the half-life of Sudanese cinema,” Bidoun (bidoun.org), Issue 20, Spring 2010.

During the Cold War, anthropology was particularly subjected to various agendas. The ‘nature vs. nurture’ argument about whether war is natural or learned seemed urgently important, feminism arguments about whether men or women led the way to civilization, and claims – desperately seeking proof – that early Cro-Magnons caused the extinction of Neanderthal populations through genocide (they did not) seemed to portend the inevitable catastrophe.

- ❖ Carl Sagan in the Cosmos series, certainly had an agenda. Sometimes the accuracy of historical fact was the sacrificial victim in the presentation.

Any television or movie series that has a story arc – and a story arc requires dramatically presenting and resolving competing agendas – will eventually wander into a chosen set of philosophical questions. Babylon 5 stated its questions most clearly, the reimagined Battlestar Galactica did a very good job, eventually getting to the point; Matrix was pretty good if also pretty much *out there*. Andromeda, sidetracked by direction disputes, wandered off into trippy sci-fantasy.⁷ When a series wanders around and loses coherence or its story arc, it becomes Lost.

- ❖ Somewhere between conflicting agendas are little gems of truth that we can mine and hold. It is the basis of our *adversarial legal system*, dialectic argument, and of knowledge formation since the beginning of civilization.

I grew up during the Cold War, undoubtedly, some witty crank will comment that I caught a bad case of the Cold (War) and never got over it. I have no doubt that my thoughts expressed here reflect that background. And the astute reader can probably pick out my political views and what news I read, from whom I choose to quote. I am equally sure that I have an ‘agenda.’⁸

“In 1867, George Campbell, Duke of Argyll, had published The Reign of Law, a book that Darwin found deeply annoying. A supporter of Richard Owen, Campbell argued that while evolution (or ‘Development’) might be observable in the fossil record, it was merely evidence of God’s purpose. God, for example, would cause horses and oxen to evolve in time to meet human needs. The brightly colored plumage of birds, Campbell went on, were simply God’s decorations of nature for humanity’s enjoyment.”

– Jonathan Clements, Darwin’s Notebook: The Life, Times, and Discoveries of Charles Robert Darwin (2009) ⁹

THINKING AS RECREATION: My maternal grandmother, born in 1926, has a special place in my youth, a green suburban refuge of kindness, calm, and fun in a youth of chaos, malnutrition, cultural confusion, senseless violence, crime, animal death, fear and *appalling adult stupidity*.

One day when I was about 15-years old, I was happily telling my grandmother about Dungeons & Dragons and talking about player-character creation. At some point after about the 15 minute mark, my grandmother said, “That seems like a lot of work to play a game!” It suddenly occurred to me at that point how much things had changed in two generations; here I was happily engaging in intellectual activities for a game, whereas, for my grandmother’s generation (as my mother explained), thinking was something that was work, that you did at work and for raising a family and keeping house, recreation was non-thinking.¹⁰

- ❖ Some of the confusion on this point seems to be reflected in the dialogue of the movie *The Whole Wide World* (1996) about the life of Robert E. Howard through the eyes of his part-time girlfriend, schoolteacher and writer Novalyne Price. He expresses that he has felt pressure to get a job, get ‘real work’ by his cohorts of townfolk, but then says that writing *is* work. His father was the town doctor and that perhaps protected him socially from some of the pressure; I would guess that his father thought, well, if some guy in New York City is paying him real money to publish whatever he writes, he has a job.

A brief look at the games that would have been popular in the 1930s and 40s when my grandmother was growing up shows games that involve high luck and minimal thinking; as opposed to the analysis paralysis feature of modern board games.

I have seen dozens of definitions of an “intellectual person” (i.e. ‘intellectuals’) over the years; most of them focus on sociology and professions related to intellectual persons. Most of them range from snarky to vaguely critical,¹¹ the best that can seemingly be hoped for in any definition of an intellectual person is careful neutrality. I do not believe I have seen a definition of an intellectual person that includes primarily thinking and learning as a recreational activity.

Tabletop gaming hobby, in its current state, is an intellectual activity, though tabletop gaming as a hobby and activity does not make gamers intellectuals – far from it. But still, there must be a base quality of recreation to learning and thinking that makes some people grow and evolve into intellectuals; it would be difficult to be an ‘intellectual’ when thinking is work, when doing so feels like pushing a boulder up a hill every day.

- ❖ This is parallel to but also goes beyond the assertion of Erasmus regarding learning as a game.

✚ VOID PILOTS: One of my frequent mental recreations in younger years was to imagine having a conversation with someone from the past, trying to explain to them what has happened in the world since their time, or some particular event, development or nuance of our times. Such imaginary conversations can be very instructive. What would Martin Luther think of nuclear weapons? Can you introduce Isaac Newton to Hypatia of Alexandria at a telescope viewing party? Even though they are both exceptional intellects in the same or similar areas of study, would there be any personal, overcoming sexual-romantic attraction?

In the last ten or fifteen years, I have spent far more time playing FreeCell, Kyodai Mahjongg 2006 and the Race for the Galaxy PC game, than in tabletop gaming. I never seem to tire permanently of FreeCell or Kyodai Mahjongg – I have played thousands of games of each (often while musing about other things), I am probably no better than any other player – but I have come to think that what keeps me playing these games is that I like – am addicted to – the interlocking complexities of unraveling (or ‘solving’) the game boards. More than I enjoy human company, I’ve never been addicted to humanity (and isn’t that what we really mean by ‘well adjusted’? – a term that almost makes me cringe like a backache). Like Spinrad’s Void Pilots, GGDM is a vast extension of my ‘addiction’... not to humanity. My understanding of great thinkers such as Isaac Newton, Rene Descartes, Friedrich Nietzsche and others suggests it was true for them too.

“I’m not a fan of simulations where, ‘Oh, we’ll go play a simulation of world peace and figure out how to make peace’ and then somehow magically that will get translated into the real world. No, that’s not the kind of games that I make.” – Jane McGonigal

SIMULATING A LIFE: From the time I was young, I was obsessed with simulation games. My first hobby games were crunchy commercial wargames (historical/sci-fi military simulations) from Avalon Hill, Yaquinto, SPI, Metagaming, GDW, and later, Victory Games; I also picked up my first D&D box set when I was about 13 or 14 years old. To me, at that age, game and simulation were synonymous, I viewed all games as basically simulations. This is still common today, I receive regular spam emails advertising ‘airplane flying games’ which are flight simulators; there is no game to it, it’s a flight simulation! They are even less a ‘game’ than solitaire.

I played solitaire, I didn’t play wargames with people (or at least, normal, competent opponents) until I arrived at artillery school in October 1985 and didn’t play D&D with people (other than my mother two or three times, once with the first dungeon I created) until I arrived in Okinawa, Japan, in early 1986.¹²

- ❖ Later, as a battlefield intelligence analyst, I experienced real military ‘map-ex’ training, such as ARTBASS. A most memorable line was the Lt. Col. yelling, “Capt. Campbell, where are my HEMTTS!?” during a precision attack maneuver. Uh oh.

I began designing games when I was 13; my first design was, laughably, a clone of a proprietorship board game that I was fascinated with at the time, The American Dream, and had played numerous times with my family (mother, aunt and uncle). I had, of course, played Easy Money, Payday and Monopoly many times with other people, and Life once or twice, and many, many games of Aggravation on my grandmother’s homemade game board. In the days before home PCs (I programmed Trash 80s in 11th grade), I handwrote the rules for my first game on college

ruled paper in blue pen, and taped together a dozen sheets of paper to hand draw the game board with pen and ruler. I think I played it once with my mother – the things mothers have to endure! The game design project quickly dissipated as I discovered Avalon Hill games and D&D.

Sometime when I was about 14 years old, I read Brian Aldiss' Galactic Empires anthologies (Vols. 1 and 2), and especially liked Alfred Coppel's "The Rebel of Valkyr" and Gardner F. Fox's "Tonight the Stars Revolt." Also in that time, I read Roger Zelazny's Chronicles of Amber (The Corwin Cycle, 1970-1978) and Robert Holdstock's Where Time Winds Blow (1981). I still have all of those same book-club edition books (and a lot of other books!).

- ❖ I reread both of these stories again 35 years later. "Rebel of Valkyr" still holds up well enough, "Tonight the Stars Revolt" less so. The *latter* feels thin, like if you think about it too hard, the story will fall apart; it lacks memorable insights, it feels lacking in substance, depth and cohesion: Ok, so the pirate guy uses the Elders' black energy pool to defeat the evil government (aka *dues ex machina*), kills the leader, wins the sexy courtesan, Moana (and we get a glimpse of a future utopian Earth too!). I can see why I liked the story when I was 14 – it fits perfectly in every respect Spinrad's "Emperor of Everything" pulp formula, a wank fantasy – and why it was published in Planet Stories (the entire issue is available to read online for free), and it was definitely an image influence that fed into the Machines & Mercenaries project (*ut infra*). "Rebel of Valkyr" was also available on ePub for free.

Somehow, all of this combined with wargaming into a sprawling idea that I called "Machines & Mercenaries," a strategic and tactical wargame set in a world where the time winds blow, and armies from many periods co-exist as mercenary units. Sort of Heroscape before Heroscape.

I wrote and rewrote the rules by hand maybe a dozen times, then later started using my mother's old typewriter by kerosene lamp. I bought a big sheet of one inch blocks paper and drew a world map. I started thinking about things like, well, how high can you build a medieval tower? How would a Macedonian phalanx fare against the British thin red line?

- ❖ You see hundreds of these sorts of (increasingly ridiculous) game simulation videos on YouTube now with titles such as "5,000 German soldiers vs. 60,000 Spartans," "1,000 Jedi vs. 25,000 Spartans" or "300 U.S. Marines vs. 25,000 Spartans." For the record, Sparta never fielded an army that was much more than 8,000 hoplites.

I started thinking about fuel and ammo consumption, how many practice rounds does it take to improve the quality of a unit? The game got really detailed, logistical, with military engineering and civilizations tossed in. I invented two sapient alien species that inhabited the world, High Spidera – undoubtedly inspired by Tolkien's spiders of Mirkwood, because at that age, what you think is your genius creativity is actually self-deluded, purblind, thinly veiled imitation – and another race that I cannot now recall. I worked on it until I went to boot camp the summer I was 17 years old, and then picked it up and fiddled with it some more when I was 19 years old (there was also another game, called "Again!" that I started when I was about 16, inspired a bit by Avalon Hill's Starship Troopers, and worked on again when I was 19). It was never transferred to a computer file, so all I have left is the memory and the big rolled map I created.

- ❖ "During the 1950s, I decided, as did many others, that many practical problems were beyond analytic solution and that simulation techniques were required. At RAND, I

participated in the building of large logistics simulation models; at General Electric, I helped build models of manufacturing plants.” – Harry Markowitz.

There is not much simulation value in modern mainstream tabletop hobby games. There are still a few small hex-and-counter wargame and block-wargame companies – and wargames must always be simulations – but they don’t produce enough to get into the main distribution channels (and tend to detest the modern gaming industry generally, with good reason); board historical wargaming has been sidelined from the tabletop gaming mainstream to a niche hobby. The modern tabletop game market has moved to dumbed-down mass appeal¹³ and instant playability, gloss, color and plastic; modern tabletop games – following the German model – are abstractions, not simulations, with rules built for absolute fairness, balance, playability, and ‘gamey mechanics’ (e.g., the last place player getting an extra resource by virtue of being in last place) *that don’t make sense in any reality test*. Unsurprisingly then, modern tabletop gaming has moved away from real history into fantasy and science-fiction themes, and vague sorts of pseudohistory where the designer can control the setting and rules don’t have to answer to simulation value.

- ❖ You may, if you like, conclude that GGDM and much of my commentary is in some significant part, a reaction or revolt against ‘dumbing down’ and that I am a symptom or product of the system described by New York City school teacher John Taylor Gatto in his books. In Gatto’s terms, I struggle to rise above the “diminishment” of my public schooling, to think.¹⁴

Starting from the conflict simulation games of my youth, GGDM has travelled in the opposite direction as far from those games as modern tabletop gaming has; GGDM is about as directly *opposite* as possible in relation to modern tabletop gaming. They say that the surface of the universe may be some sort of a hypersphere however.

“I never said, ‘I want to be alone.’ I only said, ‘I want to be let alone!’ There is all the difference.” – Greta Garbo¹⁵

GRETA & GATTICA: I identify with Greta Garbo. No, I don’t cross-dress, she and I don’t have the same tastes in clothing.

- ❖ “Garbo is lonely. She always has been and she always will be. She lives in the core of a vast aching aloneness. She is a great artist, but it is both her supreme glory and her supreme tragedy that art is to her the only reality. The figures of living men and women, the events of everyday existence, move about her, shadowy, unsubstantial. It is only when she breathes the breath of life into a part, clothes with her own flesh and blood the concept of a playwright, that she herself is fully awake, fully alive.” – Marie Dressler.
- ❖ “I think an artist who abandons his art is the saddest thing in the world, sadder than death. There must have been something about Garbo’s film career that profoundly revolted her.” – Tennessee Williams.

We are born alone, we die alone, even if surrounded by people. In between is an eyes-averted, head-down trip through the Void while our two feet remain firmly on Earth. I am not, however, advocating for a ‘hive mind’ (e.g., Ender’s Game (1985), Starship Troopers (1959), or Star Trek TNG’s Borg) – no human wants that, to the extent we can think about it, the idea is (strangely) one of our worst horrors. But we may be heading toward a ‘sort of’ collective intelligence with

global communication, expedient air travel, virtual reality settings (*a la* Second Life, though Linden has done a very poor job with it), and acculturation – this concept is expanded to its natural final state by the New Commonality/Mindscape in Mindjammer RPG (2009), a trans-human RPG that combines elements of Traveller RPG, Eclipse Phase RPG and a little Cordwainer Smith (from TV Tropes, “Mindjammer,” December 25, 2018).

I also fancy that the decision I made at 50 years old to spend a year or more finishing GGDM (as in a *sabbatical* – err self-employed, unemployed, I am a little too old to use a ‘gap year’ excuse, eh?) is similar to Vincent’s (natural born, not engineered) decision in the movie Gattaca (1997) when he finally beat his younger, genetically-engineered brother Anton in a game of chicken that involved swimming as far out to sea as possible before turning back:

❖ **Vincent:** You wanna know how I did it? This is how I did it Anton: I never saved anything for the swim back.

I often feel that I am swimming in the deep, but I don’t know if it is toward or away from land. The only reason I know that there must be land is that I am not a sea creature. I’ll end up someplace, probably in Davy Jones locker.

❖ “The ocean is a desert with its life underground and the perfect disguise above.” – America, “Horse with No Name” (1971).

If I may flatter myself, I feel like my life is moving in a direction that most people cannot point, it feels like a tesseract. Don’t ask me which direction that is because ... it’s a tesseract.

❖ “It was said of Abba John the Dwarf, that one day he said to his elder brother, ‘I should like to be free of all care, like the angels, who do not work, but ceaselessly offer worship to God.’ So he took off his cloak and went away into the desert. After a week he came back to his brother. When he knocked on the door, he heard his brother say, before he opened it ‘Who are you?’ He said, ‘I am John, your brother.’ But he replied, ‘John has become an angel, and henceforth he is no longer among men.’ Then the other begged him saying, ‘It is I.’ However, his brother did not let him in, but left him there in distress until morning. Then, opening the door, he said to him, ‘You are a man and you must once again work in order to eat.’ Then John made a prostration before him, saying, ‘Forgive me.’” – from Wikipedia article, “Desert Fathers” quoting The Sayings of the Desert Fathers, p. 86, trans. by Benedicta Ward, SLG, available for free online (<http://www.g4er.tk/books/sayings-of-the-desert-fathers.pdf>).

➤ I think there is a bit of dishonesty when religious adherents claim to have no material possessions in the world, or desires, and are living in poverty as a pious example to all, but are living off the donations and support of others. This includes that crazy guy who wandered around Palestine spreading his delusions while being financially supported by his wealthy convert and possible lover, Mary of Magdalene. But we have been trained and reflexively accept without question that religiously inspired poverty is *de facto* evidence of purity and holiness – and the financial support of others considered evidence of rightness and religious conversion – rather than the whole charade being understood as stupidity, delusion and laziness, for some would rather live a lie than do honest work.

It is thus that with 5 Fallen to Earth, my ‘sabbatical’ comes to an end, this part of the GGDM project is crossed off my ‘bucket list’ and I must now fall to the Earth, descend again into the profane, and once again work in order to eat (or more properly, so that my cats can eat).

- ❖ “[Gertrude ‘Trudle’] Junge died from cancer in Munich on 10 February 2002 at the age of 81, reportedly having said shortly before her death, ‘Now that I’ve let go of my story, I can let go of my life.’” – Gertrude “Trudle” Junge, after the publication of her memoirs Until the Final Hour (2002), as quoted in Wikipedia biographical article about her, captured May 27, 2019.

*“Carry on, you will always remember,
Carry on, nothing equals the splendor!”*

– Kansas, “Carry On Our Wayward Son”

WHAT A FOOL BELIEVES: When I was a young teenager, in the early 1980s, filled with the lust for everything that was possible, I knew a 30-something man, who was a UFO believer and belonged to local UFO social gatherings. We had many conversations about UFOs, ghosts, the occult, and rock ‘n roll music. UFOs were exciting and made sense to my young mind,¹⁶ I read all of the UFO and Bermuda Triangle books (I love that BT pink bunny commercial) of the day.

- ❖ When I was young, from my teens into my twenties, one of my favorite songs was Styx “Come Sail Away” (1977). I especially liked the final lyric. Now, decades later, I think that the final lyric was unnecessary and even kind of cheapens the song. “Come Sail Away” was Styx’ attempt to create a song like Led Zeppelin’s “Stairway to Heaven,” but didn’t quite work as well overall in duplicating the effect and the addition of the final lyric is a transparent appeal to a youth audience (like me), or just exasperation and a desperate attempt to give the song more cowbell.

Ten years later, after service and travel, and some college, he lived with us for a time (his wife kicked him out, I think, a regular occurrence in his life). Literally, nothing had changed in his life or his personality, except that he seemed a lot dumber than he was when I was younger.

- ❖ Empirical appreciation of evidence is usually lacking in youth. The true child prodigy is one who has a grasp of evidence and empirical method and reasoning at an age when the others (like me) are playing pretend.

At that point, his situation became transparent to me; he was a burnt-out drug user, hippie wannabe from the early 70s; he was still mentally living in the early 70s and the world had passed him by – nothing had changed for him since high school; he really didn’t understand much of what went on in the world or his own life. In a world where he felt dumb (and don’t we all?), *his belief in UFOs was the one thing that could never be falsified or argued away* (like God for most other people) – and he would smugly and willingly argue for hours about it with that stupid grin; that UFOs existed was the one *special thing* he knew that the rest of the world didn’t apparently. It made him feel wiser than the rest of us, similar to his apparent belief that he knew secret meanings to the lyrics of 70s rock songs.¹⁷

- ❖ “What a fool believes he sees, no wise man has the power to reason away.” – Doobie Brothers.

When I was young, I believed in UFOs more than I believed in God. Others have had similar thoughts; there are fringe religions that believe that God sent UFOs, that UFOs are piloted by angels, and other such syncretisms. If you are a religion in search of a modern miracle to refresh the dusty old books, why not UFOs? Unprovable and unfalsifiable. Just like anyone's God.

Arguments about the existence of God and Love (and 'the love of God') have the same characteristics,¹⁸ there is little practical difference between arguments about God and UFOs; the latter only seems more concrete and empirical for being modern. Note the rise of 'UFO religions' in the mid-20th Century (and from the 19th Century, Western Esotericism), countering the de-mystification of the world by empiricism. It seems to be an essential core or bedrock of human psychology that we must 'believe' in something that cannot be disproven directly, empirically or argued away.¹⁹

- ❖ There is an argument that the Robertson Panel's inquiry was perfunctory and that the conclusion was predetermined, and that the panel's report discouraged serious scientific or intellectual inquiry of UFOs and extraterrestrial life possibilities for decades. This is reflected in the movie Contact (1995), and also thus exported the whole subject into the realm of fiction, conspiracy theories, and fringe religion through the 60s, 70s, and 80s. However, the way the question was phrased and the way the panel went about answering the question they were asked to investigate and their conclusions and recommendations, clearly show that they were a creature of their time – 1953 – more concerned with how the enemy (you know who) might exploit UFO paranoia in an attack on the United States.²⁰ They were not interested in whether UFOs were real.
- ❖ In or about 1990 or 1991, I was reading some fringe book about UFOs or strange occurrences, and for some reason, I decided to look at the bibliography appendix. This was possibly the first time I had ever seriously glanced at the bibliography in any book I had read, and I possibly did so because I was going to Lycoming College at the time, my first attempt at college. What I saw in the bibliography shocked me, the author was mainly citing articles from the National Enquirer, Weekly World News, Globe and other supermarket checkout line tabloids that I knew well from working as an overnight janitor in a grocery store. I couldn't believe that anyone would seriously list those as bibliographic references; I remember that I literally tossed the book back over my shoulder and left it on the ground for some other fool.

*“Keeping silence, I resigned
My friends would think I was a nut
Turning water into wine
Open doors would soon be shut.”*

– Peter Gabriel, “Solsbury Hill” (1977)

“Do not be guilty of possessing a library of learned books while lacking learning yourself.” – Desiderius Erasmus

THE LIBRARY: Sometime in the last two months of 1996, I had a dream that I still remember. When I was a teenager, I had many vivid dreams and could remember many of them when I woke up. Some of those, I still remember vaguely, but by 1996, it was more unusual for me to remember anything when I awoke. In 1996, I was standing in some place; my mind interpreted it as a warehouse. It was dark there, except for one overhead light where I was standing. There was a small table, just a basic worktable, grey metal at the edge of the light. I was speaking to people I could not see, about something I don't remember clearly. What I did remember when I awoke was that we discussed the Library of Alexandria. I recalled being told that the Library of Alexandria was not lost; that it still existed and that we would find it when the time came.²¹

While it is true that I had seen Carl Sagan's Cosmos episode featuring his distorted story of the destruction of the Library of Alexandria and the death of Hypatia of Alexandria many times,²² thinking about it immediately afterward, I determined that I had no reason to think about the Library at that time and certainly no reason to dream about it; I had not thought about it in a very long time before that dream, nor had I watched Cosmos in many years.

The destruction of the Library of Congress and the major world university libraries would be a comparable event to the loss of the Libraries of Alexandria, Pergamum, and Celsus, and is a factor and feature in any societal collapse following a worldwide catastrophic event.²³ This was especially true in our fears of nuclear holocaust prior to the internet and modern mass data storage; that the knowledge of civilization would be lost to those who survived.

- ❖ This account is stated matter-of-factly; I have no desire to follow the esotericism and/or channeled or received ancient knowledge ways of Crowley, Blavatsky, or John Smith or a thousand others of their ilk. It's not my business, it's not useful here. If you claim to be receiving knowledge and inspiration from extraterrestrial or extra-dimensional sources (both terms are used in the broadest sense), people will stop hearing you seriously, you will be heard from the kid's table with amusement – even if it is perfectly clear that you are correct in whatever you are saying. Humanity only currently accepts knowledge, suggestion and inspiration from humanity. Thus the Bible and other ancient holy books have fallen far in the public view as their ancient authors claimed to have inspiration and power from transcendent beings in the universe.

“No serious futurist deals in prediction. These are left for television oracles and newspaper astrologers.”

– Alvin Toffler as quoted by Courtney Subramanian, “Alvin Toffler: What he got right – and wrong,” BBC, July 1, 2016, following his passing in June 2016

SUNRISE: The Sun rises every morning. It has, as far as we can tell, risen every morning for billions of years; however long this spinning rock or its asteroid predecessors spun in orbit, the Sun has risen. The Sun was rising (and setting) long before humans or their ancestors or *any form of life on Earth*, were present to *look*.

There are only two possible results each day; either the sun rises or it does not. While there are arguably a lot of stellar mechanics involved, it basically comes down to heads or tails from the Earth point of view. Even if the sun rose, but barely cleared the horizon (as in some extreme latitudes), or rose on the wrong side of the bed, for most of the Earth (except the poles) the Sun rises or it does not. The cosmic coin-flip has come up heads every day for 4.6 billion years.

Who or what was or is *looking* such that the ghost probabilities continually collapse into ‘heads’ results, not only here, but across the trillions of planets of the expanding universe, each ‘day’? Of course, the suggested answer runs to all sorts of possibilities and ideas that science does not embrace, and thus belongs in the realms of philosophy and/or religion, but is not anywhere close to ‘proof’ of the existence of the Abrahamic God.

- ❖ For example, scientist have rejected generally and implicitly, the human consciousness explanation for the experiment with the two holes as untenable or unacceptable, and is thus an example of ‘quantum mysticism.’ However, they have generally failed to offer a better explanation. See Peek-a-Boo discussion, 2 Expansion, p. 893, *supra*.

Looking is the trait that life shares with the universe; evolution – at the risk of using teleological language – generally seems to drift toward greater sentience, sapience, all of which result in exponentially greater abilities to *look* at the universe, or at least, the environment in which the creature lives. The ‘purpose’ or ‘function’ of consciousness may be to ‘look’ at the universe.

“He who influences the thought of his times, influences all the times that follow. He has made his impression on eternity.”²⁴ – Hypatia of Alexandria ²⁵

Prologue to Doggerel

Staring into the existential void as unblinking as I can²⁶

I did not ask to be born, I did not ask to survive

I am not allowed to be un-born

My mother’s life would have been a lot better

had I not been born

*If there was any ‘greater purpose’ to this living farce –
and GGDM is not it –*

50+ years onward, I am thoroughly unimpressed with the results

That may be incredibly shortsighted

But that is humanity ²⁷

End Game

There were times when I thought I was great and leading the intellectual charge.

There were times when I thought I was delusional and wasting my time,

but at least I wasn’t wasting anyone else’s time or money.

In the end, I thought only that this was the one thing I had left that I could accomplish.²⁸

It takes as long as it takes, but I don’t have even a fraction of forever.²⁹

I am an evolutionary dead end.³⁰

Epilogue

Someday, GGDM will be a work attributed to an unknown ancient writer.³¹

Or probably not. What do we know about the best seller list of 1000 B.C.?

“Doctor, my eyes cannot see the sky

Is this the price for having learned

How not to cry?”

– Jackson Brown, “Doctor, My Eyes” (1972)

Endnotes.

¹ Commentary: Notice that Bertrand Russell is using the “what is an agnostic” discussion to answer the Why Not question independent of religion: “Why do you not do so?” is a long-winded version of the Why Not question. See Why Not discussion in 2 Disruption, p. 269, *supra*.

² Commentary: Male cats have no chivalric code; today I watched a young male suddenly attack another male from behind as he had turned to leave following an earlier stare-down confrontation over food dishes where the younger male had backed slightly away. There was no female present; the young male simply considers the heated cathouse, the food dish, and my porch as his territory and the other male was an intruder. Chivalric code is part of a worldview where heaven and earth, humans and animals were separated by divine sanction, it was an attempt to make humans not like animals – similar to religious promotion of the missionary position as the only proper, non-bestial sex for humans (because they thought that only humans copulate face to face, and all the other beasts do it the other way) – even though humans fight like animals, eat like animals, eliminate like animals, and breed like animals.

³ Citation: “And even if the Astros receive the biggest punishment in baseball history, is it really going to stop teams from trying to cheat. There’s a reason why players privately believe that PED use is on a rise and the baseballs aren’t the only thing being juiced. ‘Why are the pitch stealing allegations a surprise to anyone?’ free agent infielder Trevor Plouffe tweeted. ‘Do you know the stakes involved? That’s why guys still get popped for PEDs. The reward outweighs the risk for many. That goes for organizations and players.’” – Bob Nightengale, “‘This tarnishes everything’: Astros cheating allegations have baseball world demanding punishment,” USA Today, November 14, 2019.

⁴ Commentary: *Normal people*, if they found anyone injured in a fight and knocked unconscious, would call emergency medical assistance and try to help. Unless they were the criminal who did it, or Hollywood action heroes, who instead complain that they have to wait for someone to wake up so that they can continue the ‘interrogation.’ ☺

⁵ Commentary: I worked on a civil liability case involving sex between a high school teacher and students. Despite being a worn-out fiction sub-trope of the older-younger trope (e.g., *Lolita* (1955) which became a generic term by the 1970s) and the subject of a popular song (The Rolling Stones, “Don’t Stand So Close to Me” (1980)), it is strictly illegal and consent is irrelevant, both because of the age of consent and because of the public authority and responsibility of school teachers over students (even when the student is over the age of consent). The perp and his pal were sentenced to jail.

⁶ Commentary: The fact that R.N. Smart’s “benevolent world exploder” – a euphemism for a moral supreme being (if not God or a Creator) – has not exploded this world, is only evidence of the fact that the benevolent world exploder has not exploded the world. It strongly suggests, however, that no such entity exists and/or that we have vastly misunderstood the whole premise on which our religion is based, that we have been making affirmative statements about things we cannot possibly know.

- ✓ “And this abdication of the responsibility to understand reality, this utter dismissal of reality in favor of pretty stories and profound-sounding deepities, this casual shrugging off of the question ‘What is real?’ as if it were irrelevant trivia, is probably the thing I find most maddening about religious belief.” – Greta Christina (blog), “Deepities On Parade: ‘Oh My God’ Reviewed” (movie review), November 27, 2009.

⁷ Commentary: How to lose an audience: I was an original fan of the *Andromeda* television series, I watched it every week for at least the first two seasons from when it began airing in the U.S. At some point early in the third season, the series went off the rails, the episodes became asinine, with unbearable attempts at slapstick comedy and the story arc seemed to fall into the black hole. I understood from reading online at the time that Kevin Sorbo wanted the series to be lighter, wanted it more comedic, wanted less doom and gloom, less serious story arc (more like his *Hercules* series, I guess). Some fans apparently disliked his character, Dylan Hunt; I did not dislike Dylan Hunt, but I did dislike Kevin Sorbo and thought that his action-hero ego was destroying the program. They lost me as a viewer in the middle of the third season.

- ✓ A television or film series, or even just a movie, has a contract with the audience. The people who became *Andromeda* fans were people who liked serious New Wave sci-fi, and doom and gloom, and a big story arc; switching to lighter, comedic, standalone episodes, and silliness in the third season lost the audience.
- ✓ The film *Passengers* (2016) made this mistake; critics called it a science-fiction story that turns into a rom-com that dodges all of the ethical issues it raises.
- ✓ I did later watch *Andromeda* sporadically in the last two seasons, but I had lost the thread and the series had evolved into a bizarre dark science-fantasy story.

⁸ **Commentary:** Go ahead, call me an ‘east coast urban elitist globalist’ and ignore me. I wear that badge of honor like any red blooded hoop’n hollering American deplorable does. But I won’t share the basket space with you.

⁹ **Commentary:** It is amazing how utterly self-centered humanity was in those Victorian days ... wait ... nothing has changed really in the last 150 years (e.g., see David Benatar feature quote, 3 Diplomacy, p. 1134, *supra*)! The arguments of Campbell are naught but a desperate attempt to maintain a human-centric universe where the Christian God is a doting parent and the Europeans are his favorite children. *Argument from design* that everything was made for humans is the ultimate expression of human conceit.

- ✓ Compare George Campbell’s argument in 1867 to Pangloss in Voltaire’s *Candide* (1759). This oddly demonstrates that Pangloss wasn’t an outlandish fictional character, but rather representative of an actual strain of thought in Europe.

¹⁰ **Commentary:** Do you ever get tired of breathing? Ok, give your chest a rest for a few minutes. You can’t, of course. Thinking is almost as imperative for humans as breathing, the two are connected both through the rhythm of the most primitive part of your brain and the fact that it supplies the brain with blood and energy and carries off waste. It is thus that someone like myself can never understand not thinking which is akin to suicide.

¹¹ **Citation:** e.g., “Sociology is a cult based around the intellectual pseudoscience of studying society. Originally popular with old bearded men who smoke pipes whilst reclining in arm-chairs, it has now managed to find a younger generation of converts thanks to its curricular introduction into sixth-form colleges and universities. Synonymous with Scientology, Sociology uses various methods of empirical investigation and critical analysis to develop and refine a body of knowledge and theory about human social activity.” – from the *Uncyclopedia*.

- ✓ This was quoted in both the RationalWiki article, “Sociology” and by Rose Eveleth in “Whatever Happened to Sociologists?” *SmartNews* (on smithsonianmag.org), November 6, 2012.

¹² **Commentary:** My first gaming convention was OrcCon 12, about two months before I went to Origins ‘89 in LA. I was 20 years old, I was in gaming heaven for two three-day weekends. A group of 10 Marines and Sailors rented a hotel room for 3 people, had an extra bed rolled in, and slept and showered in shifts; everyone brought their own sleeping bag, the closets and corners were piled high with luggage and game stuff. Two years later, Origins ‘91 in Atlanta, run concurrently with ACE (Atlanta Comics Expo), felt dull and lifeless in comparison. Likewise, my first GenCon was two years before it moved from Milwaukee to Indianapolis, and it was fantastic; I went again the next year, the last year in Milwaukee, and GenCon then felt absurd, overblown, and a gigantic hassle, not fun.

¹³ **Commentary:** There is an *interesting intersection* of ‘dumbing down’ and the Dunning-Kruger effect that shows the widespread effects of dumbing-down in politics, media, and schools: Everything is much larger and more complicated and grander or sublime than most people realize, and I have tried very much to emphasize this in GGDM. It is what I have spent my life figuring out when learning to see dynamics and wholisms. Part of the problem is the increase of dumbing-down proportional to the growing scale and complexity of our world; in the Dunning-Kruger effect on a mass scale, people do not know the incompetence of their understanding of the world, in fact, they don’t even know to ask the questions that would reveal to them their own incompetence of understanding the world.

¹⁴ **Commentary:** As to Gatto’s theories, I have not read his books, but have secondary knowledge (not to mention that the concept of ‘dumbing down’ is his permanent mark on our culture, though the term was used by filmmakers in the 1930s), and I guess it comes down to what you think is the purpose of public education and the responsibility of parents? And that is exactly what he challenges. I have heard in the past that the purpose of public education (and colleges) is to create a universal level of life skills – basic literacy, knowledge of our culture, work problem solving, and math skills – in the population and to prepare people for the workforce.

On some level, this would be contrary to Gatto’s more radical proposals, as English 17th to 19th century pedagogy which sought to standardize English (replacing rhetoric teaching with grammar and composition) and accommodate children of immigrants into English culture, required children to become used to authority and control, to memorize and be tested in retention of facts, to become empirical (again, I return to the opening paragraphs of Charles Dickens’ *Hard Times* (1854), see discussion of Lancastrian education, *Gradgrind, 1 Colleges*, p. 463, *supra*), to continue the nation and culture, and this pedagogy was inherited by the United States which had many of the same problems to solve. English pedagogy and Gatto’s objections represent opposite ends of the spectrum.

- ✓ Gatto takes a similar dim view of the purpose of the current state education systems that I take of the universe without intrinsic meaning, that I take of humanity, and that I take of the petty entropy we experience every day, as expressed here and there in GGDM, *supra*. Has anyone called him a wacko? Probably. But his publishers love him at least, because he has sold lots of copies of his books. I am not here selling.

¹⁵ Commentary: Ultimately, in the end, in a reasonably free society, many or most people get what they really want (within existential limits); I wanted to be left alone, to think, to be in my own zone, to exit in my own time. That is what I got. I don't mind too much, but there are tradeoffs always.

¹⁶ Commentary: Dr. Turzanski (a Hungarian holocaust survivor), my high school astronomy teacher (his son Stanislaw, "Stan the Sun Man" was in my class) and the only one who could operate the school planetarium, whom I admired greatly in my youth, could easily have squashed my belief in UFOs but chose not to do so. We watched Carl Sagan Cosmos episodes on different occasions during the school year, and most certainly watched the ones where he references and discusses UFOs and the possibility of technological alien intelligences. Whatever his personal beliefs, having embraced Cosmos as teaching aids (and being trained in empiricism and science), Doc Turzanski could not and would not say directly to me or the class that UFOs don't exist. Whether UFOs exist or not, there was perhaps more value in letting youthful fancy run wild about such things (even as I look back with some embarrassment 35 years later), and I recall encountering a similar opinion in a rhetorical theory essay that I read much later at Duquesne University which criticized education of youth that emphasized memorization of facts, suggesting that youth being more prone to physical activity and imagination, should be taught dance, sport, music, rhetoric and oratory, art, literature and such as more appropriate to their interests.

¹⁷ Commentary: I have no musical ability, but I *grok* the silence.

¹⁸ Commentary: I was also a post-hippy wannabe Free Love anarchist in my youth, or thought I was and tried to be. It turned out to be irrelevant in the end – your opinion matters little if you weren't invited to the party. Now, I no longer care. Because if I did, I'd probably be angry about it. So you have a choice. To care or not care, to be angry or not (see also Programming Dilemma, 1 Culture, p. 352, *supra*). You eventually find out that it didn't matter in the end, that the things you argued about in your youth seem petty, pointless in hindsight. And when you grow too tired to be angry, you take your jagged little bitterness pills and no longer care.

¹⁹ Commentary: Take for example the usual spam email that says something like, there is a cure for disease X and Big Pharma/Big Government is hiding it because they are making billions off selling medicines. Is it possible? Yes, it's also possible that the sun won't rise tomorrow; I can't imagine how, but it is possible that the sun won't rise tomorrow.

- ✓ It's also possible that the Earth has been visited by extraterrestrials and my stupid uncle – possibly the only thing on Earth dumber than a cow – might even have been abducted by one of them for study (I think he would have liked it).
- ✓ And it's also possible that the NFL is being destroyed by global liberals and that the Catholic Church needs illegal immigrants to survive. Both charges were made during the 2016 U.S. Presidential Election.

But this is the kernel of hype, paranoia and conspiracy theories (and even literal religious beliefs in any sort of supreme being(s)); the pitch is phrased in a way that because it's possible – because your mind cannot immediately dismiss the assertion as impossible, lacking evidence or commitment – then it must or might be true because they are saying so. When someone makes claims as such, the burden is on them to provide evidence; ask to see the evidence (see Hitchens' Razor: "What can be asserted without evidence can be dismissed without evidence"). The really good cons will have some scant evidence (sort of like religious arguments), which should still be treated critically. The vast majority will be found to be making statements about things they cannot possibly know or defend.

²⁰ Commentary: The UFO community understood the television program Project Blue Book (aka Project UFO, 1978-1979) as an assault on their beliefs and an attempt to discredit and explain away UFOs (a logical extension of the recommendations of the Robertson Panel, using television programming to suppress the UFO groups). I remember the program, but I was not a regular TV viewer then, I saw perhaps half a dozen scattered episodes. But such is the nature of their beliefs that the UFO community reacted in generally the same way as fundamentalist Christianity did when presented with archeological evidence of the historical inaccuracy of the Bible or of their creation story.

- ✓ In my opinion, the best approach to UFOs is an agnostic one. No one can say with absolute certainty whether aliens have visited the Earth in previous decades of the 20th Century or whether humans have encountered or communicated with them. No one can, with seriousness, dismiss it with absolute certainty either, although there is plenty of room for suspicion in what UFO reports indicate about our inflated sense of self-importance in the universe. Simply put, whether the discussion is UFOs or God (either separately or if as some believe, they are the same or connected), the evidence is so frustratingly inconclusive, sporadic, and human-centric that it is hard to take the matter seriously and certainly does not raise to any level of fact (other than that people believe or have reported sightings, as a mystic reports encounters with the divine or visiting other planes of existence in dreams). It is difficult to find value in even discussing it.

²¹ Commentary: The other great ancient Library at Pergamum may have been looted by Mark Anthony to restock the Library of Alexandria thus placing most of the written works of the classical ancient world in one place where they were destroyed. The Library also borrowed original works from the Athens Archive and never returned them.

²² Commentary: The movie *Agora*, though it follows faithfully Sagan’s whole argument in *Cosmos* regarding the destruction of the Library and the death of Hypatia in 415 A.D., does mention that the Library in Hypatia’s time was but a remnant of the vast Library, which had suffered disasters and partial destruction in previous times and was not rebuilt. Sagan in *Cosmos* makes it seem like the destruction of the Library of Alexandria was done all at once following the death of Hypatia (in the movie, the destruction occurs and she is killed much later). The movie drives home the point when Hypatia calls her small improvised classroom in her quarters with the remaining scrolls, her Library. Critics of the movie however, claim that the “library” where Hypatia taught was not in any way related to the original Library of Alexandria, of which there is no record past 260 A.D. and that the massive shelves of scrolls that were burnt by the mobs in the movie probably weren’t present in 415 A.D.

In this film version of the story, the last repository of the pagan knowledge of the ancient world was sacrificed to the fanatical mob to retain control and loyalty of the major port city in Egypt to the Roman Empire. The repository of history was sacrificed by Emperor Theodosius I (ruled 379 to 395 A.D., last to rule both West and East) in 391, in line with his accommodationist policies, to the needs of the moment – desperately trying to keep the two halves of the Roman Empire together. The wobbly Roman Empire could not afford another rebellion led by fanatics.

²³ Commentary: The U.S. Copyright Office is a function of the Library of Congress. Filing for a copyright requires depositing a copy. Though I do not know statistically, I suspect that a large portion of works copyrighted are not published or have limited publication (like GGDM), thus the only copy of many works exists not in university libraries but at the U.S. Copyright Office, wherever they keep the copies.

✓ How many members of Congress visit the Library of Congress in a year?

²⁴ Commentary: In the end, it only matters what the next generation thinks.

²⁵ Commentary: Sir Isaac Newton and Dame Hypatia are probably happily married and living in a distant reality.

²⁶ Commentary: We have a tendency to squint and look away from certain parts of our civilization and history. We need to get over that in order to gain a complete (or better) understanding of our civilization. GGDM provides a framework in which the participants can avoid squinting and looking away from the uncomfortable.

²⁷ Commentary: I might actually be flattered that many will disagree with me (probably on faith) and some might actually consider me dangerous (those types should know as they are dangerous too). Label me a lunatic. Go ahead, make your arguments, prove me wrong. Come out into the cold. Look to those places where you dare not look.

²⁸ Commentary: Perhaps in the sense of an ‘intellectual William “Burro” Schmidt.’ What started as a two-page game expansion has become a *magnum opus* of human civilization, and, like Schmidt’s narrowing tunnel, I sense that I am running out of time – I can feel, for example, a cognitive decline already from my youth, a constriction of focus and possibilities. And without computers and the internet, this project may well have taken 42 years to ‘tunnel’ through civilization. William “Burro” Schmidt demonstrated that one can work on a project for a lifetime and produce only a curious, but useless and meaningless result, then just pack up and wander away into history.

²⁹ Commentary: Edward Gibbon’s famous *magnum opus*, took 17 years to write and the rest of his life to defend. A like argument could be made for Darwin’s major work. The literary enormity of *War and Peace* seems to have been written in a mere 6 or 7 years. Jared Diamond’s *Guns, Germs and Steel* (1997) apparently took 25 years to come to fruition – he offhandedly refers to the period between Yali’s question and the publication of the book as being 25 years. All are much greater works by much greater intellects than I. *Und so weiter.*

³⁰ Commentary: Karoshi is an honorable way to die. Unfortunately, I have not that kind of honor. Ants are honorable creatures. Living longer doesn’t mean I’ll get more done or do a better job. To die sooner from working too hard, and honestly, trying to do what needs done, is better than to live long and prosper. But I am a slave to evolution. I am the impediment to the things I need to accomplish. I need to overcome myself.

³¹ Citation: “How could you possibly know that!” the alien exclaimed as meteors begin striking the ship. “Because I am an archaeologist from the future and I dug you up!” Riversong replied [ship shaking from impacts] “See you in 400 years!”

Keijijōgaku

Our ancient ancestors observed that “things” existed in three categories. There were things that were alive (life), there were things that were not alive and had not been previously (inanimate objects), and then there were things that were not alive now, but had been previously (dead). There was clearly something invisible and untouchable, but very crucial that the first had that the last had lost, some essence that slipped away quietly at the moment of death.

This has been the fundamental and axiomatic concept of life and death among humanity from time immemorial; that something is present in the living that is not present in inanimate matter and that was present in the dead but has departed. Most also imagine, through their religions and belief systems that the thing that departs upon death is not dissipated, but remains and passes to some other place reserved for departed essences, where it retains the personality, memories and burdens of the deceased. The modern form of the idea has been codified in popular visual entertainment, in children’s cartoons and adult horror movies, and evidence suggests that burial rites and ideas of the afterlife have been in human culture for at least the last 200,000 years.

The fundamental equation always works in only one direction, that something is subtracted from the living to make the dead. Fiction may provide that the equation can work in the other direction, but such is not known to occur or to have ever occurred in the combined experience of humanity. Further, as humanity has no control over the creation of life or the moment of death; that this essence has not thus far submitted to empirical study, or even appeared to our senses, it has uniformly historically been regarded as something beyond humanity, something from the realms of the gods or God.

Eighty thousand humans and countless other living creatures were instantly incinerated in the flash at Hiroshima on August 6, 1945. In milliseconds or less, bodies disappeared in uncontrolled heat and light that approximates the temperatures found on the surface of the Sun. Another flash followed at Nagasaki three days later.

No one has ever known the amount of time it actually takes for the essence of life to depart a body; but most people assume – without the slightest substantiation – that the process happens rather instantaneously at the moment of death – a letting go or losing the grip on life. Most would also agree that regular light bulbs come on instantaneously or nearly so the moment a light switch is flipped. Thus an idea can be formed of the amount of time that appears to be instantaneous and momentary to a human observer.

What happens or what is the difference then, if the body of living matter is destroyed in a millisecond or less, less time possibly than that “instant” required for the essence to depart or dissipate from the body in the normal manner of death? What happens if it is the body that departs the essence rather than the essence that departs the body at the moment of death?

Appendix AGE – Aging Out

Aging-out mechanics represent ‘automatic entropic effects’ built into the game, triggered by the end of processing of each Regular Turn. There are five ‘resources’ in the game that are affected by aging-out processes: Acts (Powerstrip), Resource Points (Treasury), Aspects (Public Space), Enlightenment (Colleges) and Special Operations Missions (Galactic Space).

- **Acts:** There is a 15% chance at the end of each Regular Turn, before new Acts are placed that each remaining Act on the Powerstrip will ‘age-out’ as political will dissipates, opportunities are lost and political theatre distraction sets in... ¹
 - Scenes never ‘age-out.’ However, all Scenes on stars and planets will be lost if the star or planet is no longer on any position’s Public Space at the end of any Regular Turn.²
- **Resource Points:** Resources don’t last forever; you have 50 apples today, a month from now you will have 50 rotten apples crawling with bugs. While resources are accumulated as ‘points’ in an imaginary pool called the Treasury, at the end of each Regular Turn, between 10% and 30% of RPs *in the Treasury* will be automatically lost due to various general entropic effects (this is not a Concierge Intervention). Five percent will be added to the loss for each disrupted Government Title at the end of the Regular Turn.³
 - RPs on Cargo Ships do not ‘age-out’ so it is possible to end-run the aging process by storing RPs on Cargo Ships. Presumably, they represent hard RPs, not soft RPs, however, RPs loaded onto Cargo Ships become immediately less useful (e.g., you cannot use them to fund Technological Research or recruit Special Operations Missions). If this becomes an abuse in the game (and players should never seek to abuse the mechanics of the game), there are ways of dealing with it in-game, e.g., Interventions.
- **Aspects:** The primary quality of Aspects are that they are momentary, transitory; the mood changes, values recede from the forefront, times change. As a result, Aspects are not permanent. Aspect pieces have a light side and a ‘dark side’; on the turn they are placed, they are placed light side up (or occasionally, the dark side up, at the judgment of the Concierge). At the end of each Regular Turn, the Aspects that started the turn with the light side up are flipped to the dark side, and Aspects that started the turn with the dark side showing are removed at the end of the Regular Turn. ... Thus, Aspects age off the Public Spaces if they are not removed before then due to other causes.⁴
 - Each time the Census Power is activated there is a 30% chance that each Proficiency will be eliminated from the Public Space due to turnover of generations. ... Each time a Government Title becomes disrupted or changes, there is a 20% chance that each Proficiency on the Public Space will be eliminated.⁵
- **Enlightenment:** Immediately prior to Faculty generation (i.e. College Tries) each Regular Turn (after the operation of Institutes and Enlightenment), half of the Faculties in each

¹ See Managing Act, 3 The Sidereal Stage, p. 123.

² See Lost Scenes, 3 The Sidereal Stage, p. 123.

³ See Ageing Resources, 2 Taxation & Census, p.

⁴ See Between the Candle and the Stars, 2 Culture, pp 366-367.

⁵ See And the Cradle Will Rock, 3 Culture, p. 382.

College's 'class' will retire (i.e. 'age-out' like RPs in the Treasury). Faculties in a College's 'class' are not immediately lost if the College's Host Colony is Conquered or if the College ceases to function or closes for any reason, but of course, without replenishment, they will eventually dwindle away, losing half each turn. Or put another way, the half-life of a Faculty is one Regular Turn if not used.⁶

- Unused Faculties will be returned to the Classes at the end of the turn, before aging is processed. Faculties committed to Combat Rounds, used or not, will not be returned at the end of the Round or at the end of the Combat.⁷
- **Special Operations Missions:** At the end of each Regular Turn after a Mission (of either type) is either first Recruited or initially Lodged (i.e., not on the initial turn it is Recruited or Lodged), at the end of the Regular Turn there is a 30% chance that each Mission (whether Lodged or not) will be lost as circumstances change, opportunities pass, loyalties change, places change, security upgrades, and agents quit, defect, die or are compromised. This aging process is independent of any losses caused by successful Counter-Operations (see Spy vs. Spy, 3 Special Operations, p. 1323), failure to Lodge, or use of Missions in Black-ops at the location where the Mission is Lodged.⁸
 - This is a matter of game-mechanical timing. A Mission that is Recruited cannot be Lodged on the same Regular Turn; the position must wait until the next Regular Turn to attempt to Lodge the Mission. Thus, Recruited Missions should not 'age-out' before an attempt can be made to Lodge them. And a Lodged Mission should not 'age-out' before the position has at least one opportunity to use it (however, see Treason, 3 Special Operations, p. 1310).⁹
 - Like Special Operations Missions, Counter Operations Missions 'age-out' at the end of each Regular Turn; there is a 50% chance that each Counter Operations Mission will be lost at the end of each Regular Turn. Unlike Special Operations Missions, Counter Operations Missions are not 'expended' or lost during the defense against any operation.¹⁰

⁶ See Tuition & Tenure, 2 Colleges, p. 474.

⁷ See Vampire Suicide, 2 Colleges, p. 478.

⁸ See Ralph Wolf & Sam Sheepdog, 2 Special Operations, p. 1296.

⁹ See Punching Timecards, 2 Special Operations, p. 1296.

¹⁰ See Police Pensions, 3 Special Operations, p. 1322.

Appendix ART – Articles of Incorporation Examples**Sample 1 – Articles of Incorporation for Broadcasting Corporation**

The Confederacy will transfer to the Big Broadcasting Corporation (BBC) the orbital Tachyon Virtu Module (TV Module) located at the Capital Colony, an expensive Technological Device which broadcasts real-time, instantaneous news and information to planets within 50 movement of the Capital Colony which have been equipped with the proper receivers. Additionally, The Confederacy will build a network of proper orbital receivers on all colonies including the Capital Colony (cost, Technological Devices, 5 RPs and a Construction Power Activation each), and will support the BBC with 1 RP per turn from the Treasury. Receivers must be built at all new colonies or newly Converted colonies.

In return, The Confederacy receives one randomly determined Communication, Education, Equity, Nationhood, or Spirit Proficiency each Regular Turn for every 200 Friendly or Naturalized population reached by the BBC. The Proficiencies received will be randomly placed in an open available Monad on the Public Space. The Capital Colony is designated the Host Colony for BBC. The Articles of Incorporation expire every three Regular Turns.

Example Notes: This requires a large up-front investment by The Confederacy, for the Technological Device, and all of the receivers, could require hundreds of RPs, and perhaps a dozen Commerce & Construction Power Activations, plus having to obtain a Patent and build the TV Module, before the Corporation. Conversely, the ability to gain free Proficiencies each Regular Turn is priceless, especially in Culture Power activation savings.

- ✓ The Corporation functions as one or more Culture Power Activations for the purpose of Perfecting Proficiencies, a non-location specific Power Activation which cannot fail due to inactive Constructural Elements (see 1 Corporations, p. 1248 and 3 Culture, p. 381).
- ✓ Note that while Culture Power Activation for the purpose of Perfect Proficiencies is non-locational, the Corporation as described here is sufficiently location specific to function.

The BBC would cease to operate, however, if the TV Module is destroyed (e.g. in a Special Operations Black-Op or perhaps a Strike). The Concierge may suspend the BBC, or the position might not renew it if this happens and there could be Interventions at the colonies when instantaneous real-time communication from the Homeworld suddenly cease.

Sample 2 – Treaty for receipt of BBC signals.

This Treaty by and between The Confederacy, owner of the BBC, and Catspaw, is an agreement by which the Catspaw can receive BBC signals. The Confederacy hereby provides technical information to Catspaw sufficient to build a TV receiver at Dog IV, a Converted Colony of the Native Population Type of The Confederacy that is owned by Catspaw, and the Concierge will immediately remove 10 RPs from Catspaw's Treasury upon Catspaw's activation of the Diplomacy Power to Accept Treaty to cover the build cost of the receiver. Catspaw will begin receiving the benefits of this Treaty in the form of one free Communications Proficiency per Regular Turn (a savings in Culture Power activations, also supporting use of Writs) placed adjacent to the Dog IV colony at the end of Catspaw's Regular Turn processing.

Example Notes: This Treaty does not make the BBC a MegaCorporation. Catspaw (a position) does not gain any ownership in the BBC, and is only subscribing to receive the services. The game mechanical function of the Treaty (see Trick or Treaties, 1 Diplomacy, p. 1104) is the one-time removal of 10 RPs by the Concierge and the automatic receipt of a Communication Proficiency by Catspaw each Regular Turn. To benefit, Catspaw has to insure there is an open Monad to receive the Proficiency as specified and *protect the orbital receiver*. What does The Confederacy gain out of this? Who knows? It may be part of a larger agreement, concession of a planet or system for colonization, or a one-time delivery of RPs to a

Confederacy colony all of which are strictly beyond the bounds of a Treaty in GGDM terms. Catspaw on the other hand may be attempting Reverse Engineering or Special Operations.

Sample 3 – Articles of Incorporation for Larry, Curly & Mo Cargo MegaCorporation

The Larri-Mor-ons, Curly Quadrant (CurlyQ) and the Big Mo (3 positions) issue these Articles of Incorporation to form the Larry, Curly & Mo Cargo MegaCorporation. All three positions agree to automatically allow the Cargo Ship described in these Articles of Incorporation to Unload RPs only at their specified colonies. The Larri-Mor-ons for their part will supply one Cargo Ship of the capacity to carry 20 RPs and the ability to move between the three designated colonies in one jump from each colony to the next. The colonies agree to resupply and protect the Cargo Ship at each stop. Larri-Mor-ons’ Slap Stick II colony is designated the Host Colony for the MegaCorporation.

- ✓ Said Cargo Ship will proceed empty from Larri-Mor-ons colony to the CurlyQ colony at Quadrant 51. There it will Load 20 RPs (enhanced value), which CurlyQ will have reserved a sufficient amount in the Treasury for that purpose (less than 20 RPs), and the Cargo Ship will then proceed to Big Mo colony at Spade III.
- ✓ At Spade III, the Cargo Ship will Unload 10 RPs of the 20 CurlyQ RPs for a fixed enhanced value of 15 RPs added to the Big Mo colony.
- ✓ The Cargo Ship will then load 10 Big Mo RPs (enhanced value) from the Spade III colony and depart with 20 RPs cargo for the Larri-Mor-ons colony at Slap Stick II, where it will unload 20 RPs.

The Cargo Ship will then return to the CurlyQ colony at Quadrant 51 where it will begin the route again. The movement of the Cargo Ship is keyed to Larri-Mor-ons’ Regular Turn orders.

Example Notes: The Larri-Mor-ons provide a Cargo Ship to receive 20 enhanced value RPs at Slap Stick II every three Regular Turns; to take advantage of this, the Larri-Mor-ons must be ready to activate the Construction Power at Slap Stick II on the Unloading turns or the RPs are wasted.

- ✓ No Power Activations would be used to move, load or unload the Cargo Ship as that is the function of the Corporation (see Corporation Games, 1 Corporations, p. 1243); it would occur automatically per the program.

But they are not giving up any RPs or giving any RPs to their partners to get it. Moving RPs to Slap Stick II would require a Cargo Ship anyway and multiple Power Activations.

Big Mo gets 15 RPs at Spade III colony every three Regular Turns for free, but has to load 10 RPs enhanced value to the Cargo Ship which will take a lesser amount from the Treasury. Maybe Big Mo is exploiting the Cargo Ship for a Special Operation? Or maybe there is a side deal between CurlyQ and Big Mo? The Concierge will not judge or prevent an ‘unfair’ MegaCorporation arrangement.

CurlyQ gives up enough from the Treasury and against Quadrant 51 Colony’s GDP limit once every three Regular Turns to load 20 RPs enhanced value on the Cargo Ship, and receives nothing in return via the MegaCorporation. Why would they agree to this? MegaCorporations might be created for many reasons, CurlyQ might be paying tribute or war reparations (e.g., France in 1870, Germany in 1919), or may be subsidizing allies e.g., the English subsidized the Prussians during the Seven Years War to counterbalance France, Russia and the Austrian Habsburgs on the Continent while they won a global colonial empire in India, North America and Africa.

As this MegaCorporation consists of only one Cargo Ship making rounds to three colonies, it would cease to function if the Cargo Ship in question is destroyed. The MegaCorporation would also cease to function if there were no RPs in the Treasury when needed or if any one of the three colonies were Conquered or destroyed. “It’s all fun and games until someone loses an eye!” my mother used to say.

Appendix ASP – Sample Aspect Lists

Sample Aspect List – Light and Dark Sides the same

A	Anger
B	Belligerent
C	Charitable
D	Desperate
E	Extreme
F	Fearful
G	God-like
H	Hope
I	Infinite
J	Joyous
K	Knowing
L	Lost
M	Magnificent
N	Nascent
O	Open
P	Proud
Q	Quaint
R	Restrained
S	Sovereign
T	Territorial
U	Uniform
V	Vengeful
W	Warlike
X	Xenophobic
Y	Yellow
Z	Zealous

Sample Aspect List – Light/Dark Aspect List

A	Angelic	Angry
B	Beneficial	Belligerent
C	Comedic	Commanding
D	Decent	Despotic
E	Ernest	Empathic
F	Frank	Fearful
G	Good	Grandiose
H	Hard	Hubristic
I	Impressive	Impassioned
J	Judgmental	Jealous
K	Keen	Knavish
L	Largess	Limited
M	Moody	Malicious
N	Noble	Night
O	Orderly	Oppressive
P	Parental	Passive
Q	Quiet	Queer ¹
R	Righteous	Resistant
S	Sure	Simplistic
T	Temperate	Tired
U	Utopian	Used
V	Victorious	Vitriol
W	Winsome	Weary
X	Xenophilic	Xenophobic
Y	Youthful	Yearning
Z	Zen	Zero Hour

¹ **Commentary:** “Queer” as in strange, different, unusual, not a reference to male homosexuals. This is an example of a not-quite-opposite ‘dark side’ of an Aspect, as discussed in 2 Culture, pp. 366-367 – for some people, being quiet is queer, and for others, experiencing quiet morphs into queer feeling (i.e. eerie silence).

Appendix CEX – Combat Example

Introduction: Avaral Rex is at war with SPQR. SPQR has a major Naturalized Colony, Colonia Londinium, at Caledonia II, which has a 100 RPs of 2nd Era Fighters and 30 RPs of 1st Era Ship Missiles, and SPQR also has one 2nd Era Warship in the Caledonia II system at the start of the war. The Caledonia system is on Combat Alert in full 36-hour Highland dress.

- ✓ History records that the war between Avaral Rex and SPQR had to do with balls, or lost meatballs, or something covered with cheese. SPQR calls the Rex guys ‘lizards’ and the Rex calls SPQR ‘skirt guys.’ And the war begins...

An Avaral Rex Scout Ship arrives in the system (which it previously explored) to see how many SPQR colonies and ships are in the system. Upon arrival, the Scout observes one colony and one warship defending the colony. The Avaral Rex brain trust then decides immediately to launch two fleets toward Lima. The First Fleet, a small fleet, has the task of clearing away the sole defending warship, and will arrive in one jump, while the Second Fleet, of fifteen ships, will arrive in two Regular Turns to attack the colony.

Meanwhile, the SPQR commanders decide to use their Combat Alert to initiate combat (before their next Regular Turn), so as to eliminate the Scout and keep it from penetrating further into their territory on Avaral Rex’s next turn.

Opening Round: Upon informing the Concierge that they are initiating a Ship Combat against the Scout, the Concierge informs Avaral Rex that their Scout is being attacked. Avaral Rex informs the Concierge that their Scout will retreat, however, the attacker gets one attack before the Scout can attempt to retreat (which it has a 50% chance) at the end of the Combat Round. The orders submitted by SPQR upon initiating the combat do not include the Fighters, so SPQR has opted to take a shot with their warship.

- ✓ SPQR may be hiding their colony fighters, if they attack with them, they will be revealed. Avaral Rex’ Scout would only see the colony, not the fighters which are enhancements, by simple observation, see ABBA Arrival 2 Information, p. 1340.

The SPQR warship is a 2nd Era Warship, the Avaral Rex Scout is a 1st Era non-warship. The basic chance of a 2nd Era Warship to hit is 50% (10% times 5 for the 2nd Era, see Firing Solution, 3 Combat, p. 978). The SPQR warship is 2nd Era, however, Avaral Rex is also a 2nd Era position and thus the non-warship Scout is treated as a 2nd Era target for purposes of combat (see Civilian Targets, 3 Combat, p. 978), so there are no shifts for Era differentials. However, the Scout ship is a non-warship, so the SPQR receives two offensive shifts, giving it a 70% chance of hitting the Scout. But Scouts are made for this kind of situation... and the Scout receives one Defensive Shift (see Scout’s Honor, 1 Expansion, p. 879 and Civilian Targets, 3 Combat, p. 978), bringing the chance to hit down to 60%.

The roll is made by the Concierge and the result is 43%, which being less than 60% means that the SPQR warship hit the Avaral Rex Scout and destroyed it (see A Hit, 3 Combat, p. 979). The Scout has no opportunity to retreat, as it would have had to survive to the end of the round to have a chance to retreat.

The Battle of Caledonia II: Regardless of the fate of the poor Avarar Rex Scout, the Avarar Rex First Fleet is *en-route* and cannot turn back or stop (see The FTL Missile, 2 Movement, p. 849) even if the brain trust felt remorseful. SPQR will have their next Regular Turn to prepare before they arrive, and during that turn, SPQR and transfers 30 RPs of 1st Era Ship Missiles from Caledonia II to the 2nd Era Warship guarding the colony (see Transfers, 3 Construction, p. 680).

- ✓ The transfer occurred at the beginning of SPQR's Regular Turn. The receiving Warship began the Regular Turn in the system and the Ship Missiles were already on the colony. *Id.* Because the transfer occurs at the beginning of the turn, the Ship Missiles cannot be constructed that turn. *Id.*, p. 680.

SPQR is unable, however, to put the system on Combat Alert again, as the Combat Power is activated elsewhere to initiate Combat Movement with other fleets. But SPQR is able to add enough Enlightenment to allow for two rerolls during the coming Combat (see Web of Night, *et seq.*, 2 Colleges, p. 477). The warship and colony both have an active Epistemological Constructural Element (see Skool Tyme, 2 Constructural Elements, p. 190) and thus can benefit from Enlightenment.

When the Avarar Rex First Fleet arrives at Caledonia, it consists of two 2nd Era Warships and two 1st Era Warships, facing the sole defender (4:1), the SPQR 2nd Era Warship. Because the Avarar Rex movement was initiated by use of the Combat Power, Avarar Rex can, and of course does, submit First Round Combat Orders shortly after confirming that there is still only one warship guarding the colony (see Run Away!, 1 Combat, p. 944). SPQR is informed by the Concierge that combat has been initiated and timely responds with its own Combat Orders (see Capoeira, 3 Combat, p. 970).

On the first combat round, of course, all Avarar Rex warships fire at the lone SPQR defender. None of the Avarar Rex warships have Ship Missiles or Fighters. The SPQR 2nd Era warship fires at one of the enemy 2nd Era warships, and launches all of its 1st Era Ship Missiles at the other Avarar Rex 2nd Era warship. The Fighter Component from Caledonia II, divides its sorties between the second Avarar Rex 2nd Era Warship (the one targeted by Ship Missiles) and one of the 1st Era Avarar Rex warships. The true odds are now 4:1 + Ship Missiles + Fighters.

- **Will You Marry Me?:** The Fighter attacks resolve first, then the warship attacks resolve simultaneously, and finally the Ship Missile attacks are resolved (see Combat Resolution, 3 Combat, p. 976).

The total size of the Caledonia II Fighter Component is 100 RPs, which is divided in half so that 50 RPs attacks each target. It is irrelevant in this situation which is resolved first. SPQR declares that Enlightenment will not be applied to Fighter Attacks (see Blacksheep, 2 Carriers & Fighters, p. 1054).

The fighter attack on the second Avarar Rex 2nd Era Warship will be resolved first. Resolution of the Fighter Attack starts with an Effectiveness die roll, and a 6 is rolled, which divided by 10 is converted into .6 (see Fighter Combat, 2 Carriers & Fighters, p. 1054) The 50 RPs of Fighters is then multiplied by .6 for a base chance of 30% to make a successful attack. Finally, the Era multiplier of 2.5 for 2nd Era Fighters (*Id.*) is applied raising the chance to of a successful attack to 75%. A roll is made and the

result is 62%, so the second Avaral Rex 2nd Era Warship is “engaged” by the Fighter Component.

The Effectiveness Roll against the Avaral Rex 1st Era Warship is .3, which yields a basic 15% chance to successfully attack the 1st Era Warship. When the Era multiplier of 2.5 is applied, the chance of a successful attack raises to 37.5%. Finally, the attacking Caledonia II Fighters receive one offensive shift due to the difference in Eras, raising the chance of a successful attack to 47.5% or 47%. The die roll is 45%, so the Caledonia II Fighters barely engage the Avaral Rex 1st Era Warship.

Immediately following the Fighter attacks the target Avaral Rex ships get their Close-in Defense Fire. The Avaral Rex 2nd Era Warship has a 25% chance (half of its normal chance to hit a 2nd Era Warship) of hitting each 10 RPs of attacking 2nd Era Fighters (see Tail of the Gunner, 2 Carriers & Fighters, p. 1059). The die is rolled five times, and the 2nd Era Warship obtains three Close in Defense Weaponry hits against the attacking SPQR 2nd Era Fighters. A 10 sided die is then rolled three times, with the results of 5, 2, and 1, so 8 RPs (16%) of the 50 RPs of Fighters attacking the 2nd Era Warship are destroyed while engaging the ship for one round (see Down in Flames, 2 Carriers & Fighters, p. 1059).

The Avaral Rex 1st Era Warship has a 10% chance of hitting the attacking Fighters with Close-in Defense Weaponry (normal 30% chance to hit for 1st Era Warships, Fighters receive one Era Defensive Shift, *before* the chance is divided in half, *Id.*). The 1st Era warship misses on all five rolls (vs. 50 RPs of Fighters) and does no damage to the attacking Fighters while being engaged for the round.

- Marital Disputes: The warships may now fire directly at each other, and as with the Fighter Component attacks, it really doesn’t matter what sequence they are resolved. The Avaral Rex 2nd Era Warships each have a 50% chance to hit the defending SPQR 2nd Era Warship, except that the Avaral Rex 2nd Era Warship that was engaged by the Fighters has a 30% less chance to hit due to being engaged by 2nd Era Fighters (see Engaged, 2 Carriers & Fighters, p. 1055). So the two Avaral Rex 2nd Era Warships attack at 50% and 20% chance to hit respectively. The first attacker rolls a 71% and the second attacker rolls a 36%, so both miss, with the second ship missing *only because* it was Engaged previously by Fighters!

The two 1st Era Avaral Rex warships each have a basic 20% chance to hit the SPQR 2nd Era Warship, which is the normal 30% basic chance to hit, minus 10% for the difference in Eras, firing at a higher Era target (see Combat Shifts, 3 Combat, p. 978). Additionally, the 1st Era Warship that was engaged by the Fighters has no chance to hit due to the 30% reduction and so cannot fire! The unengaged 1st Era Warship fires and rolls a 33%, narrowly missing the target.

The SPQR defending warship has a 50% chance to hit the target non-engaged 2nd Era Avaral Rex warship and rolls a 68%, missing the target. However, one Enlightenment is immediately used to force a reroll and the second roll is a 49%, narrowly hitting and destroying the target!

At this point, SPQR has lost 8 RPs of Fighters and Avaral Rex has lost one 2nd Era Warship to Enlightenment.

- I Want a Divorce!: Finally, last in the combat round, the 1st Era Ship Missile attack against the other, previously engaged 2nd Era Avarar Rex warship is resolved. Because the target ship was already engaged by Fighters earlier in the round, it does not get to fire Close-in Defense before being attacked by 30 RPs of 1st Era Ship Missiles (see Fire-and-Forget, 4 Carriers & Fighters, p. 1080). The Ship Missile attacks are resolved the same as Fighter attacks, therefore, the attack starts with an Effectiveness Roll. *Id.* The result of the roll on a ten-sided die is 8, which converts into $.8 \times 30$ equals a 24% chance of hitting the target. The target is a 2nd Era Warship, so there is also an Era Defensive Shift applied, reducing the chance to hit to 14%. The die is rolled for the Ship Missile attack and the amazing result...a 12% is rolled, so that the Ship Missiles successfully attack the target. Because the target was previously engaged by Fighters, the second attack is a hit and the second Avarar Rex 2nd Era warship is destroyed.
- Divorce Decree: The Avarar Rex lizard-brain trust is stunned by this unfortunate turn of events. They now have two 1st Era Warships facing a SPQR 2nd Era Warship and 92 RPs of 2nd Era Fighters from Caledonia II. Perhaps they logically expected the skirt-wearing SPQR warship to retreat from the combat in the first round, perhaps they didn't expect that many Fighters from the colony, perhaps they underestimated the value of Ship Missiles. Avarar Rex would not have been informed by the Concierge of the use of Enlightenment by SPQR, but they might guess it from the result of the first round fire by SPQR. They know, however, the SPQR has burned 30 RPs of Ship Missiles to achieve that expensive result.

So, what to do now? Avarar Rex decides that retreating is not a good option as their 1st Era warships will probably be destroyed, so orders are submitted for both 1st Era Warships to fire at the SPQR 2nd Era warship. The Avarar Rex Second Fleet is due to arrive on their next Regular Turn, and they must take the chance to eliminate that one defender so that they can immediately attack the colony. Avarar Rex decides not to commit any Enlightenment, saving them for later.

Meanwhile, SPQR moves in for the kill, ordering his 2nd Era warship to fire at one attacker, and putting both of his Caledonia II Fighter Sorties on the other attacker. SPQR has one remaining Enlightenment from the first combat round and decides not to add any additional Enlightenment, saving some for later (see Combat Resolution, 3 Combat, p. 976). SPQR designates that Fighters can use Enlightenment this round (see Blacksheep, 2 Carriers & Fighters, p. 1054).

Caledonia II has 92 RPs worth of fighters, and because only one target is being attacked, each sortie uses 75% of the strength of the Fighter Component because this is a Concentrated Attack. So, each Fighter attack is made by the equivalent of 69 RPs worth of Fighters (see Blacksheep, 2 Carriers & Fighters, p. 1054).

The Effectiveness Roll for the first sortie is 5, which converts to $.5 \times 69$ RPs, or a 34% chance to hit. The chance to hit is increased by one offensive shift (10%) to 44% because 2nd Era Fighters are attacking a 1st Era target and then multiplied by the 2.5 2nd Era multiplier to over 100%, but the attempt is resolved at 99% (see Fighter Combat, 2 Carriers & Fighters, p. 1054). The die roll is 40% meaning that the first Caledonia II sortie engaged the target 1st Era warship. The Effectiveness Roll for the

second sortie is 2, which converts to $.2 \times 69$ RPs, or a 13% chance to hit, which when the Era difference shift is applied, gives a 23% chance to hit and the 2.5nd Era multiplier makes a 57% chance to hit. The die roll for the second sortie is 89%, an unsuccessful attack (i.e. a miss). The Concierge immediately applies the remaining Enlightenment and rolls the attack again, this time obtaining a 19%, which makes a second successful attack on the target, for a hit.

The Avarar Rex 1st Era Warship is destroyed by fighters, but it will get to fire before being removed from the game (see A Hurt, 2 Carriers & Fighters, p. 1056) and will also be able to immediately execute a Close-in Fire against the attacking Fighters. The 1st Era warship gets 9 die rolls vs. the 92 RPs of attacking Fighters (not at the enhanced value of 138 RPs, see Counting Whale Tails, 2 Carriers & Fighters, p. 1059), and has a 10% chance to hit (the normal 30% chance to hit, minus 10% for the Era shift, and then halved to 10%). With nine rolls at 10%, the 1st Era Warship hits twice and then gets to roll two ten sided dice for damage to the Fighters. The results of those rolls are 8 and 5, meaning that the Caledonia II Fighter Component lost 13 RPs of Fighters destroying the 1st Era Warship!

The two Avarar Rex 1st Era Warships fire at the 2nd Era SPQR warship. They each have a basic 20% chance to hit. However, since the second ship was engaged (and eventually destroyed) by the Caledonia II Fighters, 30% is subtracted from its chance to hit, and it then has no chance to hit, and cannot fire. So it is removed.

The remaining Avarar Rex Warship rolls its attack and rolls a 15%, meaning it hit and destroyed the SPQR 2nd Era Warship. The SPQR defender gets to fire before being removed and has a 60% chance (50% base chance, plus one offensive shift for firing at a lower Era target) to hit the remaining Avarar warship. SPQR has no remaining Enlightenment for the combat. Fortunately, SPQR rolls a 23%, hitting and destroying the remaining Avarar Warship.

After Action Report: The combat is over, all attacking and defending ships were destroyed, and the Caledonia II Fighter component returns to the Colony, minus 21 RPs of Fighters (now at a value of 79 RPs of 2nd Era Fighters). SPQR has also expended 30 RPs of 1st Era Ship Missiles and two Enlightenment.

Avarar Rex obtained a pyrrhic victory but they did accomplish the mission, despite being surprised at the resistance, and when the Second Fleet arrives on their next Regular Turn (which will be before SPQR's next turn) it will be able to immediately attack Caledonia II without interference (as there are no warships in the system). SPQR did not put the Caledonia System on Combat Alert last time, so the Caledonia II Fighters cannot initiate a ship combat to delay the attack on the colony. Additionally, A-Rex did some preemptive damage to the colony's defenses by destroying 21 RPs of Fighters.

SPQR had a good day, tactically, though they may come to regret the cost of it later, as in the strategic analysis (in post-game hindsight), they may have only gotten a strategic draw or loss from the smashing tactical victory at Caledonia II. SPQR doesn't know about the fifteen-ship Second Fleet that bearing down on Caledonia II, SPQR only knows that they scored a great victory, destroying an entire enemy fleet while losing only one 2nd Era Warship, some Fighters and Ship Missiles. SPQR also burned 30 RPs of Ship Missiles taken from the colony's defenses; the loss of Fighters and Ship Missiles from

Caledonia II's defense might doom Colonia Londinium. Additionally, SPQR used two Enlightenment to obtain this victory whereas Avalar Rex used none (perhaps they were unenlightened, or they just were being pennywise and pound foolish).

Conversely, the initial loss of five ships to one might make Avalar Rex proceed with more caution, or change building strategies to build more Fighters and Ship Missiles, giving SPQR more time to recover.¹ The early loss of those many ships might also effect Avalar in the long run, especially if that was exceeded number of 'extra ships' Avalar was able to build by adhering to a policy of not building Ship Missiles. Avalar might not have enough ships (and is short on Ship Missiles), combined with the probable losses in the following battle at Caledonia II, to effectively carry out the remainder of the attack plan. Any ships that would have survived the initial battle at Caledonia II would have joined the attack on Colonia Londinium, which now makes the next battle that much more difficult.

It was a hurt'n thing over a meatball in the sky.

¹ Recommended Reading: "Superiority," a short story by Arthur C. Clark.

Appendix COL – College Charters Examples

Special Operations College (Power College)

Mission: Special Operations Power

Initial Endowment: 30 RPs

Per Turn Endowment: 5 RPs

Host Colony: Impossible III

Current Faculties: 0

Nationhood College (Proficiency College)

Mission: Nationhood Proficiency

Initial Endowment: 50 RPs

Per Turn Endowment: 10 RPs

Host Colony: Washington, DC (Democratic Colony of Washington)¹

Current Faculties: 0

Symbolic College (Constructural College)

Mission: Symbolic Constructural Elements

Initial Endowment: 20 RPs

Per Turn Endowment: 10 RPs

Host Colony: Alamo Colony, Lone Star System

Current Faculties: 0

First Contact College (Special College)

Mission: First Contact

Initial Endowment: 45 RPs

Per Turn Endowment: 15 RPs

Host Colony: Far Point

Current Faculties: 0

¹ Commentary: Most places that have ‘democratic’ or ‘democracy’ in their name are not.

Appendix COM – Trading with Scene-snitching Aliens Example

State of the System

Ziggy Stardust arrived first in the starsystem early in the game and established a colony on an Unpleasant Planet with a Maximum Habitability of 60 (see 3 Taxation & Census, pp. 315-317). The planet is a ‘special planet’ (see 2 Taxation & Census, p. 307) and the colony has grown to significant size with additional offloading of population (see 3 Expansion, pp. 914-915).

The second arrival was Generativity, Inc. (a position name, not a Corporation or MegaCorporation¹) who established a colony on a Hostile planet with 13 Maximum Habitability which the position named Martian Spider 1. The colony on the surface is currently very small, only 2 population factors, while most of the colonist occupy an Orbital Condo (a smaller variation of the Orbital City Existential Patent, see 2 Construction, p. 667) holding 10 population factors. The colony also has 4 Industry (maximum industry).

There has been peace in the system, there are no other colonies in the system, and the colonies are lightly defended. Generativity Inc., is a 2nd Era position while all of the others in this story are late 1st Era positions (see 1 Eras, pp. 756-757). The *Uber Alles* (see 2 Eras, p. 767) for the 2nd Era are:

- a. Technology: Resources received from population during Taxation Power activations increases to 1 per 4 population factors on sovereign native colonies that are currently at 90% or more Maximum Habitability. This also improves the planet’s GDP.
- b. Culture: Each time the Commerce Power is attempted to be activated, 1-3 RPs are added to the position’s Treasury.
 - See Appendix UA – The Uber Alles

THE PLAN

Generativity, Inc. has just secretly perfected a Technological Device Patent which allows it to build Terraformers (see 2 Patents, p. 741). Terraformers (built via this specific Patent) are one-use Technological Devices specific to the planet on which they are constructed thus must remain on the planet where they are built to keep the planet stable after terraforming. Generativity has selected Martian Spider 1 as the target of the first Terraforming attempt.

The Terraformer requires activation of the Construction Power for the purpose of Colony Enhancement for two consecutive Regular Turns and costs 20 RPs per turn.² Even with the Uber Alles, the planet’s current population is only producing 5 RPs during taxation (3 RPs from 12 population at 1 RP per 4 factors due to the Uber Alles because the colony is over 90% Maximum

¹ Just like certain dishonest businesses in the real world that give themselves business names that sound like official government agencies. We used to have one that called our office and acted like they were a state agency; I also receive weekly spam e-mails from another who uses “qualification department” as part of their business name.

² It appears that the Concierge set the cost at 1 RP per Maximum Habitability, thus Martian Spider 1 is a prime candidate being a very small planet. Technology can almost always be improved later to reduce such costs to manageable levels. These details apply only to this particular TD Patent in this particular game for the purpose of example; the operational details, arrangements and requirements could vary from game to game depending on the participants.

Habitability,³ plus .5 per Industry for 4 Industry) and thus the planet's GDP is 5 RPs (see 1 Construction, p. 662), which it draws from the position Treasury. Thus, additional RPs will be needed from outside sources to have the ability to spend 20 RPs per turn on the colony. And further, 20 RPs will all need to be present *at the same time* for two consecutive turns!

This is gonna be a project! Time for some trade diplomacy!

Keep on Truck'n

Ziggy Stardust agrees to a reciprocal Trucking Transaction (see 4 Commerce, p. 1225) with Generativity between their colonies in the system. Ziggy happens to have a Cargo Ship (or ships) currently in the system which the parties agree will serve as the conduit for the transaction and that Ziggy will not move the ship away (see Planet Caravan, 4 Commerce, p. 1226).

- ✓ Since Generativity, Inc. is going first, they must provide the *Scene* for the Transaction. *Id.*

The parties agree to each send 10 RPs to the other through the Ziggy Cargo Ship during the Trucking Transaction.⁴ For Generativity, Inc. this is the maximum that the planet can send because its GDP is 5 RPs and Trucking RPs only count as half against the planet's GDP, thus it can send 10 GDP if it does nothing else for the turn. *Id.* p. 1226.

- ✓ The Ziggy Stardust colony must also have the capacity to send 10 RPs, this could be from its own GDP (e.g., 50 population factors or less plus industry, at normal taxation rates because Ziggy is not 2nd Era yet) drawn from Ziggy's Treasury or from expected Unloading of the Cargo Ship in the same Regular Turn that the Trucking Transaction RPs are sent away.⁵
- ✓ The Ziggy Stardust Cargo Ship must also have capacity sufficient for the RPs each is sending. *Id.* p. 1226. A basic Cargo Ship can carry 15 RPs (see Cargo Ships, 1 Commerce, p. 1186), which would be sufficient for the 10 RPs being sent each way.

So Generativity goes first. On their Regular Turn, actions are submitted activating the Commerce Power for the purpose of Trucking Transaction at the colony, costing an Act, specifying 10 RPs to be sent to the Ziggy colony where everything zags, and using a Scene at the Generativity colony (the Scene must have been placed there on a previous Regular Turn). Trucking Transactions are subject to Power Activation failures (see Shanzhai Products, 4 Commerce, p. 1225), but all Constructural Elements are active at the Generativity Colony (everything is just peachy, leaving only a 5% chance of failure, see Power Off, 2 Constructural Elements, p. 193), and the Power Activation in this case does not fail.⁶

³ The surface population and the population in orbit form one colony for game purposes (see Lebensraum, 3 Taxation & Census, p. 321), and 12 is 92% of the 13 Maximum Habitability.

⁴ Both are being equally inconvenienced. One is using a Scene, the other is providing a Cargo Ship conduit, both are spending an Act and a Power Activation. There are a myriad of possible factors in each deal; e.g., if one partner was providing both, or someone was Scene snitching from a third party, or if they are allies in a great war, etc.

⁵ One might assume, envisioning this, that all or part the cargo of the Cargo Ship is simply diverted to be unloaded (possibly by interplanetary shuttle craft) at the Generativity Colony instead of the Ziggy colony (instead of envisioning tedious loading and unloading and interplanetary movement).

⁶ Because it didn't fail, it is not necessary to 'look' to see whether an Enlightenment was committed to the Power Activation, but it probably isn't a bad idea to do so if possible just to avoid bad appearances to aliens. Unused Enlightenment would be returned to the College, see Vampire Suicide, 2 Colleges, p. 478. On the flip side of it, it is probably unwise to use 'compromised colonies' for Trucking Transactions: Get your own house in order first!

- ✓ Had the Power Activation failed, the Commerce Power would not have been activated and the 10 RPs would not have been subtracted from Generativity’s Treasury (see *But Nobody is Home...*, 2 Constructural Elements, p. 194) and the Scene not used. It would have also been kind to inform Ziggy either way.

To continue execution of THE PLAN, Generativity probably may also need to place a Scene on the colony in anticipation of the next turn’s Power Activations at the colony.⁷ Finally, Generativity just happens to have a partially-loaded Cargo Ship in short hop (i.e. Short Movement, see *Space Hop*, 2 Movement, p. 850) range of the colony (what a coincidence!) which is sent in interstellar flight on the same Regular Turn that the Trucking Transaction is activated so as to Unload RPs to make up the difference for the needed 20 RPs on the first Terraforming turn.

- ✓ At the beginning of Ziggy’s Regular Turn, they will receive the 10 RPs sent plus enhanced value of 5-8%, plus ½ RP for each previous time the same two colonies have sent RPs via Trucking Transaction (see *Fairies Wear Boots*, 4 Commerce, p. 1227). Ten RPs plus 5-8% is a range of 10.5 to 10.8 RPs. Plus the two colonies have previously made the same reciprocal trade twice previously (i.e. two rounds, four Trucking Transactions) which adds 2 RPs to the value received, for a range of 12.5 to 12.8 RPs received by Ziggy, which rounded up, is 13 RPs received.
- ✓ Additionally, Ziggy may also receive a free Cultural Traits piece (30% chance) adjacent to their colony if there is an empty Monad to place it, and a 15% chance that an Intervention Potential or IP+ will either be generated or eliminated as a result. *Id.* This is an important side consideration to Trucking Transactions, but irrelevant to this example, so we will not look to see what happened.

On Ziggy Stardust’s next Regular Turn, they activate the Commerce Power twice at their colony, once for the purpose of Unloading RPs from the Cargo Ship and once for the purpose of Trucking Transaction using the Cargo Ship. The Construction Power is also activated that turn to use the RPs downloaded, and the Construction Power and Commerce Power activations can share the same Scene on the colony in the same turn (see *Material Handling*, 1 Construction, p. 664). Ziggy is getting the most zag for the buck in this Regular Turn.

Ziggy specifies in the Trucking Transaction that 10 RPs will be sent and that the Generativity colony is the target. Things aren’t quite as peachy with Ziggy’s people (more like lemony) and thus Enlightenment is dedicated to each of the three Power Activations to insure no failures. Whether they are used or not is irrelevant to this example, we must assume that at least the Commerce Power activations occurred as scheduled.

- ✓ Generativity was taking a chance in going first, but Ziggy provided the Cargo Ship conduit and has been an honorable fellow and no-nose neighbor. See *Fairies Wear Boots*, 4 Commerce, pp. 1227-1228.

On Generativity’s next Regular Turn, the Martian Spider 1 colony receives the 10 RPs sent plus 5-8%, for a range of 10.5 to 10.8 RPs as previously discussed. However, there have now been five transactions between the colonies (Ziggy’s previous doesn’t count, but Generativity’s does, see *Fairies Wear Boots*, 4 Commerce, pp. 1227-1228), so the RP value of previous Trucking

⁷ However, Generativity could also have built up a number of Scenes on the colony in advance, there is no limit to the number of Scenes that can be at a star or colonized planet, see 3 *The Sidereal Stage*, p. 121.

Transactions between these colonies is 2.5 RPs, yielding a range of 13 to 13.3 RPs. With rounding up, Generativity will receive either 13 or 14 RPs back in the reciprocal; this is perhaps some small benefit to going first. In any event, Generativity's Cargo Ship arrived at the end of the previous turn by Short Movement and is available to Unload RPs to Martian Spider 1 to insure that 20 RPs are available for the first stage of terraforming. Generativity's Cargo Ship will only Unload enough RPs to cover the needs of the colony on that turn, preventing wastage, see Downloading, 2 Commerce, p. 1202.

- ✓ So the first turn terraforming cost of 20 is covered by: 5 RPs from the colony GDP drawn from the Treasury via activation of the Construction Power for the purpose of Colony Enhancement, plus 13 or 14 RPs received via the Trucking Transaction, plus 1 or 2 RPs Unloaded from the Cargo Ship (which was previously taken from the Treasury during Loading at another colony).
- ✓ Like Ziggy Stardust, Generativity will also have a chance to receive a Cultural Traits piece at Martian Spider 1 as a side benefit, and either generate or eliminate an Intervention Potential or IP+.

Eminence Front

It's a put on. Well, sometimes anyway.

Through a previous Marketing activation of the Commerce Power, Eminence Front had determined that the RPs on his partially loaded Cargo Ship had an enhanced value of 13 RPs at the Generativity colony (see Marketing, 2 Commerce, p. 1193). It was not the best bargain, being only a 30% enhancement in value on 10 RPs, but Generativity, Inc. called in an IOU and one who maintains an Eminence Front without paying their debts is a vivid Glamor Boy and a Guess Who.

Thus, the Cargo Ship departed on a Trade Mission (see Green Goods, 1 Commerce, p. 1188) for the Generativity colony and will arrive at the beginning of the Eminence Front Regular Turn (via Long Movement, see Long Jump, 2 Movement, p. 851) following the first turn of the terraforming build by Generativity, Inc. The Cargo Ship Unloads RPs onto the Generativity colony on the Eminence Front Regular Turn (using a Scene on Generativity's colony, see Load & Unload Activations, 1 Commerce, p. 1185) in which it arrives (see Downloading, 2 Commerce, p. 1202) and taking a chance – because Eminence Front has no knowledge of the current state of the system – the Cargo Ship is ordered to return to an Eminence Front supporting colony via Movement Power Activation after Unload RPs.

- ✓ In the normal processing sequence of Power Activations, Movement Power activations occur before Unload RPs Commerce Power activation (see Appendix PAT2 – Normal Sequence of Power Activations), however, Eminence Front does not have an undisrupted Government Title associated with the Movement Power (see Associates & Acquaintances, 1 Government Titles, p. 580), so the Movement Power costs one more Act and processes well after the Unload RPs Commerce Power activation.⁸ In this case, the extra cost of Movement Power activations is actually a *boon* for Eminence Front, allowing the Cargo Ship to drop, dump and run (see Downloading, 2 Commerce, p. 1202).

⁸ Eminence Front does have an undisrupted Government Title associated with the Commerce Power, so it processed in the normal sequence.

It is fortunate for Eminence Front that Ziggy Stardust had placed a Scene on the star of the system at the end of their previous turn in anticipation of being able to move the Cargo Ship (the same one used as the conduit for the Trucking Transaction) away on Ziggy's next Regular Turn. Eminence Front's Movement Power activation snitches the Scene (see Scene Snitching, , leaving Ziggy unable to move the Cargo Ship away on their next turn.⁹ If there had not been a Scene on the star, Eminence Front's Cargo Ship would have remained and a Power Activation would have been wasted (but the Act would not have been used, see Power Off, 2 Constructural Elements, p. 193).

- ✓ As a result, and Eminence Front reporting that the Unload RPs was successful, Generativity knows that 13 RPs are waiting on the terraforming colony for the next Regular Turn actions. See Cha-Ching!, 2 Commerce, p. 1203.
- ✓ Eminence Front's Cargo Ship unloading to the Generativity colony may have suffered *apostasy*, see Alienev Apostasy, 3 Disruption, p. 283.

On Generativity's next Regular Turn, the Construction Power is activated at the colony again, in conjunction with the Commerce Power for the purpose of Unload RPs from the Cargo Ship, to complete the terraforming of the planet. In anticipation of the Eminence Front unload, Generativity must have had at least two Scenes on the colony so that the terraforming could be completed, had a second Scene not been on the colony, Eminence Front would have been able to Unload RPs during their turn, but Generativity would have missed the second consecutive turn requirement for terraforming.

Terraforming Martian Spiders

Terraforming a planet is an inherently generative activity – the question is for who? Any position that has previously explored the system may note, if they enter the system again, a change to the planet where the Generativity, Inc. colony is located (see Xenobiology Section, 1 Information, p. 1333). Terraforming will likely change the Habitability Class at least in relation to every position in the game – a little extra chlorine gas in the atmosphere will do that...

The average cynical observer will assume – if it is noticed – that the planet was terraformed to be more habitable for Generativity, Inc.'s Native Population Type. More astute observers may note that the planet is still Hostile Habitability Class for Generativity's Native Population Type so either it failed, or that wasn't the purpose. Perhaps Generativity was making a new home for someone else? Perhaps a bargain with another position, perhaps an evacuation planet for a minor race they discovered?

⁹ If Ziggy is really mad about it, they might query Generativity, Inc. and Generativity Inc. might volunteer that Eminence Front was here, or might not say anything. Ziggy will then have to decide whether or not they believe Generativity's response, however, the Generativity Cargo Ship was the only other ship in the system on Ziggy's last Regular Turn results and is still present, so didn't use the Act. Diplomacy and the information game.

- ✓ Eminence Front may have also placed a Scene there at the end of their Regular Turn so that the Cargo Ship could move away on the next Regular Turn if the current turn's Movement Power activation failed for lack of a Scene. In that case – a Scene is a Scene is a Scene – Ziggy Stardust would have never known that their Scene was snitched by Eminence Front for a Movement Power activation.
- ✓ However, since the Cargo Ship was successful in moving away from the system, that means the Scene that Eminence Front may have tried to place on the system (so that the Cargo Ship was not stuck there) was not placed because the system is not on the Public Space at the end of the Regular Turn (as Eminence Front had no presence there). That Scene would have been lost, see Lost Scenes, 3 The Sidereal Stage, p. 123.

Appendix CON – Writ & Construction Example

The besieged colony of Jerusalem,¹ owned by the Church of the Star (position name, referring to Arthur C. Clarke’s famous 1955 short story), finally received relief in the form of two loaded Cargo Ships which both succeeded in running the Blockade (see *Crashed the Gate Doin’ 98*, 4 Commerce, pp. 1234-1236). It is possible that these Cargo Ships were specially modified Blockade Runners (by a patent and/or enhancements) or maybe they were helped by the native Truly Alien colony that is also in the system and not owned by the besiegers.

- ✓ “Why he didn’t shoot, well, we’ll never know, Or was it the bells from the village below?” – The Royal Guardsmen, “Snoopy’s Christmas” (1967).

The problem is that the colony needs multiple Construction Activations in a single Regular Turn (so that the RPs are not wasted), in addition to Unloading RPs at the colony. Fortunately, there is a pill for this problem – activation of a Writ at the colony to gain extra Construction Power Activations and possibly even dip into the domestic subsistence to exceed the GDP limits (i.e. the Directive).

The Writ is associated with the Construction Power, which must be activated at the target colony on the Regular Turn that the Fuzzy Group is actualized. The required Fuzzy Group must contain a Panic Aspect and Engineering Proficiencies and the Fuzzy Group currently exists on the Public Space. The Writ is based on a previous siege in the game where a colony was eventually obliterated (i.e. the History) and states simply “Never Again” (this is possibly part of The Body). Finally, all of the Conditions Precedent exist, mainly, a siege condition at a Friendly Colony; the besiegers may also be the ones who did the previous dirty deeds.

- ✓ See 2 Writs generally, pp. 438-439, for the form of the Writ, outlined above.

Activation of the Writ however will be costly in terms of the Fuzzy Group that will be removed from the Public Space (see *Actualization*, 4 Culture, p. 406) and might eventually need to be replaced if the Writ is to be used again. This will cost future activations of the Culture Power to Expose Aspects and Perfect Proficiencies (see generally 2 and 3 Culture). Still, in the heat of the moment, the heat of the night... it seems reasonable.

- ✓ Activation of the Writ satisfies the Interpretation requirement for the Construction Power activation on the same Regular Turn, meaning that no News Event must be published (but one must be provided, just in case), see *Writ of Extent*, 3 Writs, p. 444.

So the decision taken, the Writ will be activated at the colony to gain a ‘free’ extra Construction Power activation on an emergency basis. As it was expected on the previous turn that Construction would occur at the besieged colony this turn, a Scene was placed on the colony. The extra Construction Power activation by use of the Writ temporarily abrogates the rule that the Construction Power may only be activated once per Regular Turn at each colony (see *Construction Zone*, 1 Construction, p. 661).

Further, the Unload RPs activation of the Commerce Power and the Construction Power activations at the colony may all share the same Scene at the colony, so only one Scene is used (see *Material Handling*, 1 Construction, p. 664). And sharing a Scene in this way also insures that the Unload

¹ According to militaryhistorynow.com, “Surprisingly, the most besieged city in history is Jerusalem, having been surrounded and attacked as many as 27 times, beginning in 1443 BCE. Over the next 2600 years, the holy city would be cutoff by King David, the Egyptians, the Philistines, the Ethiopians, the Syrians, the Assyrians, the Babylonians, the Macedonians, the Romans (several times), the Arabs, the Crusaders, and finally the Tartars.” – Editors, “Surrounded – Some of History’s Most Incredible Sieges,” August 31, 2012.

RPs at the colony will execute before the Construction Power activations allowing the RPs to be used for Construction (an exception to the processing rules in *Clockwork Universe*, 3 *The Streams of Time*, p. 90).

With the normal Construction Power activation, plus the extra Construction Power Activation from the Writ, and the RPs downloaded from the Cargo Ships, it's time to party! What to do?

There are some unfinished warships at the colony, so an activation of the Construction Power for the purpose of Ship Building might be mandatory so that the warships can be completed with the parts brought by the Cargo Ships (manufactured parts being represented by the RPs value of some of the cargo) allowing the new warships to operate and defend themselves, possibly even engaging the besiegers in Ship Combat to break the siege?

- ✓ Unfinished ships are in danger from Raid/Strike attacks against the colony (see *Fire Fall*, 4 *Carriers & Fighters*, p. 1086) or could be destroyed if the attacker resumes the Colony Combat after reinforcements arrive. Unfinished ships (i.e. Keels) are attached to the colony and have no defense or ability (see *Shipbuilding*, 3 *Construction*, p. 675). Due to this danger, it is unlikely that the Construction Power will be activated to Lay Keel on this Regular Turn (unless the position is just brazen), unfinished ships are of no use.

The second Construction Power activation (the free one) is more debatable. If activated for the purpose of Ship Supply, it would allow Fighters, Ship Missiles and/or Enhancements at the colony to be transferred to the new Warships (see *Costly Resupply*, 3 *Construction*, p. 679) if they existed at the colony before the beginning of the current Regular Turn (see *Transfers*, 3 *Construction*, p. 680). This may amount to degrading the colony's defense to give the new warships a better chance in a ship combat against the besiegers.

- ✓ It is possible, but unlikely that Colony Enhancement will be used in this case to build Industry at the colony – unless the position thinks the colony will not be captured and/or is thinking more long term. It could be an interesting option.

However, if the warships are not intended to sally forth against the besiegers or it is not sure they can win a combat (they may instead run the blockade and escape by initiating interstellar movement, see *About to Put the Hammer Down*, 4 *Commerce*, p. 1236), it may be prudent to instead use the second Construction Power activation for the purpose of Colony Enhancement to build additional Defense Bases (see *Orbital Platforms*, 2 *Construction*, p. 666). Fighters and Ship Missiles might also be constructed by the same activation of the Construction Power for the purpose of Colony Enhancement (see *On the Flight Deck*, 1 *Carriers & Fighters*, p. 1047 and *Torpedoes at Trafalgar*, 4 *Carriers & Fighters*, p. 1079).

Finally, the second activation might be used for the purpose of Colony Defense Era Upgrade if 1) the position's current Era is higher than the Era of the colony's Defense Bases and 2) if the Cargo Ships delivered enough RPs to complete the upgrade (or complete a previously begun upgrade) with the addition of the colony's GDP (see 2 *Combat*, pp. 954-955). The Cargo Ships brought the critical parts manufactured on other worlds. While this will not offensively break the siege, it would be a rude surprise if and when the attackers resume the Colony Combat. It may be decisive if the attackers are annihilated, ending the siege.

- ✓ Activation of the Construction Power for the purpose of Colony Enhancement is not the same as the activation for the purpose of Colony Defense Era Upgrade (see *Orbital Defense Base*, 2 *Construction*, p. 668).

Appendix CST – Combat Shift & Situation Tables

Combat Shifts Table

Combat Situation	Combat Effect
Basic Defensive Shift	Subtracts 10% from chance of successful attack (-10%) ¹
Basic Offensive Shift	Adds 10% to chance of successful attack (+10%) ²
Firing at Scout Ship	Defender receives one Defensive Shift (+10%) ³
Firing at Non Warship	Attacker receives two Offensive Shifts (+20%) ⁴
Firing at Orbital City or Orbital Shipyard or incomplete ship/boat	Attacker receives three Offensive Shifts (+30%) ⁵
Era Shifts	<u>Lower Era Firing at Higher Era:</u> One Defensive Shift Per Era Difference between the attacker and the target (-10%, -20%, etc.) <u>Higher Era Firing at Lower Era:</u> One Offensive Shift Per Era Difference between the attacker and the target (+10%, +20%, etc.)
Engaged Attacker	<u>Engaged by 1st Era Fighters:</u> 1.5 Defensive Shifts (-15%) <u>Engaged by 2nd Era Fighters:</u> 3.0 Defensive Shifts (-30%) <u>Engaged by 3rd Era Fighters:</u> 4.5 Defensive Shifts (-45%) Subtracts from chance of doing <i>anything</i> , including retreating, also prevents some actions (e.g., Combat Resupply).
Ambush Combat	Ambusher receives three Offensive Shifts against targets that cannot detect the Ambusher’s presence. (+30%) Ambusher receives one Offensive Shift against targets that can detect the Ambusher’s presence. (+10%) ⁶
Fighter Area Patrol	One Combat Shift to a Friendly unit per 30 RPs of Fighters (+/- 10%) ⁷

¹ Shifts always apply to or against the attacker’s chance of a successful attack, not to the defender or target (see Combat Shifts, 3 Combat, p. 978).

² When the chance to hit reaches 100%, it is treated as 99% with a 1% chance of missing. *Id.*

³ See Scout Ship Existential Patent, Appendix EPAT.

⁴ Civilian targets are assumed to be at the current Era of the position that owns them, for purposes of Era shifts, no matter when they were constructed (see Civilian Targets, 3 Combat, p. 978). This is solely a matter of convenience.

⁵ See Civilian Targets, 3 Combat, p. 978. Orbital Cities and Ship Yards and incomplete ships really have nowhere to run if someone starts shooting, assuming they can even move. Orbital Defense Bases have some maneuverability, armor, and intimidating weaponry enough to keep attackers at a respectful distance, even though they cannot leave orbit. No maneuver, no armor, no weapons = bad day.

⁶ See, Ambushwhacked, 7 Combat, p. 1038 for attacks by units in Ambush Mode, i.e. those units that can either Cloak or Time Shift. Stealth technologies would not allow Ambush, but probably allow a first round offensive shift. See also Temporal Sensors, 2 Temporal Technology, p. 820.

⁷ See A FAP in the Night, 7 Combat, p. 1041. Although FAP is introduced with the concept of Ambush and Protective Fire, it could be applied in normal battles. No unit may receive more than one Combat Shift per round from FAP; Defensive Shifts from FAP must be allocated with targeting and Combat Screening assignments. Enhancing the chances of Protective Fire, however, using the CAP does not require pre-assignment of CAP resources.

Combat Situations Table

Combat Situation	Combat Calculation
1 st Era Warship Attacking	10% x 3 = 30% base chance to hit.
2 nd Era Warship Attacking	10% x 5 = 50% base chance to hit.
3 rd Era Warship Attacking	10% x 7 = 70% base chance to hit. ⁸
1 st Era Carrier Direct Fire	10% x 3 = 30% - 20% = 10% base chance to hit.
2 nd Era Carrier Direct Fire	10% x 5 = 50% - 20% = 30% base chance to hit.
3 rd Era Carrier Direct Fire	10% x 7 = 70% - 20% = 50% base chance to hit.
1 st Era Fighters/Missiles ⁹ Attacking	Effectiveness Roll/10 ¹⁰ x RPs ¹¹ x 1.5 = base chance to successfully attack the target. ¹²
2 nd Era Fighters/Missiles Attacking	Effectiveness Roll/10 x RPs x 2.5 = base chance to successfully attack the target.
3 rd Era Fighters/Missiles Attacking	Effectiveness Roll/10 x RPs x 3.5 = base chance to successfully attack the target.
Close in Defense Weaponry Fire ¹³	Base Chance to Hit halved vs. every 10 RPs of Fighters or Ship Missiles. ¹⁴
Close in Defense Weaponry Damage	One ten-sided die is rolled for each successful Close in Defense Weaponry Fire; the result is the RPs lost by the attacking Fighter Component. ¹⁵

⁸ See Firing Solution, 3 Combat, p. 978.

⁹ Ship Missiles may not receive the benefits of Enlightenment, see Fire-and-Forget 4 Carriers & Fighters, p. 1080.

¹⁰ An Effectiveness Roll is made on a ten-sided die for each Fighter Sortie, see Fighter Combat, 2 Carriers & Fighters, p. 1054.

¹¹ RPs are the size of the Fighter/Missile Component in the attack. When a single Fighter Component attacks two targets, the RPs are divided in half, for each attack (see Blacksheep, 2 Carriers & Fighters, p. 1054). When a single Fighter Component attacks the same target twice in a turn, the RP value of each sortie is 75% of the total RP value of the attacking Fighter Component. *Id.*

¹² First successful attack by Fighter Component or Ship Missiles in a combat round Engages the target, second successful attack in the combat round by Fighters or Ship Missiles is a hit on the target (see Engaged and A Hurt, 2 Carriers & Fighters, pp. 1055-1056). Fighter attacks resolve before regular ship fire, Ship Missile attacks resolve at the end of the combat round (see Combat Resolution, 3 Combat, p. 976) and Engaged results from Ship Missiles carryover to the next Combat Round, see Fire-and-Forget, 4 Carriers & Fighters, p. 1080.

¹³ Close in Defense Weaponry fires at Fighters immediately after Fighters resolve attacks on target (see Tail of the Gunner *et seq.*, 2 Carriers & Fighters, p. 1059), and fires at Ship Missiles before Ship Missiles resolve attacks on target, unless target was previously Engaged (see Fire-and-Forget, 4 Carriers & Fighters, p. 1080). Close in Defense Weaponry Fire is automatic and does not substitute for the unit's normal targeted fire or other activity (see Tail of the Gunner, 2 Carriers & Fighters, p. 1059).

¹⁴ For Carriers, the base chance to hit in Close in Defense Weaponry Fire is the same as a regular warship of the same Era – not *halved* – and is not based on the Carrier's poor direct fire chances (see Battle at Planet Midway, 2 Carriers & Fighters, p. 1060).

¹⁵ 1st Era Carriers add 1 to the die roll, 2nd Era Carriers add 2 to the die roll, 3rd Era Carriers add 3 to the die roll, but the result of the die roll can never be more than 10 (see Battle at Planet Midway, 2 Carriers & Fighters, p. 1060).

Ground Base Regular Fire	Base 20% chance to hit in Colony Combat. Ground Base becomes unit in Ground Combat. May fire Close-in Defense in Ground Combat against Fighters ¹⁶ and landing Ground Units. ¹⁷ Ground Bases fire Close-in Defense at Raiders after they have attacked the colony. ¹⁸
Orbital Base Regular Fire	Base 30% chance to hit in Colony Combat. Orbital Defense Base may (40% chance) fire Close-in Defense before Raiders attack colony. ¹⁹
System Base Regular Fire	Base 30% chance to hit in Colony Combat. ²⁰
Interception (Combat Screening)	Interception is automatically successful, however only Fighters can intercept Fighters. ²¹ Fighters must be preassigned to Intercept Ship Missiles. ²² If Interceptor hits attacker, attacker cannot attack its target that round, can only fire at Interceptor. ²³
Retreating	Base 50% chance to successfully retreat if not destroyed. ²⁴
Orbital Bombardment	1 st Era Warship destroys 3 population factors. 2 nd Era Warship destroys 7 population factors. 3 rd Era Warship destroys 12 population factors. ²⁵
Ground Unit	May only participate in Ground Combat and Pacification Combat, may fire Close-in Defense.
Pacification Combat	Ground Units count at full RP Value, supporting Fighters at half, 1 st Era Warships as 1 RP, 2 nd Era Warships as 4 RPs, and 3 rd Era Warships as 9 RPs.

¹⁶ See Air Attacks in Ground Combat, 4 Combat, p. 996.

¹⁷ See Dropping In, 4 Combat, p. 991.

¹⁸ See Giv'n Them Some Flak, 4 Carriers & Fighters, p. 1087.

¹⁹ See Under Your Desk, 4 Carriers & Fighters, p. 1085.

²⁰ However, if a colony with System Defense Bases is attacked, only the System Defense Bases and colony Fighter Complement may be attacked and return fire in the first Combat Round of a Colony Combat, see Something Here From Somewhere Else, 2 Combat, p. 960.

²¹ See Nolo Contendre, 3 Carriers & Fighters, p. 1070.

²² See Flying Telephone Poles, 4 Carriers & Fighters, p. 1081.

²³ See Normal Interception, 3 Carriers & Fighters, p. 1069.

²⁴ See Zigged When He Should Have Zagged, 3 Combat, p. 981. The chance of retreating is reduced by 15%, 30% or 45% if the ship is Engaged by Fighters or Ship Missiles during the round, see Engaged, 2 Carriers & Fighters, p. 1055.

²⁵ See In This Dust That Was a City, 2 Combat, p. 961. Additionally, the planet will suffer damage to Maximum Habitability and Habitability Class and industry and other enhancements and installations will be destroyed.

Appendix CTC – Continuous Turn Cycle Example

July 2007						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 A	2 A B	3 A B C	4 B C D	5 C D E	6 D E F	7 E F G
8 F G H	9 G H I	10 H I J	11 I J A	12 J A B	13 A B C	14 B C D
15 C D E	16 D E F	17 E F G	18 F G H	19 G H I	20 H I J	21 I J A
22 J A B	23 A B C	24 B C D	25 C D E	26 D E F	27 E F G	28 F G H
29 G H I	30 H I J	31 I J A				

The preceding is an example of how the game would run continuously with the maximum of ten positions playing, if the game began on July 1, 2007, where each position is represented by a letter, such as Position “A,” Position “B,” to Position “J.” Each position has a three day period to submit their Regular Turn actions, for example, Position A must submit actions on July 1, 2, or 3, then again on July 11, 12, or 13, and again on July 21, 22, or 23. With ten positions playing, on average, each position will have three turn periods per month, with less positions playing, the turn cycle would be shorter. Optimally, a game should have at least six active positions to keep the game ‘interesting’ and dynamic; it is possible in shorter games to extend the periods to submit Regular Turn actions.

✓ See Three Daze, 2 The Streams of Time, p. 84.

On any given date when two or three positions are eligible to submit actions, the actions would be processed in the order received. So, for example, Position “A” might decide to submit their actions on Sunday, July 22nd, and Position “J” may have already submitted actions the previous day, and Position “B” decides to wait until July 23rd to submit actions (because the players cannot agree on their actions). On July 23rd, Position “C” submits their actions just after midnight, while Position “B” submits their actions in the late afternoon of the 23rd. When actions from the 23rd are processed by the Concierge, Position “C’s” actions would be processed first, then Position “B’s” actions, according to the sequence of Power Activations (see Clockwork Universe, 3 The Streams of Time, p. 90). Depending on the relationship of Positions “B” and “C” it may or may not be important whose actions are processed first.

Remember that combat runs semi-independently of the Continuous Turn Cycle, see Relativity, 2 The Streams of Time, p. 85.

Appendix DE&A – Disruption Events, Inactive Constructural Elements & Apostasy

Effects of inactive Constructural Elements on colonies and ships (all references are to 2 Constructural Elements):

- Each inactive Constructural Element adds 15% to the chance of a Power Activation failure at the target colony or ship (Power Off, p. 193).
 - The maximum chance is 50% with three inactive Constructural Elements; it becomes a coin flip whether the colony or ship obeys, executes, or not.
 - Enlightenment assigned to the Power Activation may be applied to reroll.
- Inactive Epistemological Constructural Element (Skool Tyme, p. 190):
 - Operation of College is suspended if Host World has an inactive Epistemological Constructural Element,
 - Units with an inactive Epistemological Constructural Element cannot receive the benefit of Enlightenment,
 - Research Groups are disrupted if they are not adjacent to a sovereign colony with an active Epistemological Constructural Element
- Inactive Symbolic Constructural Element (Waving the Flag, p. 190):
 - Capital Colony with inactive Symbolic Constructural Element loses its Capital status and cannot access the Diplomatic Spaces,
 - Adjacency to an active Symbolic Constructural Element on a colony is required to form a Fuzzy Group (the formation can be there, but it's not a Fuzzy Group),
 - The Diplomacy Power can only be activated to Form Meanings while the Capital Colony status is suspended due to an inactive Symbolic Constructural Element.
- Inactive Ideological Constructural Element (Body Politic, p. 190):
 - Colony or ship with inactive Ideological Constructural Element cannot be affected by a Writ activation,
 - Adjacency to an active Ideological Constructural Element on a colony is required to form a Fuzzy Group (the formation can be there, but it's not a Fuzzy Group).

The following events can cause Constructural Elements to become inactive at colonies:

- Chance of inactivation of Constructural Elements is Base Chance (in parens) + 3% per Government Title over three + 5% per currently disrupted Government Title + 2% if position had a Disruption Event the previous Regular Turn + 8% if the same colony had a Disruption Event the previous Regular Turn.
- Each Disruption Event can only occur at a colony once per Turn Cycle, however, a single colony can suffer multiple different Disruption Events in a Turn Cycle or even at the same time, with an individual check for each.
- All Disruption Events at colonies generate an Intervention Potential Plus (IP+).
- A siege condition itself does not affect the colony's Constructural Elements, but the events leading to the siege condition can generate Disruption Events at a colony.
- The following are Disruption Events at colonies listed in 2 Disruption, with base chances:
 - Loading Population from Colony (2%, Highschool Friends, p. 272),
 - Unloading Population to Colony (5%, The New Neighbors, p. 273),

- Forced Balkanization (4%/8%, also an IP+ for all positions that have colonies already on the planet, Forced Balkanization, p. 273),
- Population Growth on surface colony from Census exceeds Maximum Habitability resulting in lost growth (3%, Peaches for Mad Molly, p. 273),
 - Population Loss from reduction of Maximum Habitability (5%, *Id.*),
 - Colony Planet loses Habitability Class (8%, *Id.*),
 - Colony Planet loses both Habitability Class and Maximum Habitability at the same time (15%, *Id.*),
- Destruction of Colony Ships resulting in loss of population (2%/4%, Vesta & Tellus, p. 274), check is made at the origin colony(s) of the population,
 - Destruction of Orbital Cities resulting in loss of population or an Orbital Shipyard (3%/10%, *Id.*), check is made for all colonies on the planet below (not just the owner of the platform or of the same Native Population Type),
- Population is killed/destroyed by hostile act on surface colony (15% base or the percentage of total population killed, whichever is more, Mars Bombing Run, p. 274),
- Colony owner retreated from or was eliminated in a Ship Combat in the same system, including non-warships (10%, The Burning Sky, p. 275),
 - All colony Defense Bases were eliminated in Colony Combat or alien warships arrived and the colony has no Defense Bases (20%, *Id.*)
 - If either the Ship or Colony Combat was a First Contact, add 5% (*Id.*),
- Ongoing Ground Combat at the colony at the end of any Regular Turn (20%, Downfall, p. 274),
 - Add 5% if enemy force is larger than defending force (*Id.*),
 - Add 8% if total RP value of attacking force is equal to or greater than 1/3 of the defending colony's theoretical taxation value (*Id.*),
 - Add 10% if Industry or Technological Device was destroyed during the Ground Combat since previous Regular Turn (*Id.*),
 - Subtract 2% if defending Ground Units are larger than attacking Ground Units (*Id.*),
 - Subtract 3% if Ground Combat is between two colonies on the same planet and/or if aliens are assisting in the defense of the colony (*Id.*),
- These checks only apply to Host Worlds:
 - Destruction, removal or dissolution of College (10%, Extinguishing the Light, p. 276),
 - College is unendowed (5%, *Id.*),
 - Destruction, removal or dissolution of Corporate or MegaCorporate Headquarters (5%, *Id.*)
 - Unlike normal Disruption Events, these checks will continue for 2 to 4 turns afterward.
- Taxation exceeds more than is allowed by the base rules, i.e. dipping into the domestic subsistence (10%, Barrowing the Future, p. 276),
- All Disruption Events at the time of colony conquest are resolved before transfer of sovereignty. The conqueror inherits the mess, as usually happens in history.

- If a colony is completely destroyed either by hostile action or environmental degradation, an IP+ attaches to both the former owner and the position representing the colony's Native Population Type (maximum one IP+, The Way of the Dodo, p. 276).

The following are *additional* Disruption Events or modifiers applying to colonies controlled by a position:

- 5% is added if population is Loaded from a Conquered or Converted Colony (Eviction Notice, 2 Disruption, p. 278), relating to Highschool Friends, p. 272.
- Looting a Conquered Colony (25%, Hager's Faucet, 2 Disruption p. 278) in addition to other Disruption Checks such as for loss of population from Looting or Forced Balkanization,
- When a Minor Race is involved, the Concierge may dole out IP+ assessments based on judgment of the situation (Trail of Tears, 2 Disruption, p. 278),
- At the end of any Ground Combat in which the defenders were victorious (15%, The B-Team, 3 Disruption, p. 281),
- At the end of any Colony Combat in which the defenders were victorious (5%, The B-Team, 3 Disruption, p. 281).

The following events can cause inactivation of Constructural Elements on ships:

- End of any combat (15%, The B-Team, 3 Disruption, p. 281).
- Being in a system with a sovereign colony at the end of a Regular Turn (Mutiny on the Bounty, 3 Disruption, p. 282):
 - Inactive Constructural Elements opposing active Constructural Elements on the colony may become active,
 - Active Constructural Elements opposing inactive Constructural Elements on the colony may become inactive,
 - The colonies are not reciprocal effected by the ships, only the ships are affected by the colonies in this way,
 - Multiple checks can occur if there are multiple qualifying colonies in the same system with the ship.
- **Apostasy** (10%, Alieney Apostasy, 3 Disruption, p. 283):
 - **Apostasy** arises from any non-combat ship interaction with an **alien colony**, or any ship or Ground Unit participating in Orbital Bombardment or Pacification Combat or Looting on a Conquered Colony,
 - **Apostasy** does not occur if the Power Activation failed,
 - Colony Ships which are Landed to form a new colony don't exist, and are not affected,
 - **Alien colony** includes planets inhabited by a Minor Race and Conquered Colonies that are being Looted (which is how Looted RPs have enhanced value),
 - Orbital Cities are considered part of the **alien colony** (no workaround).
 - Constructural Elements *inactivated* by **Apostasy** can only be **reactivated** after a Census Power Activation has occurred (The Apostasy, 3 Disruption, p. 284).

- Activation of the Census Power may cause loss of Proficiencies¹ and Disruption Events from exceeding Maximum Habitability at colonies.²
- An Engaged result from Fighters or Ship Missiles in Combat serves as a partial ‘disruption’ of the target (decreased chances of doing this or that in Combat) during the Combat Rounds only.³

Special Disruptions and Inactivation of Constructural Elements:

- Government Titles can become disrupted.
 - Social and Estate Titles are disrupted if they fail all Conflict Checks at the end of any Regular Turn (Trouble in The Trees, 2 Disruption, p. 270).
 - An Intervention Potential Plus (IP+) is generated when the disruption occurs and at the end of each Regular Turn in which a position has a disrupted Social or Estate Title (Changing the Gardener, 2 Disruption, p. 271).
 - A disrupted Social or Estate Title is removed from the Public Space.⁴
 - Disrupted Titles can either be restored, abandoned or replaced.⁵ Changing an Estate or Government Title generates an Intervention Potential Plus (IP+) (Changing the Gardener, 2 Disruption, p. 271).
 - Structural Titles become disrupted if a position does not have a Capital Colony, if there are no undisrupted Social or Estate Titles, or if the position cannot comply with the requirements of the Structural Title for any reason.⁶
 - Disruption of a Structural Title does not generate an Intervention Potential Plus (IP+).
 - Disrupted Government Titles no longer provide Power Activations or an Act or Scene each Regular Turn.⁷
 - Government Title disruption in the long term can also affect other areas such as increased chance of inactivation of Constructural Elements at colonies (Power Off, 2 Constructural Elements, p. 193) or inability to create or renew Corporations.⁸
- Capital Colonies lose their Capital Status if the Symbolic Constructural Element becomes inactive (Waving the Flag, 2 Constructural Elements, p. 190).
 - Suspended Capital Status blocks access to Diplomatic Spaces.
 - Suspended Capital Status blocks Diplomatic Power Activations except to Form Meanings.⁹ Sort of a ‘Diplomatic Disruption.’ Like when the power goes off and your cell phone battery is dead...
 - Suspended Capital Status does not mean the position does not have a Capital Colony.

¹ See And the Cradle Will Rock, 3 Culture, p. 282.

² See Peaches for Mad Molly, 2 Disruption, p. 273.

³ See Engaged, 2 Carriers & Fighters, p. 1055.

⁴ See Foreclosure of a Dream, 3 Government Titles, p. 615.

⁵ See A House Divided, *et. seq.*, 5 Government Titles, p. 637.

⁶ See World Powers Fall, 3 Government Titles, p. 617.

⁷ See Foreclosure of a Dream, 3 Government Titles, p. 615.

⁸ See We Built This City, 1 Corporations, p. 1244.

⁹ See Stepping Out, 1 Diplomacy, p. 1096.

- Research Groups become disrupted if not adjacent to an active Epistemological Constructural Element on a sovereign colony (Friendly, Naturalized or Converted, but not a Conquered Colony).¹⁰
 - Disrupted Research Groups cannot be used for Development Attempts.¹¹
- Fuzzy Groups become ‘disrupted’ (though the term is not used in the rules text) if not adjacent to a sovereign colony(s) (Friendly or Naturalized, but not Converted or Conquered) that have an active Ideological Constructural Element and either an active Symbolic or Epistemological Constructural Element.¹²
 - Actualization of a Fuzzy Group may cause the Ideological Constructural Element on the adjacent colony to become inactive.¹³
- Kairotic Moments:
 - Ships have an enhanced (‘intensified’) chance of *apostasy* when interacting with **alien colonies** undergoing a Kairotic Moment.¹⁴
 - A ship belonging to a position undergoing a Kairotic Moment may inflict *apostasy* on non-sovereign **alien colonies** with which it interacts (sort of a ‘reverse apostasy’). This is the only time a ship can cause *apostasy* on an **alien colony**.¹⁵
 - The chance of *apostasy* on the colony is enhanced if it is of the same Native Population Type as the position undergoing the Kairotic Moment.
 - Kairotic Moments may also affect the Aspects adjacent to **alien colonies** that share the same planet or starsystem with a colony belonging to a position undergoing a Kairotic Moment; this is not technically a disruption of the colony or *apostasy* (as it does not affect Constructural Elements).¹⁶
 - An **alien colony** located on the same planet as the *Terra Sancta* of the Kairotic Moment has an enhanced chance of adjacent Aspects being effected.¹⁷
 - Ships which have *apostasy* from contact with **alien colonies** undergoing a Kairotic Moment may affect the Aspects adjacent to their own sovereign Friendly or Naturalized colony by interacting with that colony.¹⁸
 - Shared Meanings with the position undergoing a Kairotic Moment and hosting a MegaCorporation enhance the chances of affecting the aspects adjacent **an alien colony**.¹⁹

¹⁰ See Research Groups, 2 Technology, p. 700.

¹¹ See Development Fund, 2 Technology, p. 707.

¹² See Fuzzy Formations, 4 Culture, pp. 405-406.

¹³ See Actualization, 4 Culture, p. 406.

¹⁴ See Wave Motion, 2 Kairotic Moments, p. 1433.

¹⁵ See A Total Gurgler, 2 Kairotic Moments, p. 1433.

¹⁶ See Unfinished Well, 3 Kairotic Moments, p. 1443.

¹⁷ See Frontier Outpost of Syene, 3 Kairotic Moments, pp. 1443-1444

¹⁸ See Ship of Fools, 3 Kairotic Moments, p. 1244.

¹⁹ See Diplomacy in the Hive of Scum & Villainy, 3 Kairotic Moments, p. 1445.

Appendix EGTEX – Emergent Government Title Generation Example

Construction of an emergent Government Title is accomplished in the following steps (which easily can be automated):

1. It must first be decided whether the proposed title is a Social Title or Estate Title. This can be done by a 50-50 die roll, or it can be a conscious decision.
2. Next must be determined the ‘scope of the concept’ in GGDM terms, a die is rolled to determine if the Government Title has 1, 2, 3, or 4 Conflict Checks.
3. The third step is to determine whether one of the Conflict Checks will come from the Interstellar Civilization Themes instead of either the Social or Estate Title Themes. This can be done on a 50-50 die roll as well. If the result is positive, one of the Social or Estate Title Theme is replaced by rolling a Theme from the Interstellar Civilization Group for that Conflict Check. This is done even if the proposed Title has only one Conflict Check; that is, a single Conflict Check Social or Estate Title can arise from Interstellar Civilization Themes, and still act as either a Social or Estate Title in the game.
4. The fourth step then is to make two rolls for each Conflict Check, one to determine which Emergent Government Titles Theme is to be used (#1-20), and the second roll is to determine which Conflict Check is selected from the Theme (#1-10). Do not re-roll duplicates of the first die roll (i.e. two Conflict Checks can come from the same Theme), but do reroll duplicates on the second roll (i.e. a Government Title should not have exact duplicate Conflict Checks).
5. After installing the Conflict Checks, the final step to creating an Emergent Government Title is to first roll a die to determine how many Vital Powers are associated with the Government Title and then to roll to determine which Vital Powers are associated with the Title, re-rolling all duplicates.

For example, a new *Estate Title* is being generated, the die roll result indicates that it will have four Conflict Checks (Steps 1 and 2).

- A die is rolled and on an even result it is determined that one of the four Conflict Checks will be rolled from the Interstellar Civilization Themes (Step 3). So let’s get to it! One d20 is rolled and the result is a 15 which is the Security and Survival Theme (i.e. ICT15). A d10 is rolled in that theme group and the result is a 1: “(T) No other **alien colonies** exist in systems where a Friendly Colony is located *or* all **alien colonies** in a starsystem with a Friendly Colony are owned by the position.” This is the first Conflict Check for the new Estate Title. Hmmmm...
- A d20 is then rolled three times for the Conflict Checks from the Estate Themes (Step 4), with results of 1, 1, and 9, meaning that two Conflict Checks will come from EGT1 - First Estate - Legitimizers and one from EGT9 - Military-Industrial Complex of the Estate Title Themes.
- On EGT1, two d10 are rolled resulting in Conflict Checks: #5 “(F) Friendly population factors (including related Lost Colonist population) are under the control of alien sovereigns (i.e. other Major Positions).” and

#9 “(F) The position has lost a colony to alien conquest within the last three turns.”

- On EGT9, one d10 is rolled, resulting in Conflict Check: #4 “(F) Position has not lost any Warships, Logistical Ships, Bases, or Fighters or fired any Ship Missiles in Combat in the last two turns (in order to lose something in combat, you have to be involved in a combat...).”
- Note that Conflict Checks which begin with (T) pass if they are objectively true, and Conflict Checks which begin with (F) pass if they are objectively false.
- Taken together, the final Estate Title looks like this:
 1. (T) No other **alien colonies** exist in systems where a Friendly Colony is located or all **alien colonies** in a starsystem with a Friendly Colony are owned by the position.
 2. (F) Friendly population factors (including related Lost Colonist population) are under the control of alien sovereigns (i.e. other Major Positions).
 3. (F) The position has lost a colony to alien conquest within the last three turns.
 4. (F) Position has not lost any Warships, Logistical Ships, Bases, or Fighters or fired any Ship Missiles in Combat in the last two turns (in order to lose something in combat, you have to be involved in a combat...).

Players are free to name Social and Estate Titles whatever they wish, I might call this one an ugly bit of xenophobia. To satisfy all of the Conflict Checks the position would 1) need to have exclusive control of all stars where they have Friendly Colonies, 2) control all population factors of their Native Population Type in the game, 3) not lose any colonies to alien attackers and 4) lose ships, bases, fighters or fire Ship Missiles in combat every two turns. This Title may be one of up to ten choices available to the position and the position may choose to install it when conditions warrant.

Finally, the last step, a die roll indicates that two Vital Powers are associated with this Estate Title, and two more rolls result in the Taxation Power and Combat Power being associated.

Appendix ENVAL – Enhanced Value & Looting Summary

Enhanced Value

- Enhanced Value applies to Loading from and Unloading RPs to **alien colonies** (i.e. non-sovereign colonies). It accrues to the benefit of the recipient only.¹
 - Enhanced Value does not take into account the Native Population Types of either the colony or, theoretically, the ship crew or sovereign, or the source of the RPs.²
 - Loading and Unloading from **alien colonies** makes the Cargo Ships involved subject to **apostasy** – a risk consideration in enhanced value transactions.³
- Enhanced Value is created when the owner of the Cargo Ship is not the same as (i.e. different from) the owner of the colony from which the RPs are being Loaded to which the RPs are being Unloaded.⁴
 - RPs Loaded to an alien Cargo Ship count against the colony’s GDP on the owner’s next Regular Turn. The RPs subtracted from the position Treasury will, however, be less than what the Cargo Ship received due to enhancement of value.⁵
 - RPs received by a colony Unloaded from an alien Cargo Ship will be at Enhanced Value and will be available to the colony’s GDP on the owner’s next Regular Turn; if not used, they are lost.⁶
 - The enhanced value RPs will be ‘dumped’ on the colony regardless of the colony’s actual needs, unlike Unloading RPs from sovereign Cargo Ships, which only Unload the amount of RPs needed for turn activities.⁷
- Enhanced Value is a boundary-control function in the game, and **never applies** to Loading or Unloading RPs between a colony and Cargo Ship owned by the same position (except Looting, *ut infra*), regardless of Native Population Types or in most cases, the political status of the colony (except Conquered Colonies for Looting purposes), or to the transfer of Supplies, Enhancements, and such, regardless of ownership.
 - Enhanced Value does not apply in these cases, even if the RPs were Loaded from an **alien colony**, as the Enhanced Value was established during the Loading – i.e. no double Enhanced Value, getting it on both ends.
 - Conversely, RPs Loaded from an **alien colony** and then subsequently Unloaded to another **alien colony** may be enhanced in value on both ends. Whether or not the is profitable to the owner of the Cargo Ship is a matter of the game situation, but it is possible to receive a double enhancement of value in this and in Looting.
- Enhanced value in GGDM is a vague, over-simplistic system that avoids tracking the origin of RPs, ship movement and history and so forth; to the extent that these may be important, the Concierge may use Interventions to apply specific situation game effects.⁸
- Enhanced Value may be obtained in advance by Marketing, except when the RPs in question have been Looted.⁹

¹ See Enhanced Value and Back End Loading, 2 Commerce, pp. 1193, 1200.

² The game does not track the native population types of ship crews or their origin worlds, see Maiden Voyage, 3 Construction, p. 677, and Valarie and the Fleet of a Thousand Worlds, 1 Carriers & Fighters, p. 1052.

³ See Aliency Apostasy, 3 Disruption, p. 283 and Packing It In, 2 Commerce, pp. 1200-1201.

⁴ See Enhanced Value, 2 Commerce, p. 1193.

⁵ See Packing It In, 2 Commerce, pp. 1200-1201.

⁶ See Intrinsically Profitable, 2 Commerce, p. 1203.

⁷ See Downloading, 2 Commerce, p. 1202.

⁸ See Enhanced Value, 2 Commerce, p. 1193.

⁹ See Marketing, 2 Commerce, pp. 1193-1194 and Black Market, 3 Commerce, p. 1211.

- Looted RPs do still receive Enhanced Value when Loaded, possibly greater than normal. If Unloaded subsequently to another **alien colony**, they may be enhanced again.
- Enhanced Value does not occur when RPs are transferred between Cargo Ships at a colony, regardless of ownership of the Cargo Ships or the colony, or the source of the RPs.¹⁰
- Enhanced Value in Unloading RPs to a colony is the actual RPs Unloaded plus a percentage. The percentage may have been previously determined by Marketing, if not, then the positions take their chances randomly at the time of Unloading.¹¹
 - Conversely, when RPs are Loaded to an alien Cargo Ship, only unenhanced RPs sufficient to create the Enhanced Value for the recipient are subtracted from the colony owner's Treasury and count against the colony's GDP on the next turn. This may also be established in advance by Marketing, or randomly determined at the moment of the Load RPs.¹²

Looting

- Looting occurs when *any* Cargo Ship Loads RPs from a Conquered Colony.¹³
 - *Any* Cargo Ship includes those of the owner of the Conquered Colony.
 - Looting is not triggered by Unloading RPs to the Conquered Colony, which may be done to enhance the chances of Conversion and for Construction.¹⁴
- Conquered Colonies are treated as **alien colonies** for the purpose of Load RPs to Cargo Ships owned by the colony's owner. Thus, the Looted RPs are received at enhanced value when Loaded to the Cargo Ship.¹⁵
 - Conquered Colonies, for the purpose of Load RPs only, are an exception to the sovereignty rule for Load and Unload RPs at colonies.
 - Because the Conquered Colony is treated as an **alien colony**, Cargo Ships engaged in Looting may be subject to **apostasy**.¹⁶
- RPs Loaded to a Cargo Ship from a Conquered Colony are not subtracted from the position's Treasury, rather, they are subtracted from the colony in the form of industry and enhancements destroyed equal to the unenhanced value of the RPs Looted.¹⁷
 - Looting is not limited to the GDP of the Conquered Colony.
 - Looting will probably cause population loss at the Conquered Colony as well following the collapse of complex society.
 - Looting is always a Disruption Event at the Conquered Colony.¹⁸
- Grey areas and tricky issues abound in Looting, which can be handled by the Concierge through story-enhancing use of Interventions.¹⁹

¹⁰ See Downloading, 2 Commerce, p. 1202.

¹¹ See Cha Ching!, 2 Commerce, p. 1204.

¹² See Packing It In, 2 Commerce, p. 1200.

¹³ See Looting, 3 Commerce, p. 1210.

¹⁴ See Combat Engineers, 1 Construction, p. 664, and Conversion, 3 Order, pp. 554-555.

¹⁵ See Looting and Black Market, 3 Commerce, pp. 1210, 1211

¹⁶ See Aliene Apostasy, 3 Disruption, p. 283 and Looting, 3 Commerce, pp. 1210-1211.

¹⁷ See Looting, 3 Commerce, p. 1210.

¹⁸ See Hagar's Faucet, 2 Disruption, p. 278.

¹⁹ See Black Market, 3 Commerce, pp. 1211-1212.

Appendix EPAT1 – The Existential Patents

- This Appendix contains all of the Existential Patents (17) which positions may purchase with Inheritance Points during the set-up or prosecute normally once the game begins.
- Existential Patents are those Patents which are available prior to the start of the game; they are available and can be acquired during set up. Existential Patents recognize technology that must preexist the invention of Stardrive, which marks entry into the 1st Era of interstellar technology at the beginning of the game or shortly afterward.
- See Appendix IPT2 for Flat Rate Costs of Existential Patents during set up.

Existential Patents	Page #	Section Introduced	Other Sections
Industry	CLVII	Construction	Taxation
Orbital Shipyard	CLVIII	Construction	Combat
Orbital City	CLIX	Construction	Census
Generic Star Drive (GSD)	CLX	Stardrive	Movement
Ship Systems	CLXI	Movement	Expansion Commerce
Logistical Support Ship	CLXII	Movement	Construction
Scout Ship	CLXIII	Expansion	Intelligence
Cargo Ship	CLXIV	Commerce	Construction
Colony Transport	CLXV	Expansion	Combat
Controlled Environment Technology	CLXVI	Expansion	Taxation
Ground Defense Base	CLXVII	Combat	Carriers & Fighters
Orbital Defense Base	CLXVIII	Construction	Combat
System Defense Base	CLXIX	Combat	
1 st Era Warship	CLXX	Combat	Technology
1 st Era Carrier	CLXXI	Carriers & Fighters	
1 st Era Fighters	CLXXII	Carriers & Fighters	
1 st Era Ship Missiles	CLXXIII	Carriers & Fighters	

Existential Patent: Industry

Theory: EGY ⇔ MTR ⇔ IND

OpQal: Enhancement Technology (ET, colony enhancement)

Effects (Theory – 1 = 2)

IND – May build Industry Installations on Friendly, Naturalized and Converted colonies by activation of the Construction Power costing 2 RPs each.¹

MTR – Industry produces .5 RP each during taxation.

Cost (Base 5 RPs/Effect) = Special (modified, above)

IND – May build a maximum of 1 Industry for every 2.5 populations on a colony.

MTR – Each time Census or Taxation Power is activated, Pollution Potentials are generated at each colony that has Industry.²

Manual (Post-patent notes and rulings by the Concierge to flesh out technology, only as necessary; advanced rulings requests are prohibited!):

❖ Habitability loss does not apply to Unpleasant and Hostile planets.

✓ With maximum Industry, every five population factors can produce 2 RPs.

¹ See Industry, 2 Construction, p. 666, for Industry colony enhancement details and limits.

² See Pollution Potentials, 3 Taxation & Census, p. 320.

Existential Patent: Orbital Shipyard

Theory: EGY ⇔ MTR ⇔ SHP ⇔ IND

OpQal: Enhancement Technology (ET, colony enhancement)

Effects (Theory – 1 = 3)

IND – May build Orbital Shipyard at any Friendly, Naturalized or Converted colony by activation of the Construction Power.¹

SHP – Orbital Shipyards build starships and lay keels, and build Orbital and System Defense Bases, and Orbital Cities.²

MTR – Orbital Shipyard may build as many ships or lay as many keels in a turn as the colony can afford.³

Cost (Base 5 RPs/Effect) = 15 RPs each

IND – Limit one Orbital Shipyard at one time per colony.⁴

SHP – Construction of ships and Orbital Cities requires two turns, one turn to lay keel (pay half cost of ship) and second turn to build the ship (pay other half of cost of ship).⁵

MTR – Colony must have minimum 10 population factors to build an Orbital Shipyard

Manual (Post-patent notes and rulings by the Concierge to flesh out technology, only as necessary; advanced rulings requests are prohibited!):

- ❖ Orbital Shipyards are targeted in Colony Combats as non-warships.⁶
- ❖ Keels are targeted in Colony Combats as non-warships
- ❖ Unfinished ships are targeted in Colony Combats as non-warships.
- ❖ Destruction of Orbital Shipyard does not destroy keels and unfinished warships.
- ❖ Obviously, an Orbital Shipyard is not required to build an Orbital Shipyard.

- ✓ A colony with 75 populations and no industry or a colony with 25 populations and maximum industry (10 industry) could build an Orbital Shipyard by itself. A colony with only 10 population factors would need unloading from Cargo Ships to build an Orbital Shipyard.
- ✓ Positions which begin the game with the Homeworld, Lost Colony or Outposter Primal States may not begin the game with any ships unless they have first obtained the Orbital Shipyard Existential Technology and purchased at least one Orbital Shipyard. This balances out somewhat their early population base and industry advantages vs. Expedition Leader, Nomadic Warfleet, and Truly Alien Primal States.

¹ See Orbital Shipyard, 3 Construction, p. 667 for most details relating to Orbital Shipyards.

² See Orbital City and Orbital Defense Base, 3 Construction, pp. 667-668.

³ See Laying Keel and Shipbuilding, 3 Construction, p. 675.

⁴ See Orbital Shipyard, 3 Construction, p. 667.

⁵ See Laying Keel and Shipbuilding, 3 Construction, p. 675.

⁶ See Civilian Targets, 3 Combat, p. 978.

Existential Patent: Orbital City

Theory: SHP ⇔ PLT ⇔ LIF ⇔ LIF ⇔ IND

OpQal: Enhancement Technology (ET, colony enhancement)

Effects (Theory – 1 = 4)

IND – May build Orbital City at any Orbital Shipyard in two turns at any Friendly, Naturalized or Converted colony by activation of the Construction Power.¹

LIF – Populations may permanently reside on Orbital Cities.

PLN – Populations on Orbital Cities do not count against Maximum Habitability.²

SHP – Populations are loaded to (and unloaded from) Orbital Cities like Colony Ships by use of Expansion Power.³

Cost (Base 5 RPs/Effect) = 20 RPs each

IND – Each Orbital City holds 15 population factors of one Native Population Type, may have Industry.⁴

SHP – Orbital City may not move or leave planet; and is targeted as a civilian orbital target, and has no attack.⁵

LIF – Populations on Orbital Cities do not grow when Census Power is activated⁶ but do produce when taxed.

PLN – Total population on Orbital Cities may not exceed half of planet's *original* Maximum Habitability.⁷

Manual (Post-patent notes and rulings by the Concierge to flesh out technology, only as necessary; advanced rulings requests are prohibited!):

- ❖ Orbital Cities are targeted in Colony Combats as non-warships.
- ❖ Population on destroyed Orbital Cities is killed.
- ❖ Population on Orbital Cities are a separate colony if the native population type is different from any colony on the planet; otherwise, they are considered to be part of the colony of their native population type on the planet.
- ❖ When they are considered part of a colony on that planet, populations on Orbital Cities participate in taxation when the Taxation Power is activated.
- ❖ When populations on Orbital Cities are considered a separate colony, even if owned by the owner of the colony(s) on the planet, Orbital Cities are taxed as a separate colony.
- ❖ A planet may have Orbital Cities and no population on the ground.
- ❖ Industry may be built on Orbital Cities to the limits of the population.

¹ See Orbital City, 2 Construction, p. 667.

² See Dayworld, 3 Taxation & Census, p. 316.

³ See Sardine Tins and Opening the Can Of..., 3 Expansion, pp. 911, 914-915.

⁴ See Industry, 2 Construction, p. 665 and Sardine Tins, 3 Expansion, pp. 911-912.

⁵ See Civilian Targets, 3 Combat, p. 978.

⁶ See Cabin Fever, 4 Taxation & Census, p. 326.

⁷ See Dayworld, 3 Taxation & Census, p. 316.

Existential Stardrive Patent: Generic Stardrive (GSD)

Movement Formula: Distance between any two stars is the absolute value of $(x_1 - x_2)$ plus $(y_1 - y_2)$ plus $(z_1 - z_2)$ where the first coordinates are the origin star and the second coordinates are the destination star. All fractions are truncated.

Put another way: The total difference between the three numbers making up the respective Positional Values of the origin star and the destination star is the **movement distance** between them.

Base Ship Speed: Base ship speed is two movement per turn, with distance calculated using the above formula.

Operational Characteristics: This stardrive does not make any noise as it travels through space or when it takes off; it does not take off to the sounds of blaring, heart-pounding orchestra music.

The maximum possible ship speed for this stardrive is 8 movement per turn.

Ships equipped with this stardrive may not change destinations during the voyage and may not stop or turn around between stars. All trips are directly from the origin to the destination at a constant speed, in a straight line.

Ships equipped with this stardrive always move at the maximum possible speed. Movement at lower speeds is not possible.

Stardrive ignores mass of ships, all ships move equally with this stardrive.

User Manual: (to be filled in by the Concierge)

Simmung: *Space is open for business!*

- ✓ As this is a Stardrive Patent, it looks different than regular Patents and is not prosecuted the same. See Stardrive section.
- ✓ Positions must have a Stardrive technology before purchasing or prosecuting any starship Patents. Positions beginning as the Expedition Leader, Nomadic Warfleet, or Truly Alien Primal States must begin the game with Stardrive. It is highly recommended that all positions begin with the Generic Stardrive Patent—you can't be interstellar without a stardrive.

Existential Patent: Ship Systems

Theory: SHP ⇔ LIF ⇔ LIF

OpQual: Enhancement Technology (ET, permanent ship enhancement).

Effects (Theory – 1 = 2)

LIF – Starship Operational Flight Limitation (OFL) is two Regular Turns.¹

LIF – Starship Operational Supply Limitation (OSL) is two Regular Turns.

Cost = *none (see Operational Qualities for COT Patents)

SHP – May not obtain (buy during set up, prosecute later) any starship patent, except Scouts, until Ship System Patent is obtained.²

LIF – Starships that exceed their OFL & ODL combined are subject to Supply Rolls and may be lost.³

Manual (Post-patent notes and rulings by the Concierge to flesh out technology, only as necessary; advanced rulings requests are prohibited!):

❖ Ship Patent includes 1st Era Carrier Patents.

- ✓ This Patent allows a starship to scamper out two turns, and then scamper back to a supporting colony in two turns, maximum four turns round trip.

¹ See Life Support, 3 Movement, p. 854.

² See Star-Driven, 7 Beginnings, p. 72 and Physical Item Technologies, 2 Patents, p. 739.

³ See Death Ship and Running on Empty, et seq., 3 Movement, pp. 856, 862.

Existential Patent: Logistical Support Ship (1st Era)

Theory: SDR ⇔ IND ⇔ SHP ⇔ IND ⇔ SHP

OpQal: Physical Item Technology (PIT)

Effects (Theory – 1 = 4)

IND – May build Logistical Support Ships at any Orbital Shipyard at any Friendly, Naturalized or Converted colony by activation of the Construction Power.¹

SHP – Logistical Support Ships may load and transport *Supplies*, Fighters, Missiles, or other enhancements from colonies for use by other ships.²

IND – Logistical Support Ship capacity and items carried are measured in RP value.³

SHP – Logistical Support Ships may automatically transfer anything they are carrying to another eligible ship or colony that begins the turn co-located with the Log Ship⁴ or in by joining an ongoing combat.⁵

Cost (special)

IND – Logistical Support Ships cost 15 RPs to build, Orbital Shipyard required.⁶

IND – Logistical Support Ships may carry 20 RPs worth of Supplies, Fighters, Missiles, or other enhancements.⁷

SHP – Logistical Support Ships are targeted as non-warships in combat and may not initiate combat or attack,⁸ may move using Combat Movement however.⁹

SHP – Logistical Support Ships may not use any Fighters, Missiles, or any enhancements they are transporting, Log Ships may only use Supplies.¹⁰

Manual (Post-patent notes and rulings by the Concierge to flesh out technology, only as necessary; advanced rulings requests are prohibited!):

- ❖ A ship receiving a transfer must be able to legally use what is received.¹¹
- ❖ Logistical Support Ships are the only ships that may carry Supplies which extend the Operational Supply Limitation (OSL) of other ships when transferred.
- ❖ In combat, the receiving ship or Defense Base may not do anything else for the round.
- ❖ Unless there is a reason otherwise, Logistical Support Ships may carry Fighters and Missiles of any Era and transfer to any eligible ship, regardless of the relative Eras of the Log Ship and the receiving ship.

¹ See Logistical Support Ships, 3 Movement, p. 860.

² See Costly Resupply, 3 Construction, p. 679.

³ See Costly Resupply, 3 Construction, p. 679 and Take Your Protein Pills, 3 Movement, p. 860.

⁴ See Transfers, 3 Construction, p. 679 and Running Outtime, 3 Movement, p. 861.

⁵ See Combat Resupply, 4 Movement, p. 868 and Victuals & Vitals, 3 Combat, p. 975.

⁶ See Logistical Support Ships, 3 Movement, p. 860.

⁷ See Costly Resupply, 3 Construction, p. 679 and Take Your Protein Pills, 3 Movement, p. 860.

⁸ See Victuals & Vitals and Civilian Targets, 3 Combat, p. 975, 978.

⁹ See Warship, 1 Combat, p. 941.

¹⁰ See Logistical Support Ships, 3 Movement, p. 860.

¹¹ See Combat Resupply, 4 Movement, p. 868.

Existential Patent: Scout Ship (1st Era)

Theory: SDR ⇔ IND ⇔ IND ⇔ SHP ⇔ DEF

OpQal: Physical Item Technology (PIT)

Effects (Theory – 1 = 4)

IND – May build Scout Ships at any Friendly, Naturalized or Converted colony by activation of the Construction Power.¹

IND – May build Scout Ships at colonies that do not have an Orbital Shipyard.²

SHP – Scout Ships have two extra turns of Operational Flight Limitation and Operation Supply Limitation (OFL/OSL).³

DEF – Scout Ships receive one Defensive Shift in Combat.⁴

Cost (special)

IND – Scout Ships constructed at Orbital Shipyards cost 8 RPs each.⁵

IND – Scout Ships constructed “on the ground” (i.e. without an Orbital Shipyard) cost 10 RPs each.⁶

DEF – Scout Ships are targeted as non-warships in combat.⁷

SHP – Scout Ships may never attack, are unarmed and targeted as non-warships, and may not be armed even with Enhancements such as Ship Missiles.⁸

Manual (Post-patent notes and rulings by the Concierge to flesh out technology, only as necessary; advanced rulings requests are prohibited!):

- ❖ Scout Ships which are not moving to a destination system with a supporting colony must move by activation of the Expansion Power for the purpose of Scouting.⁹

- ✓ The Scout Ship is the only starship that may be constructed without an Orbital Shipyard. This allows all positions which start the game with Stardrive to have Scout Ships at the beginning of the game. Additionally, this ability also allows small frontier colonies, those lacking Orbital Shipyards, to participate in farther exploration by constructing Scouts on the frontier to replace those that have gone out before, or been lost.
- ✓ Without the Ship Systems Existential Patent, a ship has no turns of OFL/OSL and cannot move away from a supporting colony and cannot be constructed. The Scout Ship’s two extra turns allow it to be constructed and to move without Ship Systems Existential Patent.

¹ See Building Up, 1 Expansion, p. 880.

² See Building Up, 1 Expansion, p. 880.

³ See Imperial Interstellar Scout Service, 3 Movement, p. 855 and Scout’s Honor, 1 Expansion, p. 879.

⁴ See Scout’s Honor, 1 Expansion, p. 879 and Civilian Targets, 3 Combat, p. 878.

⁵ See Building Up, 1 Expansion, p. 880.

⁶ See Building Up, 1 Expansion, p. 880.

⁷ See Scout’s Honor, 1 Expansion, p. 879.

⁸ See Scout’s Honor, 1 Expansion, p. 879.

⁹ See Through the Never, 3 Expansion, p. 907

Existential Patent: Cargo Ship (1st Era)

Theory: SDR ⇔ IND ⇔ IND ⇔ SHP

OpQal: Physical Item Technology (PIT)

Effects (Theory – 1 = 4)

IND – May build Cargo Ships at an Orbital Shipyard at any Friendly, Naturalized or Converted colony by activation of the Construction Power.¹

SHP – Cargo Ships are the only ships that may load, transport and unload RPs to and from colonies.²

IND – RPs unloaded to colonies may gain enhanced value.³

SHP – Cargo Ships may resupply at any **alien colony** by Loading/Unloading or with permission or may attempt to resupply in any starsystem if there is no Supporting Colony.⁴

Cost (special)

IND – Cargo Ships cost 8 RPs to build.⁵

IND – Cargo Ships may carry up to 15 RPs and may not transport anything else.⁶

SHP – Cargo Ships are targeted as non-warships in combat and may not initiate combat or attack.⁷

SHP – Cargo Ships may not move to any system where there is not a known colony.⁸

Manual (Post-patent notes and rulings by the Concierge to flesh out technology, only as necessary; advanced rulings requests are prohibited!):

- ❖ A colony to which RPs are unloaded be able to legally use what is received in the same turn as the Unload or the RPs are lost.⁹

- ✓ Cargo Ships are pure economics. A Cargo Ship that is too small is not economical in terms of Power Activations. A Cargo Ship that is too big and expensive is not necessarily economical either. At 8 RPs cost, any colony that can build an Orbital Shipyard can build a Cargo Ship. The ability of the Cargo Ship to transport 15 RPs worth of Cargo is equivalent to transporting an entire Colony Transport, Log Ship, Orbital Shipyard, or Ground Defense Base, or enough to lay the keel on a 1st Era Warship or build a load of 1st Era Ship Missiles or Fighters.

¹ See Cargo Ships, 1 Commerce, p. 1187.

² See Cargo Ships, 1 Commerce, p. 1187.

³ See Cargo Manifest, 2 Commerce, p. 1204, see also Intrinsically Profitable, p. 1206 and Cha-Ching!, p. 1207. Id.

⁴ See Cold Lunch, 1 Commerce, pp. 1190-1191.

⁵ See Cargo Ships, 1 Commerce, p. 1187.

⁶ See Cargo Ships, 1 Commerce, p. 1187.

⁷ See Cargo Ships in Combat, 1 Commerce, p. 1187.

⁸ See Cargo Ships in Combat and Trade Mission, 1 Commerce, pp. 1187, 1189.

⁹ See Gross Domestic Product, 1 Construction, p. 662.

Existential Patent: Colony Transport (1st Era Colony Ship)

Theory: SDR ⇔ IND ⇔ SHP ⇔ SHP ⇔ PLN

OpQal: Physical Item Technology (PIT)

Effects (Theory – 1 = 4)

IND – May build Colony Transports at any Orbital Shipyard at any Friendly, Naturalized or Converted colony by activation of the Construction Power.¹

SHP – Only ship that can Transport populations between planets and starsystems.²

SHP – Only ship that can Load and Unload population to and from established colonies.³

PLN – Only ship that can Land to establish new colonies on planets not currently colonized by the population type on the Colony Transport.⁴

Cost (special)

IND – Colony Transports constructed cost 10 RPs each.⁵

SHP – Colony Transports each hold three population factors of one Native Population Type.⁶

PLN – Colony Transports are consumed by Landing to form a new colony, and are thus removed from the game.⁷

SHP – Colony Transports are targeted as non-warships and may never attack or be armed.⁸

Manual (Post-patent notes and rulings by the Concierge to flesh out technology, only as necessary; advanced rulings requests are prohibited!):

- ❖ Colony Transports, as Colony Ships, may never go to an unexplored system.⁹
- ❖ Population onboard Colony Transports when they are destroyed are lost.¹⁰
- ❖ Population onboard Colony Transports does not produce or grow when Taxation and Census powers are activated.¹¹
- ❖ Colony Transports loaded with population are moved *only* by activation of the Expansion Power for the purpose of Transporting Population.¹²
- ❖ Loading and unloading of population to and from established colonies is not automatic, “loading” and “unloading” rolls required with an activation of the Expansion Power for the proper purpose.¹³

¹ See Building Up, 1 Expansion, p. 880.

² See Colony Cans, 1 Expansion, p. 879 and Sardine Tins, 3 Expansion, p. 911.

³ See Sardine Tins, 3 Expansion, p. 911.

⁴ See The Landing, 4 Expansion, p. 920.

⁵ See Building Up, 1 Expansion, p. 880.

⁶ See Sardine Tins, 3 Expansion, pp. 911-912.

⁷ See Pandorum, 4 Expansion, p. 923.

⁸ See Colonies in a Can, 3 Expansion, p. 913.

⁹ See Send the Enterprise!, 3 Expansion, p. 909.

¹⁰ See Colonies in a Can, 3 Expansion, p. 913.

¹¹ See Colonies in a Can, 3 Expansion, p. 913 and Cabin Fever, 4 Taxation & Census, p. 326.

¹² See Engage!, 1 Movement, p. 838 and Colonization, 1 Expansion, p. 876.

¹³ See Sardine Tins and Opening the Can Of..., 3 Expansion, pp. 911, 914.

Existential Patent: Controlled Environment Technology (CET)

Theory: LIF \Leftrightarrow PLN \Leftrightarrow SHP

OpQal: Enhancement Technology (ET, permanent, based on Colony Transport Patent)

Effects (Theory – 1 = 2)

PLN – Allows Colony Ships to establish new colonies on planets with a Habitability Class of Unpleasant or Hostile to the Native Population Type of the species that developed this technology.¹

SHP – Is a permanent Enhancement to each Colony Transport.²

Cost = (Base 5 RPs/Effect) = 10 RPs (for each Colony Ship)

PLN – Population on Unpleasant Planets grow by one factor per Census activation.³

LIF – Population on Hostile Planets do not grow when Census Power is activated.⁴

Manual (Post-patent notes and rulings by the Concierge to flesh out technology, only as necessary; advanced rulings requests are prohibited!):

- ❖ CET applies only to the Native Population Type of the position that developed it. It is possible to develop CET for other Native Population Types if the position had a significant population and long term close exposure to that Native Population Type.⁵
- ❖ CET does not change the Habitability Class of the colony planet.⁶

- ✓ It can be deduced that CET initially provides a controlled environment for three population factors. Hence, if larger capacity Colony Ships are developed later, they may either require a new CET or use of multiple CET enhancements per ship. It may also be concluded that, at least on Unpleasant Planets, CET expands slowly with the population.

¹ See Wagon Train to the Stars and Building Up, 1 Expansion, pp. 879-880 and The Landing and Survival & Ethical Dilemmas, 4 Expansion, pp. 920, 922.

² See Building Up, 1 Expansion, p. 880.

³ See Unpleasant & Hostile Planets, 4 Taxation & Census, p. 326.

⁴ See Unpleasant & Hostile Planets, 4 Taxation & Census, p. 326.

⁵ See Building Up, 1 Expansion, p. 880.

⁶ See Wagon Train to the Stars, 1 Expansion, p. 879.

Existential Patent: Ground Defense Base

Theory: IND \Leftrightarrow DEF \Leftrightarrow DEF \Leftrightarrow WEP

OpQal: Enhancement Technology (ET, Installation, colony enhancement)

Effects (Theory – 1 = 3)

INP – A Ground Defense Base, 1 per 3 population factors *on the planet's surface* may be built by activation of the Construction Power in a single turn at any Friendly, Naturalized or Converted colony (Orbital Shipyard not required).¹

DEF – Ground Defense Bases convert to Ground Units if the colony is attacked in Ground Combat (i.e. act as fortifications, tunnels, extra heavy weapons).²

WEP – Ground Defense Bases have a base chance to hit of 20% times the Current Era in Colony Combat³ and have a 25% chance of firing at outgoing Raiding Fighters.⁴

Cost = (Base 5 RPs/Effect) = 15 RPs⁵

WEP – Ground Defense Bases may not Combat Screen in Colony Combat.⁶

DEF – Ground Defense Bases may participate in any Colony Combat on the second round (come closer, that's right, good boy, you want this right?...BANG!).⁷

DEF – Ground Defense Bases may not retreat from combat or leave the surface.⁸

Manual (Post-patent notes and rulings by the Concierge to flesh out technology, only as necessary; advanced rulings requests are prohibited!):

- ❖ Fire at Raiding Fighters by Ground Defense Bases occurs after damage inflicted by the Raiding Fighters.⁹
- ❖ Current Era multiplier refers to the Era of the Colony Defenses.¹⁰
- ❖ Ground Bases fire Close-in Defense against attacking Fighters.¹¹
- ❖ Ground Bases damaged in Ground Combat are repaired by activation of the Construction Power and do not function until repaired.¹²
- ❖ Ground Defense Bases may only be attacked in the first round of a Colony Combat if there are no Orbital or System Defense Bases.¹³

- ✓ Colony Defense Era Upgrades are expensive, but eventually the multipliers make Defense Bases (all kinds) more powerful than 3rd Era Warships. However, in the early and mid-game, warship Era progression will easily outrun Defense progression.

¹ See Orbital Defense Base, 2 Construction, p. 668.

² See Verdun, 4 Combat, p. 997.

³ See Firing Solution, 3 Combat, p. 978.

⁴ See Giv'n Them Some Flak, Carriers & Fighters, p. 1088.

⁵ See Orbital Defense Base, 2 Construction, p. 668.

⁶ See Colony Screens, 3 Carriers & Fighters, pp. 1068-1069.

⁷ See Something Here from Somewhere Else, 2 Combat, p. 961.

⁸ See Something Here from Somewhere Else, 2 Combat, p. 961.

⁹ See Giv'n Them Some Flak, Carriers & Fighters, p. 1088.

¹⁰ See Colony Defense Era Upgrade, 2 Combat, p. 954.

¹¹ See Fortress North America, 4 Combat, p. 997.

¹² See Orbital Defense Base, 2 Construction, p. 668 and Verdun, 4 Combat, p. 997.

¹³ See Something Here from Somewhere Else, 2 Combat, p. 961.

Existential Patent: Orbital Defense Base

Theory: EGY ⇔ IND ⇔ DEF ⇔ DEF ⇔ WPN

OpQal: Enhancement Technology (ET, Installation, colony enhancement)

Effects (Theory – 1 = 4)

IND – Orbital Defense Bases may be built at an Orbital Shipyard at any Friendly, Naturalized, or Converted colony by activation of the Construction Power.¹

DEF – Orbital Defense Bases receive one Defensive Shift in the first combat round.²

DEF – Orbital Defense Bases have a 40% chance to fire at incoming Raiding Fighters.³

WPN – Orbital Defense Bases have a base 30% chance times current Era to hit in Colony Combat.⁴

Cost (Base 5 RPs/Effect) = 20 RPs each⁵

IND – One Orbital Defense Base may be built per 10 population factors on colony.⁶

DEF – Orbital Defense Bases cannot retreat from combat or leave planet.⁷

DEF – Orbital Defense Bases may only Combat Screen other things in orbit.⁸

WEP – Orbital Defense Bases may only participate in Colony Combat⁹ and sometimes in Ground Combat.¹⁰

Manual (Post-patent notes and rulings by the Concierge to flesh out technology, only as necessary; advanced rulings requests are prohibited!):

- ❖ Fire at Raiding Fighters by Orbital Defense Bases occurs before damage inflicted by the Raiding Fighters.¹¹
- ❖ Current Era multiplier refers to the Era of the Colony Defenses.¹²

- ✓ Orbital Defense Bases – not warships – are the primary colony defense. If your warships are pinned to defending a colony, or colonies, they might as well be defense bases.
- ✓ In the 1st Era, Orbital Defense Bases are equal to 1st Era Warships, but afterward, in the 2nd and 3rd Eras, Orbital Defense Bases gain the edge.

¹ See Orbital Defense Base, 2 Construction, p. 668.

² See Combat Shifts, 3 Combat, p. 978.

³ See Under Your Desk, 4 Carriers & Fighters, p. 1086.

⁴ See Firing Solution, 3 Combat, p. 978.

⁵ See Orbital Defense Base, 2 Construction, p. 668.

⁶ See Orbital Defense Base, 2 Construction, p. 668.

⁷ See Colony Defense Bases and Something Here from Somewhere Else, 2 Combat, pp. 954, 961.

⁸ See Combat Screening, 3 Carriers & Fighters, p. 1067.

⁹ See Something Here from Somewhere Else, 2 Combat, p. 961 and Keep Your Friends Close, Your Enemies Closer, 3 Combat, p. 972.

¹⁰ See Fire at Will and Razor Rain, 4 Combat, pp. 991, 993.

¹¹ See Under Your Desk, 4 Carriers & Fighters, p. 1086.

¹² See Colony Defense Era Upgrade, 2 Combat, p. 954.

Existential Patent: System Defense Base

Theory: EGY ⇔ IND ⇔ DEF ⇔ DEF ⇔ DEF ⇔ WPN

OpQal: Enhancement Technology (ET, Installation, colony enhancement)

Effects (Theory – 1 = 5)

IND – System Defense Bases may be built at an Orbital Shipyard in one turn at any Friendly, Naturalized, or Converted colony by activation of the Construction Power.¹

DEF – System Defense Bases receive one Defensive Shift on the first combat round.²

DEF – System Defense Bases may carry 30 RPs of Ship Missiles (2/3 of their cost, normal is RP capacity equal to half of cost for warships, less for Carriers).³

DEF – Attackers may only attack System Bases in the first round of any Colony Combat and only System Bases (and colony Fighters) can fire at the attackers.⁴

WPN – System Defense Bases have a base 30% chance times current Era to hit in Colony Combat.⁵

Cost (Base 5 RPs/Effect) = 45 RPs each (*see below)⁶

IND – One System Defense Base may be built per 30 population factors on colony.⁷

DEF – System Defense Bases cost an extra 20 RPs each.⁸

DEF – System Defense Bases cannot retreat from combat or leave planet.⁹

DEF – Attackers may choose to initiate combat against only the System Defense Bases without engaging the rest of the colony defenses in Colony Combat.¹⁰

WEP – System Defense Bases may not fire at Raiding Fighters.¹¹

Manual (Post-patent notes and rulings by the Concierge to flesh out technology, only as necessary; advanced rulings requests are prohibited!):

- ❖ Current Era multiplier refers to the Era of the Colony Defenses.¹²
- ❖ Colony Combat may not be initiated against the colony if System Bases are attacked separately. Orbital and Ground Defense Bases may not join or be targeted, but Fighter Complements on the planet may choose to join.¹³

¹ See Orbital Defense Base, 2 Construction, p. 668.

² See Combat Shifts, 3 Combat, p. 978.

³ See Torpedoes at Trafalgar, 4 Carriers & Fighters, p. 1080.

⁴ See Something Here from Somewhere Else, 2 Combat, p. 960.

⁵ See Firing Solution, 3 Combat, p. 978.

⁶ See Orbital Defense Base, 2 Construction, p. 668.

⁷ See Orbital Defense Base, 2 Construction, p. 668.

⁸ See Orbital Defense Base, 2 Construction, p. 668.

⁹ See Colony Defense Bases and Something Here from Somewhere Else, 2 Combat, pp. 954, 961.

¹⁰ See Rule 20 Permissive Joinder, 3 Combat, p. 973.

¹¹ See Under Your Desk, 4 Carriers & Fighters, p. 1086.

¹² See Colony Defense Era Upgrade, 2 Combat, p. 954.

¹³ See Rule 20 Permissive Joinder, 3 Combat, p. 973.

Existential Patent: 1st Era Warship

Theory: SDR ⇔ IND ⇔ WEP ⇔ WEP ⇔ WEP ⇔ DEF

OpQal: Physical Item Technology (PIT)

Effects (Theory – 1 = 5)

IND – May build 1st Era Warships at any Orbital Shipyard at any Friendly, Naturalized or Converted colony by activation of the Construction Power.¹

WEP – 1st Era Warship may initiate combat vs. ships and colonies.²

WEP – Base Chance to hit when attacking is 30% (vs. ships and defense bases).³

WEP – May destroy during Orbital Bombardment 3 population factors on Conquered Colony and/or participate in Pacification Combat.⁴

DEF – May re-roll one failed Hazard Roll when entering an unexplored system.⁵

Cost (special)

IND – 1st Era Warships cost 30 RPs to build.⁶

DEF – When attacked by higher Era ships and bases, the attackers receive one Offensive Shift per Era difference.⁷

WEP – May only have one target assigned per Combat Round (i.e. fires/acts once per round).⁸

WEP – May fire Close-in Defense against Fighters and Ship Missiles.⁹

WEP – May not Combat Screen against Fighters.¹⁰

Manual (Post-patent notes and rulings by the Concierge to flesh out technology, only as necessary; advanced rulings requests are prohibited!):

- ❖ 1st Era Warships are assumed to be the average Ship of the Line of the Era, with no class differentiation.¹¹
- ❖ Combat may be initiated by either Initiate Combat, Combat Alert or by initiating combat upon arrival via Combat Movement.¹²
- ❖ 1st Era Warships may not carry or support Fighters, but may be equipped with expendable Ship Missiles which give an additional attack.¹³

¹ See First Era Warship, 2 Combat, p. 952.

² See Warships, 1 Combat, p. 941.

³ See Firing Solution, 3 Combat, p. 978.

⁴ See In This Dust that Was a City, 3 Combat, p. 961 and Resistance is Futile, 6 Combat, p. 1022.

⁵ See Dead Before the Opening Credits, 3 Expansion, p. 910.

⁶ See First Era Warship, 2 Combat, p. 952.

⁷ See Combat Shifts, 3 Combat, p. 978.

⁸ See Combat Resolution, 3 Combat, p. 976.

⁹ See Close-in Defense Weaponry, 2 Carriers & Fighters, p. 1059 and Fire-and-Forget, 4 Carriers & Fighters, p. 1081.

¹⁰ See Nolo Contendre, 3 Carriers & Fighters, p. 1070.

¹¹ See Ship of the Line, 2 Combat, p. 952.

¹² See The Combat Power, Warships, and Move Out!, 1 Combat, pp. 941-942.

¹³ See Fighters vs. Ship Missiles and First Fire, 4 Carriers & Fighters, pp. 1080-1081.

Existential Patent: 1st Era Carrier

Theory: SDR ⇔ IND ⇔ SHP ⇔ WEP ⇔ DEF ⇔ DEF

OpQal: Physical Item Technology (PIT)

Effects (Theory – 1 = 5)

IND – May build 1st Era Carriers at any Orbital Shipyard at any Friendly, Naturalized or Converted colony by activation of the Construction Power.¹

WEP – 1st Era Carrier may initiate combat vs. ships and colonies (with or without Fighters).²

SHP – Carrier may load, transport, launch, and support operation of a Fighter Complements whose RPs equal to half of its base construction cost;³ Fighter Complements are ready to launch as soon as the Carrier arrives in system and there is no delay in the ability of a Carrier to initiate combat.

DEF – Carriers fire Close in Defense Weaponry with the same chance to hit as a warship of the same Era and add one to each damage die roll.⁴

DEF – Carriers may not be attacked by Defense Bases in Colony Combats unless it direct fires at a target in the same Combat Round.⁵

Cost (special)

IND – The maximum size of a 1st Era Carrier is 100 RPs (supporting a 50 RP Fighter Complement).⁶

SHP – Carrier may retreat with Fighter Complement only if they are Combat Screening the Carrier on the round of the retreat (or they are left behind).⁷

DEF – When attacked by higher Era ships and bases, the attackers receive one Offensive Shift per Era difference.⁸

DEF – Carriers may not Combat Screen against Fighters.⁹

WEP – Carriers have one direct fire per round and the target receives two Defensive Shifts in addition to normal Era Shifts, if applicable.¹⁰

Manual (Post-patent notes and rulings by the Concierge to flesh out technology, only as necessary; advanced rulings requests are prohibited!):

- ❖ Fighter Complement is not included in the cost of Carrier construction. Fighter Complements must be constructed and transferred to the Carrier separately.¹¹
- ❖ Damage from Carrier Close in Defense Weaponry Fire cannot exceed 10 RPs per damage die roll.¹²
- ❖ Carriers may be attacked by Ship Missiles and colony-based Fighters in Colony Combat on any round, regardless of whether the Carrier direct fires or not.¹³
- ❖ Fighters from a destroyed Carrier must find another place to land or perish on the next Combat Round.¹⁴

¹ See Carriers, 1 Carriers & Fighters, p. 1049.

² See Carriers, 1 Carriers & Fighters, p. 1049 and Warships, 1 Combat, p. 941.

³ See How Big is Your Flight Stick?, 1 Carriers, p. 1050.

⁴ See Battle at Planet Midway, 2 Carriers & Fighters, p. 1060.

⁵ See Carrier Direct Fire, 1 Carriers & Fighters, p. 1051.

⁶ See Carriers, 1 Carriers & Fighters, p. 1049.

⁷ See Carrier Operations, 1 Carriers & Fighters, p. 1050.

⁸ See Combat Shifts, 3 Combat, p. 978.

⁹ See Nolo Contendre, 3 Carriers & Fighters, p. 1070.

¹⁰ See Carrier Direct Fire, 1 Carriers & Fighters, p. 1051.

¹¹ See Laying Keel, 3 Construction, p. 675 and How Big is Your Flight Stick?, 1 Carriers & Fighters, p. 1050.

¹² See Battle at Planet Midway, 2 Carriers & Fighters, p. 1060.

¹³ See Carrier Direct Fire, 1 Carriers & Fighters, p. 1051.

¹⁴ See Space Debris, 1 Carriers & Fighters, p. 1051.

Existential Patent: 1st Era Fighters

Theory: SHP ⇔ IND ⇔ WEP ⇔ WEP ⇔ WEP

OpQal: Enhancement Technology (ET, colony or ship (i.e. Carriers) enhancement)

Effects (Theory – 1 = 4)

SHP – Fighters may be built at any Friendly, Naturalized, or Converted colony by activation of the Construction Power for the purpose of Colony Enhancement.¹

WEP – Fighters may initiate combat and join combats,² Fighters attack first in each Combat Round.³

WEP – Each Fighter Complement has two attacks (sorties) or two combat screening assignments (interceptions) per Combat Round⁴ and cannot be blocked by non-Fighter Combat Screens.⁵

WEP – Fighters may pass through colony defenses and enemy ships, to Raid or Strike an unconquered colony.⁶

Cost (Base 5 RPs/Effect) = special (*see below)

SHP – Fighters have zero turns of Operational Supply Limitation (OFL/OSL), must always be attached to a ship or colony.⁷

WEP – First successful Fighter attack against target Engages target, requires two successful Fighter (and/or Ship Missile) attacks in the same combat round to “hit” the target.⁸

WEP – Fighter Complements are measured in RPs, therefore, cost is special, not related to effects.⁹

IND – Maximum colony Fighter Complement size is 1 RP per population factor on colony.¹⁰

Manual (Post-patent notes and rulings by the Concierge to flesh out technology, only as necessary; advanced rulings requests are prohibited!):

- ❖ Newly built Fighters form a new Fighter Complement, if none exists, or are added to the existing Fighter Complement. Each colony and Carrier may have only one Fighter Complement to which all assigned Fighters belong.¹¹
- ❖ Engaged targets can fire Close-in Defense, but have less chance of doing whatever they were assigned to do.¹²

¹ See On the Flight Deck, 1 Carriers & Fighters, p. 1047.

² See On the Flight Deck, 1 Carriers & Fighters, p. 1047.

³ See Blacksheep, 2 Carriers & Fighters, p. 1054.

⁴ See Blacksheep, 2 Carriers & Fighters, p. 1054.

⁵ See Nolo Contendre, 3 Carriers & Fighters, p. 1070.

⁶ See World in Flames, 4 Carriers & Fighters, p. 1084.

⁷ See See How Big is Your Flight Stick, 1 Carriers & Fighters, p. 1050.

⁸ See Engaged and A Hurt, 2 Carriers & Fighters, pp. 1055-1056.

⁹ See How Big is Your Flight Stick, 1 Carriers & Fighters, p. 1050, and Blacksheep, 2 Carriers & Fighters, p. 1054.

¹⁰ See How Big is Your Flight Stick, 1 Carriers & Fighters, p. 1050.

¹¹ See On the Flight Deck, 1 Carriers & Fighters, p. 1047.

¹² See Engaged, 2 Carriers & Fighters, p. 1055.

Existential Patent: 1st Era Ship Missiles

Theory: EGY ⇔ SHP ⇔ IND ⇔ WEP

OpQual: Enhancement Technology (ET, expendable, based on any Warship, Carrier, or Defense Base patent)

Effects (Theory – 1 = 3)

IND – Ship Missiles may be built at any Friendly, Naturalized, or Converted colony by activation of the Construction Power for the purpose of Colony Enhancement.¹

SHP – Ship Missiles (all or some) may be fired by any Warship, Carrier, or Orbital or System Defense Base in any combat round in addition to the unit's normal attack or assignment.²

WEP – Engaged results from successful Ship Missile attacks carryover to the next Combat Round, and are cumulative with other successful Ship Missile and Fighter attacks.³

Cost (Base 5 RPs/Effect) = special (*see below)

WEP – Ship Missile attacks resolve last in the Combat Round (but before retreats)⁴ and are resolved as Fighter attacks.⁵

SHP – Ship Missiles are measured in RPs, therefore, cost is special, not related to effects.⁶

IND – Each Warship, or Base may carry Ship Missiles equal to half of its construction cost, while Carriers may be equipped with Ship Missiles equal to one third of the construction cost of the Carrier.⁷

Manual (Post-patent notes and rulings by the Concierge to flesh out technology, only as necessary; advanced rulings requests are prohibited!):

- ❖ Ship Missile attacks from multiple ships on one target must be resolved separately (as waves of missiles).⁸
- ❖ Ship Missiles cannot be used against Ship Missiles or Fighters.⁹
- ❖ Ship Missiles are lost if the unit they are attached to is destroyed.¹⁰
- ❖ Ground Bases cannot fire Ship Missiles.¹¹
- ❖ Ship Missiles may not receive the benefits of Enlightenment.¹²

¹ See Torpedoes at Trafalgar, 4 Carriers & Fighters, p. 1080.

² See First Fire, 4 Carriers & Fighters, p. 1081.

³ See First Fire and Fire-and-Forget, 4 Carriers & Fighters, p. 1081.

⁴ See Combat Resolution, 3 Combat, p. 976 and First Fire, 4 Carriers & Fighters, p. 1081.

⁵ See Fire-and-Forget, 4 Carriers & Fighters, p. 1081.

⁶ See Torpedoes at Trafalgar, 4 Carriers & Fighters, p. 1080.

⁷ See Torpedoes at Trafalgar, 4 Carriers & Fighters, p. 1080.

⁸ See Fire-and-Forget, 4 Carriers & Fighters, p. 1081.

⁹ See Fire-and-Forget, 4 Carriers, pp. 1081-1082

¹⁰ See Fighters vs. Ship Missiles, 4 Carriers & Fighters, p. 1080.

¹¹ See Torpedoes at Trafalgar, 4 Carriers & Fighters, p. 1080.

¹² See Fire-and-Forget, 4 Carriers & Fighters, pp. 1081-1082 and Harsh Mistress, 2 Colleges, p. 478.

Appendix EPAT2 – Existential Patents Quick Summary

- This is a quick reference summary of the attributes of the basic units of the game from the starting Existential Patents. Existential Patents may, and many times must, be purchased during set up for a flat rate, see Appendix IPT2.
- IPs costs refers only to the per unit cost during set-up, see Appendix IPT1. RPs refers to the normal in-game cost to build each unit, shown on the Existential Patent.

Civilian Infrastructure (Construction Power, Colony Enhancement purpose):

- Industry: Cost 2 RPs each (3 IPs). Produces .5 RPs each during taxation. Max 1 Industry for every 2.5 population on Colony.
- Orbital Shipyard: Cost 15 RPs each (30 IPs). Max one Orbital Shipyard per colony. Need 10 or more population on colony to build an Orbital Shipyard. Orbital Shipyard required to build any ship, except Scout Ships. No attack ability, no combat power.
- Orbital City: Cost 20 RPs each (35 IPs). Orbital Shipyard required. Each holds 20 population, does not count against Maximum Habitability. Population on Orbital Cities does not grow during Census, but does produce during Taxation. May have industry, may not move. Population on Orbital Cities may not exceed half the original Maximum Habitability of the planet. No attack ability, no combat power.

Civilian Ships (Construction Power, Laying Keel and Shipbuilding purposes):

- Ship Systems: Required to construct any ship, no cost per ship. Gives two Regular Turns each of Operational Flight Limitation and Operational Supply Limitation.
- Logistical Ship: Cost 15 RPs each (15 IPs). Orbital Shipyard required, built in two turns. May carry 20 RPs worth of Supplies, Fighters, Missiles, or other enhancements (but not RPs). Transfers to other ships during Regular Turns and in combat. Critical to extending Operational Supply Limitation (OSL). Not a warship, but can move using Combat Movement. Must have both a Stardrive Patent and Ship Systems Existential Patent.
- Scout Ship: Cost 8 RPs each at Orbital Shipyard, or 10 RPs each constructed on the ground (5 IPs). No combat power, non-warship, but receives one Defensive Shift in combat. Scout Ships have two extra turns of OFL/OSL, can be constructed without Ship Systems Existential Patent, but a Stardrive Patent is still required.
- Cargo Ship: Cost 8 RPs each (8 IPs). Requires Orbital Shipyard, built in two turns. Can carry 15 RPs of cargo, can only carry RPs (not a Logistical Ship). Not a warship. Capable of *enhanced trade value* at **alien colonies**. Must have both a Stardrive Patent and Ship Systems Existential Patent.
- Colony Transport: Cost 10 RPs each (8 IPs). Requires Orbital Shipyard, built in two turns. Only ship that can load, unload, and transport population factors. Carries 3 population factors of any Native Population Type. Only ship that can establish a new colony (by Landing), during which it is consumed. Non-warship. Must have both a Stardrive Patent and Ship Systems Existential Patent. CET Patent (below) only needed to Land a Colony on Unpleasant and Hostile Class Planets.
- Controlled Environment Technology: Permanent Enhancement on all Colony Ships. Required to colonize bad planets, i.e. Habitability Class Unpleasant or Hostile.

Colony Defenses (Construction Power, Colony Enhancement purpose):

- Ground Defense Base: Cost 15 RPs each (5 IPs). Maximum of 1 per 3 population factors on colony. Chance to fire at Raiders after they attack, converts to Ground Unit during Combat. May not fire during the first round of a Colony Combat, frequently also cannot be attacked in the first round. May not Combat Screen but may be Combat Screened, may not retreat or leave the planet surface. May not have Ship Missiles. Base 20% chance to hit times Era.
- Orbital Defense Base: Cost 20 RPs each (15 IPs). Maximum of 1 per 10 population factors on colony. Orbital Shipyard required, built in one turn. Chance to fire at Raiders before they attack. May have Ship Missiles. May Combat Screen other things in orbit only. Receives one Defensive Shift in first Combat Round of Colony Combat. Cannot retreat or leave the planet. Base 30% chance to hit times Era.
- System Defense Base: Cost 45 RPs each (45 IPs). Maximum of 1 per 30 population factors on colony. System Defense Base requires Orbital Shipyard, built in one turn. May not fire at Raiders. Has extra Ship Missile capacity. Attackers may only target System Defense Bases in the first round of a Colony Combat; attackers may choose to forgo attacking the colony to just attack System Defense Bases. Receives one Defensive Shift in the first round of Colony Combat. Cannot retreat from combat, cannot leave the planet. Base 30% chance to hit times Era.

Warships and Weapons:

- 1st Era Warship: Cost 30 RPs (30 IPs). Orbital Shipyard required, build in two turns. May carry Ship Missiles. May initiate combat, base 30% chance to hit. May reroll failed Hazard Roll during exploration. May destroy population by Orbital Bombardment, may support Pacification Combat after conquest. Average non-specialized warship of the Era. May fire Close-in Defense against fighters.
- 1st Era Carrier: Cost based on RP size, maximum size is 100 RPs in 1st Era. Orbital Shipyard required, two turn build. May load, support and launch Fighter RPs up to half its size. May carry reduced Ship Missile load. Superior damage in Close-in Defense hits against attacking Fighters. Weaker direct fire ability against ships and bases, but cannot be hit in Colony Combat unless it direct fires. Fighters may retreat with Carrier.
- 1st Era Fighter: Cost 1 RP each (2 IPs for 3 RPs). Fighter Complements are measured in RPs. Max 1 RP of Fighters per population factor on colony. Fighters have no OSL, must be attached to ship or colony at all times. Each complement has two Sorties each Combat Round, can hit two different targets. Fighter attacks always resolve first. Requires two hits in same Combat Round to destroy target; Engaged targets have a lesser chance of doing whatever it is assigned in the Combat Round. May intercept and dogfight opposing Fighters. Cannot be intercepted by non-Fighters. May Raid colonies.
- 1st Era Ship Missiles: Cost 1 IP each (2 IPs for 3 RPs). Can be added to any warship or Orbital or System Defense Base for an extra attack ability. Expendable RPs. Resolved last in the Combat Round, resolved like Fighter attacks with some small differences. Engaged results carryover to the next Combat Round. Works best in conjunction with Fighter attacks earlier in Combat Round. Only Fighters can intercept Ship Missiles.

Appendix EXP – Exploration & Colonization Example

Long ago in a Galactic Space far, far away ... the colony ship *Cllpygn* (named after a prehistoric form of mermaid on their homeworld) arrives in an unexplored system after a mis-jump (damned Concierge!).¹ The Colony Ship must explore the system, a Hazard Roll is made on 1d6, and, alas, the colony ship rolled a 5 and, as it is a non-warship and not a Scout, it is destroyed (see *Then Never Comes*, 3 Expansion, p. 907) by a solar flare because it arrived too close to the star (not the sort of ‘enlightenment’ they were seeking). Unfortunately, the colony ship was the last hope of a dying planet populated by technologically-advanced amphibians without vowels whose water supplies were shrinking and

Long afterward in the same Galactic Space, far, far away ... All webbed paws on deck! The Scout Ship *Callipygian*, built by a technologically-advanced species with vowels and named after an ancient, mythic mermaid goddess, hits the pre-plotted splashpoint in the unexplored system. A Hazard Roll is made, and the result is a 5, the *Callipygian* survives, narrowly avoiding collision with an ancient alien derelict in orbit around the star. The Scout Ship automatically explores the system (no Power Activation required, see *Then Never Comes*, 3 Expansion, p. 907) and sends back the information by FTL communication, along with the exciting discovery of a derelict ancient ship.

The system is immediately placed on the Scout Ship owner’s Public Space at the designated Monad location; it would not have been had the Scout Ship been destroyed in exploration, or for any other reason. The owner of the Scout Ship additionally took a chance that the exploration would be successful, and placed a Scene on the Monad where the star would be placed on the Public Space at the end of the Regular Turn when it was due to arrive. Thus, a Scene was immediately placed on the star since it was on the Public Space at the end of the Regular Turn when Scenes are placed. See *On the Soapbox*, 3 *The Sidereal Stage*, p. 122.

While the exploration was occurring, the position also finished Loading Population to several Colony Transports at a nearby colony, luckily avoiding Power Activation failures (see *Sardine Tins*, 3 Expansion, p. 911), and because there is already a Scene on the star on the Public Space, the Colony Ships can initiate interstellar movement on the next Regular Turn to the newly-explored star to colonize a promising Hospitable Class planet, via the Transport Population purpose of the Expansion Power activation (see *Canned Food*, 3 Expansion, p. 913). The Scenes are removed from the target star and the origin star when movement is initiated.

- ✓ As the Scene is used in initiation of the Transport Population movement, the colony ships are en-route in the Galactic Space and will arrive at the star regardless of whether it is still on the Public Space, thus, the Scout could move onto the next destination. *Id.*

When the Colony Transports arrive in two Regular Turns, they see an Aardvark-var-k-var-kian Scout Ship in the system ... (see *ABBA Arrival*, 2 Information, p. 1340). The Scout belongs to a species with whom they had First Contact previously (see *Bump in the Night*, 1 Diplomacy, p. 1099), so this is not a First Contact situation, but it’s not a happy situation for the owner of the Colony Ships because they will be seen and reported by the alien Scout Ship on The Aardvark-var-k-var-k’s next Regular Turn. Fortunately, it’s just a Scout Ship as the Colony Ships have no military escort. But they can do nothing about it and most proceed in full view.

¹ Normally a Cargo or Colony Ship cannot go to an unexplored system, see *Send the Enterprise!*, 3 Expansion, p. 909.

- ✓ In anticipation of the arrival of the Colony Transports in the previously explored starsystem, the owner designated Monads on the Public Space to place the star with a scene on it that will be required for the Landing (see Colonization, 1 Expansion, pp. 876-877 and The Landing, 4 Expansion, p. 920). Had the Colony Transports mis-jumped... (damned Concierge!).

With nothing else amiss, on the next Regular Turn, the Colony Transports are ordered to Land on the target Hospitable Class planet to form a new colony (thus CET is not required). The target planet is completely uncolonized before the Landing, although it is only necessary that it not contain already a colony of the Native Population Type that is on the Colony Ships (see The Landing, 4 Expansion, p. 920).

As the Colony Transports are at the end of their Operational Supply Limit (OSL), they will not fail to obey the Power Activation to Land (see Spiffy Spaceman, 4 Expansion, p. 920). The successful Landing of at least one Colony Transport is sufficient to found a new colony on the planet. All Colony Transports Landed in this case, thus avoiding the necessity of Unload Population Expansion Power activations on later turns. The Colony Transports are consumed in the Landing (see Pandorum, 4 Expansion, p. 923) and removed from the game universe.

- ✓ Colony Ships that fail the Power Activation to Land may be Unloaded on later turns, or may be resupplied by the new colony (which is now a supporting colony, see Supporting Colony, 1 Movement, p. 839) and sent off to the next colonization target. These situations are equally good and bad, happy and unhappy. If population that failed to Land is subsequently Unloaded to the new colony (see Spiffy Spaceman, 4 Expansion, p. 920, and Opening the Can of... and ...Vienna Sausages, 3 Expansion, pp. 914-915), it will cost extra Acts, Scenes, RPs, and Power Activations, however, the Colony Ships will continue to exist (will not be consumed) and thus they don't have to be replaced (see Pandorum, 4 Expansion, p. 923). If they can be directed off to the next colonization target, that may be fortuitous actually in the overall strategic development of the position, however, the colony where they failed to Land will be smaller than it should have been and thus less immediately productive.

With the new Friendly Colony established, now officially called Callipygian IV and the Pathway formed to a Government Title (see The Claaaw is Our Master, 2 Government Titles, p. 597), the owner is looking toward a Reverse Engineering attempt (see 3 Technology, p. 712) on the ancient alien derelict ship ... however, an Aardvark-var-k-varkian warfleet arrives in the system shortly after the colonization, without initiating combat. The new colony is completely undefended and The Aardvark-var-k-var-k already had a Low Population Friendly Colony on another planet (see 4 Taxation & Census, p. 326) in the same system that was undetected by the Scout and Colony Transports (see ABBA Arrival, 2 Information, p. 1340). Has a trap been sprung?

- ✓ Because The Aardvark-var-k-var-k had a Friendly Colony already in the system, they were able to send the warfleet by normal Movement Power activation, see Engage!, 1 Movement, p. 838. Depending on the distance travelled, they may have departed before the new colony arrived in the system, so it may not be assumed to be a reaction or threat.

Oh, what to do, what to do?.... Send a warfleet, send an e-mail or both? Is The Aardvark-var-k-var-k trying to kick over some anthills? Will he lap up our colony with his long Varkian tongue?



Appendix FR – The Fundamental Realities

Type 1 Fundamental Realities			
Ancien Regime	CLXXXII	Jynx-us	CCXXI
Ahistoricism	CLXXXIII	Kindred	CCXXII
Alien Nation	CLXXXIV	Love	CCXXIII
Alienation	CLXXXV	Metacommunications	CCXXIV
Antimicrobial Resistance	CLXXXVI	Makers, Fakers & Takers	CCXXV
Aspirations of Godhood	CLXXXVII	Nationalist Rhetoric	CCXXVI
Balkanized Homeworld	CLXXXVIII	Natural Sets	CCXXVII
Barbary	CLXXXIX	Nearer My Light to Thee	CCXXVIII
Better Part of Valor	CXC	Nee	CCXXIX
Bucket List	CXCI	Noumenon	CCXXX
Civilized Discrimination	CXCII	Nuclear Winter	CCXXXI
Crisis of Entitlement	CXCIII	OCD	CCXXXII
Dead Zone	CXCIV	Of Carnivores	CCXXXIII
Dementia	CXCV	Opulence	CCXXXIV
Desolate Places	CXCVI	Outer Limits	CCXXXV
Deviation	CXCVII	Pacific Rain	CCXXXVI
Discontinuity	CXCVIII	Passages	CCXXXVII
District X	CXCIX	Pendulum	CCXXXVIII
Elan Vital	CC	Phlegmatic	CCXXXIX
Elephant Envy	CCI	Pleasure Principle	CCXL
Endless Insurgency	CCII	Purblind	CCXLI
Extremophiles	CCIII	Red Shift Blue Shift	CCXLII
Face Cannibal	CCIV	Red Space	CCXLIII
Falling	CCV	Repression	CCXLIV
Famine, Pestilence & Death	CCVI	Resisting Nature	CCXLV
Fiersig	CCVII	Restoration	CCXLVI
Flight	CCVIII	Risk Takers	CCXLVII
Flirting with Aliens	CCIX	SDUI	CCXLVIII
Flower Children	CCX	Senseless People	CCXLIX

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Food Drive	CCXI	Smuggler's Blues	CCL
Four Temperaments	CCXII	Spontaneous Combustion	CCLI
Future Shock	CCXIII	Stained Glass Stories	CCLII
Galactic Prisoner	CCXIV	Strange Sun	CCLIII
GenDom	CCXV	Sycophant	CCLIV
In Our Puddle	CCXVI	Under a Wavering Eye	CCLV
Indifference of Ants	CCXVII	Universal Predator	CCLVI
Inertia	CCXVIII	Why Files	CCLVII
Irrationality	CCXIX	Winkle	CCLVIII
Itinerants	CCXX		
Type 2 Fundamental Realities			
Aggressive Greenery	CCLIX	Looking in the Mirror	CCLXXI
Artifact	CCLX	Lost World	CCLXXII
Baby Boomers	CCLXI	Mirror Race	CCLXXIII
Cliché	CCLXII	Old Rusty	CCLXXIV
Contact	CCLXIII	Planet Mother	CCLXXV
Crowding	CCLXIV	Prude	CCLXXVI
Dereliction	CCLXV	Refugee Crisis	CCLXXVII
Gemini Dream	CCLXVI	Second World	CCLXXVIII
Holodead	CCLXVII	Space Hulk	CCLXXIX
Hostage Situation	CCLXVIII	Spiral Stairs	CCLXXX
Late Bloomer	CCLXIX	The Undoo	CCLXXXI
Libraries	CCLXX	UFO-ology	CCLXXXII
Type 3 Fundamental Realities			
Axiom of Responsibility	CCLXXXIII	Malevolence	CCXCVIII
Birthright	CCLXXIV	Migration Urge	CCXCIX
Born Pregnant	CCLXXXV	Never Again	CCC
Broken Window	CCLXXXVI	Nothulhu	CCCI
Common Wealth of Systems	CLXXXVII	Open Secret	CCCII
Community Builders	CLXXXVIII	Outreach	CCCIII
Dirty Laundry	CCLXXXIX	Ozymandias	CCCIV

VERMIFORM APPENDIX – APPENDIX FR

Empty Nest, Empty Shell	CCXL	Prester John	CCCV
First Cause	CCXLI	Space Race	CCCVI
Hallowed Homeworld	CCXLII	Spectacle	CCCVII
Hausmannization	CCXLIII	State of War	CCCVIII
Horror Vacui	CCXLIV	Terra Australis	CCCIX
If You Have Face	CCXLV	Tutelary	CCCX
Kayfabe	CCXCVI	Tyranny of Threes	CCCXI
Krewl-T	CCXCVII		
Type 4 Fundamental Realities			
A Simple Proof	CCCXII	Kawaii	CCCXXV
Anthropomorphism	CCCXIII	Left & Right	CCCXXVI
Catastrophization	CCCXIV	Moocher	CCCXXVII
Claptrap	CCCXV	Ontological Obsession	CCCXXVIII
Conspiracy Theory	CCCXVI	Paranoid Delusional	CCCXXIX
Danse Macabre	CCCXVII	Pounding the Table	CCCXXX
Deadpan	CCCXVIII	Schadenfreude	CCCXXXI
DOOM	CCCXIX	St. Anger	CCCXXXII
Epic Interpretation	CCCXX	Stiff Upper Lip	CCCXXXIII
Evil Empire	CCCXXI	United Nations	CCCXXXIV
Girly Girl – Manly Man	CCCXXII	Vampires in the U.S. are Dying of AIDS	CCCXXXV
Housecat Happy	CCCXXIII	Vociferous	CCCXXXVI
Humblebrag	CCCXXIV		
Type 5 Fundamental Realities			
Judgment Day	CCCXXXVII	Simple Ripple – News You Can Use	CCCXLV
Neurotic Paradox	CCCXXXVIII	Simple Ripple – The Big Crunch	CCCXLVI
Night Capps	CCCXXXIV	Simple Ripple – Uber Check	CCCXLVII
Permutations	CCCXL	Triple Ripple – Falling Away	CCCXLVIII
Ripple Reformation	CCCXLI	Triple Ripple – Kodachrome	CCCXLIX
Rock the Boat	CCCXLII	Triple Ripple – The Great Vowel Shift	CCCL

VERMIFORM APPENDIX – APPENDIX FR

Simple Ripple – 6565	CCCXLIII	Triple Ripple – Three Witches	CCCLI
Simple Ripple – Half-life of Fruit Flies	CCCXLIV		

Truly Alien Fundamental Realities			
Truly Alien FR – Crack Up	CCCLII	Truly Alien FR – Ripples	CCCLV
Truly Alien FR – Frequency	CCCLIII	Truly Alien FR – Truly Generic	CCCLVI
Truly Alien FR – One Channel	CCCLIV		

Ancien Régime

“However, Louis XVI, his ministers, and the widespread French nobility had become immensely unpopular. This was a consequence of the fact that peasants and, to a lesser extent, the bourgeoisie, were burdened with ruinously high taxes levied to support wealthy aristocrats and their sumptuous lifestyles.” – from Wikipedia article, “Ancien Régime”

“Those who have not lived in the eighteenth century before the Revolution do not know the sweetness of living.”

– Charles-Maurice de Talleyrand-Périgord (aka Talleyrand)

Major: The Ancien Régime has ruled your civilization for a significant period (many generations) prior to the beginning of the game; it is intertwined with most aspects of your culture. If this Fundamental Reality is drawn, you cannot discard it. The old regime is tottering, inefficient, corrupt, and ready to fall. It is not a government for the new times and will need to be replaced either peacefully or by force. There will, of course, be old loyalists who are nostalgic for the old days and not in agreement with the new times.

Minor: The Ancien Régime has ruled your civilization for a significant period (many generations) prior to the beginning of the game; it is intertwined with most aspects of your culture. If this Fundamental Reality is drawn, you cannot discard it. The old regime is tottering, inefficient, corrupt, and ready to fall. It is not a government for the new times and will need to be replaced either peacefully or by force. There will, of course, be old loyalists who are nostalgic for the old days and not in agreement with the new times.

- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same. The difference is in the strength with which they will be applied (i.e. the drama of the fall) during the course of the game.
- ✓ Note: A position taking this Fundamental Reality should not be too attached to their starting Social and Estate Government Title choices. This Fundamental Reality invites early Concierge Interventions targeted (hopefully with some creativity) at causing failed Conflict Checks and Government Title disruption. Players thus, should not complain when it happens and should embrace it as part of the early game story.
- ✓ Note: This Fundamental Reality is attached mostly to the beginning of the game (thus, early game Intervention may be heavy-handed) and its immediate effect will fade over the course of the game unless it is considered that any Government Title that has been in power for more than 3-5 turns is an Ancien Régime... which allows continued churning of this Fundamental Reality.
- ✓ Note: The long-term effect of this Fundamental Reality will be to expedite the exhaustion of the Foresight, which will eventually be replenished with new potential Social and Estate Titles. It is also implied that the position is not democratic.

Possible Effects:

- The centre cannot hold...
- Early legitimacy failure/change of Government Titles
- Churning
- Replenishment of the Foresight

Ahistoricism

Major: Historically, your civilization has embraced ahistoricalism, a lack of concern related to history, historical development, or tradition. Your civilization is generally of the view that history has no relevance or importance in the decision making of daily life. While there are some interesting arguments for ahistorical view, and certainly some situations where it would seem to be an advantage, historians suggest that it is not supported by historical analysis. But nobody listens to them. ‘Cuz they are historians.

Minor: Historically, your civilization has embraced ahistoricalism, a lack of concern related to history, historical development, or tradition. Your civilization is generally of the view that history has no relevance or importance in the decision making of daily life. While there are some interesting arguments for ahistorical view, and certainly some situations where it would seem to be an advantage, historians suggest that it is not supported by historical analysis. ‘Cuz they are historians.

- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same. The difference is in the strength with which they will be applied during the course of the game.

Possible Effects:

- Fundamental Realities
- Proficiencies
- Enlightenment
- Diplomacy
- Past News Events
- The Expose’

Alien Nation

Major: Your civilization actually represents two intelligent, technologically advanced but distinct starfaring species (Major Native Population Types) that evolved in parallel on the same Homeworld. These two species are symbiotically dependent on each other but have not always peacefully co-existed. Absence of one or the other species from the population has historically had a devastating effect. The Public Space of your civilization represents both species together, but some attributes may be more attributable to one or the other.

Minor: Your civilization actually represents two intelligent, technologically advanced but distinct starfaring species (Native Population Types) that have learned peaceful co-existence and become politically and culturally united. The Public Space of your civilization represents both species together, but some specific parts may be more attributable to one or the other.

Possible Effects:

- Census
- Colonization
- Government Titles
- First Contact
- Johns and Mollys

Alienation

Major: There is something about your species that is universally considered repulsive by every other intelligent (whether starfaring or not) species encountered. The degree of subliminal visceral repulsion seems to be directly related to the individual intelligence and sensory level of the opposing aliens. Proximity of large numbers of your species and/or intelligent individual aliens seems to multiply the problem. The type of sensory organs employed by the aliens is irrelevant, the repulsiveness goes beyond the sensory input and does not seem to wane in force.

Minor: There is something about your species that is universally considered repulsive by every other intelligent (whether starfaring or not) species encountered. The degree of subliminal visceral repulsion seems to be directly related to the individual intelligence and sensory level of the opposing aliens. Proximity of large numbers of your species and/or intelligent individual aliens seems to multiply the problem. While your species is repulsive in an extra-sensory way, continuous proximity does seem to gradually reduce the effect, that is, other species may grow to like your people or not notice the repulsion after continuous contact for long periods of time (like when you no longer notice a room smells bad after you have been there for awhile).

Possible Effects:

- First Contact
- Diplomacy
- Conversion/Naturalization
- Balkanized Planets
- Trade

Antimicrobial Resistance

“Antimicrobial resistance occurs when microorganisms such as bacteria, viruses, fungi and parasites change in ways that render the medications used to cure the infections they cause ineffective. When the microorganisms become resistant to most antimicrobials they are often referred to as ‘superbugs.’ This is a major concern because a resistant infection may kill, can spread to others, and imposes huge costs to individuals and society.”

– from World Health Organization online Q&A, “What is antimicrobial resistance?” July 2017

Major: Microbes that infect your species have developed resistance to every drug treatment devised and always seem to be one evolutionary step ahead of the medical profession. Injected nanobot treatments have not always been effective. The microbes may be evolving into an intelligence of sorts. Periodically, antimicrobial resistant epidemics or outbreaks occur. Is there an intelligence behind it? Diaspora from the Homeworld was driven in part by a desire to escape the homeworld microbial environment, but may also bring woe to the galactic space.

Minor: Microbes that infect your species have developed resistance to every drug treatment devised and always seem to be one evolutionary step ahead of the medical profession. Injected nanobot treatments have not always been effective. Periodically, antimicrobial resistant epidemics or outbreaks occur. Diaspora from the Homeworld was driven in part by a desire to escape the homeworld microbial environment. It has not worked effectively, Stardrive may be to blame.

- ✓ Note: Most future interstellar science-fiction settings assume (for extremely convenient reasons) that science has defeated all microbial diseases (unless necessary for the plot). This helps to gloss over the troubling problems of reciprocal exposure to alien microbes (or a science-fiction repeat of the smallpox epidemic among Native Americans). Players are asked to assume the opposite with regard to this Fundamental Reality for this position in the game.

Possible Effects:

- Alien microbial infection
- Epidemic, Pandemic, Outbreaks
- Balkanized Planets
- Minor Races

Aspirations of Godhood

“Which leads to an obvious conclusion: We are the gods now.”

– Peter Weyland, Prometheus (2012)

Major: The elite of your species aspire to godhood, often in the most literal sense. Their aspirations and actions are not always in the best interest of either the species or the current government. But, that’s godhood! As far as anyone knows, all have failed to attain the elusive ‘godhood,’ but have caused much destruction, mass misery and bad fortune, or at least, official embarrassment, by their actions. Occasionally, one of them achieves something ingenious or useful on their way to ‘godhood.’

Minor: The elite of your species aspire to godhood, often in the most literal sense. Their aspirations and actions are not always in the best interest of either the species or the current government. But that’s ‘godhood.’ As far as anyone knows, all have failed to attain the elusive ‘godhood,’ but have caused much destruction, mass misery and bad fortune, or at least, official embarrassment, by their actions. Occasionally, one of them achieves something ingenious or useful on their way to ‘godhood.’

- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same; the difference is the success of the government in keeping these elites in check.
- ✓ Note: ‘Godhood’ has a number of varying definitions; the use here is generally pejorative. This Fundamental Reality makes no comment on whether the position practices official deification or Imperial Cult.

Possible Effects:

- Entropy
- Colleges
- Technology
- Orbital Bombardment
- Conquest of Aliens (you know, the usual hegemonic stuff)
- Combat Retreats
- Doghood

Balkanized Homeworld

Major: Your species has never achieved global government or even agreed on any global authority for system space and interstellar expansion. More so than most, your political system is a hodge-podge of competing traditional states, corporations, criminal syndicates, virtual realities, microstates and authorities. This position must choose the Confederation Structural Government Title to begin the game and likely will not be able to change it during the course of the game.

- ✓ Note: It is a generally unstated assumption of the game that positions enter the game with a globalized central political and military authority, even when choosing the Confederation Structural Title. This illusion is necessary for the way that Government Titles are presented; they must be seen as at least a unified central authority, though not monolithic. The government of this position will be treated the same as any other positions, but with more opportunity for entropy due to fiercely competing, independent factions.
- ✓ Note: This Fundamental Reality is only available to positions that begin the game in Galactic Space, that is, the Homeworld, Lost Colony, and Outposter Primal States. In the case of the Outposter Primal State.

Possible Effects:

- Entropic Effects
- Must choose Confederation Structural Title
- Unlikely to change Structural Title during game
- Constant low-level insurgency
- Policing and security
- Colony Drift
- Political paranoia

Barbary

“In the 17th century piracy was just another part of diplomacy.”

– The History Guy (Lance Geiger), “Jamestown Settlers versus Spanish Pirates,” YouTube Video, January 21, 2019

Minor: Pirates, from your own Native Population Type, demand payment for tribute and protection, so that they can continue enjoying their ‘freedom’ from oppression. If they are not paid regularly, they may attack your colonies, shipping and orbital facilities. Further, it has been communicated to your government that any attempt to build warships will lead to an attack, sabotage or reprisals before the ships can be completed.

- ✓ Note: This Fundamental Reality is only available to positions that begin the game in the Galactic Space, that is, the Homeworld, Lost Colony and Outposter Primal States.
- ✓ Note: The piracy is controlled by the Concierge. Obviously, the pirates must be located in systems where the homeworld and/or colonies are located to start the game. The pirates probably do not have stardrive or starships, but that is up to the Concierge to determine, based on the story and starting positions.
- ✓ Note: The United States paid \$1 million per year tribute, ransom and protection money to the Barbary Pirates between 1786 and 1800 on the advice of European powers who could not defeat them. This ranged between one sixth and one tenth of the federal budget during those years, paid over to pirates! This ended with the Barbary War. Thus, this is a problem that may eventually ‘go away’ during the course of the game, as suits the story, or it may morph into something else (there are states on Earth ruled by criminal cartels).

Possible Effects:

- Early Piracy Interventions
- Payment of significant RPs as tribute
- Story hook
- Interstellar Law

Better Part of Valor

Major: Your species comes into space with no military or naval traditions (perhaps your world has no large bodies of liquid). This is not to say that discipline, or concepts of organization, command and control, or hierarchy don't exist, as those developed by other means, such as business, government, social and community organizations. Additionally, this does not indicate that violence and conflict are not known, or police or security forces. Rather, large scale violence, for any purpose, was never given the sanction of civilization or backed by the industrial and organizational might of nations. War is considered illegitimate.

Minor: Your species comes into space with no current military or naval traditions (perhaps your world has no large bodies of liquid) but does have a strong ongoing policing tradition. Discipline, and concepts organization, command and control, or hierarchy are developed by other means, such as business, government, social and community organizations. Largescale violence, for any purpose, was successfully banned in ancient times.

Possible Effects:

- Combat Power Activations Second Checks
- Doctrinal Templates
- Combat related Existential Patents
- First Contact
- Combat College
- Shipbuilding

Bucket List

Major: ‘Everything dies, everything turns to dust.’ Your species enters Galactic Space ‘knowing’ that they have only a limited time before physical extinction. What will you accomplish, what will be your legacy? What is on your ‘bucket list’? Will anyone care?

- ✓ Note: It is recommended that a position that takes this Fundamental Reality be limited to 100 Power Activations during the game. This is enough to last perhaps, 20 to 30 turns. Positions who take this Fundamental Reality are expected to refrain from ‘turtling’ during the game; this limited time is to be played with gusto!
- ✓ Note: Other players should not be aware of the limitation imposed by this Fundamental Reality.
- ✓ Note: Being limited to a set number of Power Activations is a very Major Operational limitation; therefore there is no Minor form. The Concierge can adjust to a shorter period if necessary.
- ✓ Note: The cause and nature of the physical extinction is unknown, and within the cosmic control of the Concierge, and should be a major story element in the game.

Possible Effects:

- Power Activations
- Everything the position does in the game
- Physical Extinction
- Bad Wolf

Civilized Discrimination

Major and Minor: “Moved by the understanding that purity of Interstellar Civilization is the essential condition for the continued existence of the Star-belly Peoples, and inspired by the inflexible determination to ensure the existence of the Interstellar Civilization for all time, the Martian Reichstag has unanimously adopted the following law, which is promulgated herewith:

No persons, firms, Corporations or Megacorporations, who or which furnish meals to passengers at Space Port restaurants or food dispensers, in times limited by common carriers of said passengers, shall furnish said meals to Star-bellies and Human passengers in the same room, or at the same table, or at the same counter.”¹

- ✓ Note: This Fundamental Reality departs from the normal presentation format. However, unless you have been living under a rock in Antarctica, you’ll get the point. *Both Major and Minor forms are available for this Fundamental Reality.*
- ✓ Note: This Fundamental Reality addresses long-standing, pre-game ‘irrational’ and systemic or institutional discrimination by the position’s native population against a significant portion of the population of the position’s own Native Population Type. It does not reflect legitimate discrimination such as determining the most qualified person for the job on merits, or legal discrimination against those who harm society by committing crimes or are a danger to themselves or others by virtue of mental deficiency or minor age.
- ✓ Note: The practical operational effect of discrimination is to marginalize and reduce or displace the economic, social and cultural contributions of the inferior group. Bluntly, a civilization where irrational discrimination exists is ‘not firing on all cylinders.’

Possible Effects:

- Reduced production
- Legitimacy
- Colony Capture and Conversion
- Diplomacy
- Entropy
- Pragmatic Ethics

¹ Adapted from the high-handed preambles to the famous 1935 Nuremburg Laws and the famous South Carolina “lunch counter” Jim Crow Law.

Crisis of Entitlement

Major: The old world is out of resources. Through limited resource production, synthetics, and intense recycling, and using geothermal, wind, and other natural energy sources, your Homeworld produces just enough to support domestic subsistence at the levels where your population begins the game. Population growth threatens to strain the system; Taxation (as the term is used in the game) is necessary to go into space and find resources, but dips into the domestic subsistence (no Writ or Writ activation is required for this on the Homeworld only) without provision of external resources.

Minor: The old world is out of resources. Through limited resource production, synthetics, and intense recycling, and using geothermal, wind, and other natural energy sources, your Homeworld produces slightly more than needed to support domestic subsistence at the levels where your population begins the game. Population growth threatens to consume this precious little excess; Taxation (as the term is used in the game) is necessary to go into space and find resources, yields little unless some is taken from the domestic subsistence.

Possible Effects:

- Cargo Ships
- Taxation
- Census
- Emigration
- Malthusian Catastrophe
- Soylent Green

Dead Zone

Major: At some point in the past, your civilization took a radical turn. This turn blocked off or buried an entire area of species perception, awareness and historical memory such that the Public Space received for this Fundamental Reality is partially inaccessible during the game.

- ✓ Note: The Public Space represents the ‘shape of reality’ experienced by your species as well as a place of public discourse of civilization. The ‘missing’ Public Space is something your ancestors could see, but the current population of the species cannot. Literary examples might include uchronian histories, such as Hyborian Age or Middle Earth, fantasy settings where magic is fading from the world to be replaced by technology; or even radical science-fiction settings such as Dune. Except that the current species doesn’t even remember because the current perception of reality is all they know, like an amnesia story where the main character doesn’t know he has amnesia. What might have we forgotten?

Possible Effects:

- Reduced Public Space
- Reformation
- Kairotic Moment

Dementia

“You forgot the last time. You remembered the fear and you put it into fairy stories. It’s a human superpower, forgetting. If you remembered how things felt, you’d have stopped having wars. And stopped having babies.” – Dr. Who, “In the Forest of the Night” (2014)

Major: The invention of Stardrive subtly changed some unknown quality in the universe that was important to your species. Your species has suffered from periods of collective dementia, directly traceable to the date of the invention, wherein your people ‘forget’ important parts of your Public Space for periods of time. This effect is not limited to those on starships, rather, it ‘runs through’ your civilization, including all Native Population Factors located on planets, the Homeworld, or wherever they may be in the universe.

Minor: The invention of Stardrive subtly changed something in the universe that was important to your species. Your species has suffered from periods of collective dementia, directly traceable to the times and proximity of any starship at any Native Colony. This effect is not limited to those on starships, rather, it ‘runs through’ all Native Population Factors located on planets where starships have visited recently.

Possible Effects:

- Constructural Elements
- Expanded Galactic Space, contracted Public Space
- Movement
- Taxation
- Order
- Diplomatic Space
- Reformation

Desolate Places

“The English have a great hunger for desolate places...I think you are another of these desert-loving English...No Arab loves the desert. We love water and green trees. There is nothing in the desert. And no man needs nothing.” – Prince Faisal, Lawrence of Arabia (1962)

Major: Your species has an unusual ‘migration urge’ to colonize ‘desolate places,’ i.e. Hostile and Unpleasant Class Planets. Space, of course, is the ultimate desolation, but is somehow, not quite the same as colonizing a Hostile or Unpleasant planet. This urge is not limited to Hostile or Unpleasant Planets that are also Special Planets.

Minor: Your species has an unusual attraction or interest in colonizing ‘desolate places,’ i.e. Hostile and Unpleasant Class Planets. Space, of course, is the ultimate desolation, but is somehow, not quite the same as colonizing a Hostile or Unpleasant planet.

- ✓ Note: This Fundamental Reality implies that the position must make a special effort to colonize Hostile and Unpleasant Class Planets. This Fundamental Reality could also have been classed as a Type 3.

Possible Effects:

- Legitimacy
- Colonization
- Exploration
- Technology
- Census

Deviation

Major: Biological deviation of a few individuals is called mutation; deviation of entire populations is called evolution! Early in the age of colonization and exploration of the Homesystem, it was discovered that some Friendly Colonies had an unexpected capacity for significant and seemingly spontaneous population-level biological deviation when away from the Homeworld.

The mutated populations are not quite a new species, not quite alien, but not quite the same people as those left at home. Attempts to reintegrate mutant populations by mixing and reproducing with natural Homeworld populations proved disastrous, resulting in the fall of Governments. Medically reversing the mutations has similarly proven impractical.

Minor: Biological deviation of a few individuals is called mutation; deviation of entire populations is called evolution! Early in the age of colonization and exploration of the Homesystem, it was discovered that a few Friendly Colonies had a rare, unexpected capacity for significant and seemingly spontaneous population-level biological deviation when away from the Homeworld. The mutated populations are not quite a new species, not quite alien, but not quite the same people as those left at home. Pre-colonization medical screening and treatments have been mostly successful in limiting the effects, however, it can still happen, unexpectedly, and cannot be reversed once a population is ‘afflicted.’

Possible Effects:

- Colonization
- Expansion
- Reformation
- Public Spaces
- Entropy, discrimination
- Medical Proficiency
- Frontier Drift

Discontinuity

Major: Can you imagine not being able to remember parts of your life? What if, in fact, they never existed and therefore, no one else could remember them for you? And then suddenly they did exist? Yeah, it's been that kind of day. From time to time, parts of your species being just 'disappears' from collective memory, or maybe just isn't there. Then it comes back. Further, wherever large numbers of your people are gathered (as in a colony), a slight temporal disturbance occurs in the system space, making entry into and exit from the system 'slowed,' as if near an event horizon.

Minor: Can you imagine not being able to remember parts of your life? What if, in fact, they never existed and therefore, no one else could remember them for you? And then suddenly they did exist? Yeah, it's been that kind of day. From time to time, parts of your species being just 'disappears' from collective memory, or maybe just isn't there. Then it comes back. Like it was always there.

- ✓ Note: All Fundamental Realities should be active to begin the game. Discontinuity sometimes causes a Fundamental Reality to 'not exist' or become inactive for game purposes and applies best to Types 2, 3, and 4 Fundamental Realities; it should be used with care when applied to Types 1 and 5 Fundamental Realities. At some unpredictable point, the discontinuity 'snaps back' and the Fundamental Reality suddenly becomes active.
- ✓ Note: This Fundamental Reality could have Type 4 effects in the game, but is Type 1 because of its concrete operational effects on Fundamental Realities and Galactic Space.

Possible Effects:

- Fundamental Realities
- Public Space
- Schizophrenia
- Mayhem
- Non-permanent, transient Temporal Disturbance Modifiers

District X

“Xenophobia and racism often overlap, but they also differ because the latter is based on physical characteristics while the former is based on the perception that the other is foreign to the community or nation or originated outside it.”

– from Wikipedia article, “Xenophobia,” May 20, 2020

Major: Your species has a xenophobic streak. There are broadly, two possible types of xenophobia, cultural and physical. Cultural xenophobia is a fear of contamination by foreign cultures and ideas, and is quite familiar to the history of humanity. Physical xenophobia toward alien forms has been an underlying assumption of most science-fiction xenophobia. Whatever the cause, both have the same effect: territory, resources and safety. Long term exposure to aliens, especially sapient, intelligent, organized, or technologically advanced aliens, makes the xenophobia worse, not better.

Minor: Your species has a xenophobic streak. There are broadly, two possible types of xenophobia, cultural and physical. Cultural xenophobia is a fear of contamination by foreign cultures and ideas, and is quite familiar to the history of humanity. Physical xenophobia toward alien forms has been an underlying assumption of most science-fiction xenophobia. Whatever the cause, both have the same effect: territory, resources and safety. Long term exposure to aliens, especially non-threatening non-sapient or technological aliens, tends to eventually relaxes the xenophobia.

- ✓ Note: This borders on a ‘Supra-Legitimacy’ Type 3 Fundamental Reality depending on interpretation. Is the xenophobia subliminal in the population or is it openly tied to government legitimacy through a paranoid-level security expectation?
- ✓ Note: It is possible to have ‘non-science-fiction xenophobia’ – so the distinction is historically valid. Physical xenophobia is closer to racism and speciesism, both blurring into a common feature in space-opera fiction.

Possible Effects:

- Balkanized Colonies
- Diplomatic Spaces
- Commerce with Aliens
- Technology
- Colony Conquest, Conversion and Naturalization
- Orbital Bombardment Combat
- Extinction

Elan Vital

Major: The vital impetus to reproduction in your species is migration. The arrival of strangers, people from other places, who settle in the area (not just visitors), triggers reproductive activity. Conversely, isolated pockets of population, even if reproductively viable, will die off over time, or migrate elsewhere.

As the population of your homeworld grew and cultural exchange homogenized into a global culture, it was noted that the vital impetus diminished and less young were born to each generation. Eventually, it was feared, the species would perish entirely. Various methods were devised that attempted to reinvigorate the reproductive drive of the species, but were mostly unsatisfactory. The Census Power vanished slowly. The species gained new life when system colonies were established; suddenly, the arrival of new emigrants from Homeworld would trigger reproductive activity at the colonies. The future of the species was diaspora!

- ✓ Note: The normal Census Power activation only triggers population growth at large populous colonies (where migration can occur on the planet) and even there at a reduced rate. A Census Power activation is triggered locally (without extra costs) when Unloading new population onto an existing colony, at that colony only (an ‘emigration bonus’).
- ✓ Note: It is not allowed to Load and then Unload Population back to the same colony to trigger the population growth. That’s cheating.
- ✓ Note: The Concierge will determine the level of population required for a ‘large colony’ and the amount of reduction of growth from Census and the local Census effect of Unloading new population.
- ✓ Transfer of population to and from colony ships to orbital cities does not count.

Possible Effects:

- ‘Emigration Bonus’
- Unload Population
- Census
- Constant Stirring of the Gene Pool
- Stagnate Waters

Elephant Envy

Major: Your species is ‘blessed’ with an extremely long gestation cycle. It seems to have increased since prehistoric times. The result is that population growth from activations of the Census Power appear 1-3 turns afterward. The Concierge will determine when to add the new population factors. This will be true regardless of who owns the colonies where your Native Population Type resides, as long as they can be affected by the current owner’s Census Power Activation.

Minor: Your species is ‘blessed’ with an extremely long gestation cycle. It seems to have increased with the advent of Stardrive. The result is that population growth from activations of the Census Power appear 0-2 turns afterward. The Concierge will determine when to add the new population factors. This will be true regardless of who owns the colonies where your Native Population Type resides, as long as they can be affected by the current owner’s Census Power Activation.

- ✓ Note: The variable time should be determined by a die roll. The die roll is necessary because of the indeterminate time passage represented by each Regular Turn of the game.
- ✓ Note: The Minor version of this Fundamental Reality only comes into effect after the species invents Stardrive. It offers an interesting pregame and early game choice for positions that begin without Stardrive.

Possible Effects:

- Census Power
- Taxation
- Conversion/Naturalization

Endless Insurgency

Major: Your species has an endless insurgency; there has never been universal acceptance of any government, institution, arrangement, or solution to any problem, and the normal predictable recourse of the very dissatisfied is an insurgency in an attempt to destabilize the government by means illegal to that government. Change of governments always lead to more insurgency, because one man's terrorist is another man's freedom fighter. Insurgency lends impetus to factionalization and extremism, to a point where rebellion is for its own sake.¹ Weakened and distracted government control, and the supply needs of insurgents makes them bedfellows with organized crime. And when those aliens come and conquer the planet, there is already an organized, well trained insurgency waiting for them. Insurgencies hang around because they are useful.

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- ✓ Note: If you are trying to institute an insurgency, the government already considers you criminals. As 'criminals' the insurgents are somewhat freed from the restraints of their society and thus have a link to organized crime.
- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same, the difference is the strength with which they will be applied. For example, the Major form of this Fundamental Reality could be borderline civil war and/or almost full open rebellion; the minor form would represent terrorist attacks by extremist groups who are supported by some of the population.

Possible Effects:

- Special Operations
- Entropy
- Legitimacy
- Security/Police Proficiency
- Colony Conversion and Naturalization

¹ If you are rebelling, you are not free. Because those who rebel must always be opposite of or nearly opposite of what they are rebelling against. Therefore, their course is set, they cannot be what they want to be or could be. Rebellion is the illusion of freedom. Rebellion becomes its own self-fulfilling purpose.

Extremophiles

Major: The habitability requirements of your species is slightly narrower vis`-a-vis` the other species in the game. Generally, it will be very difficult to find Optimal Class planets and more difficult than average to find Hospitable and Habitable Class planets when exploring.

Minor: The habitability requirements of your species is slightly narrower vis`-a-vis` the other species in the game. Generally, Maximum Habitability for your species on newly discovered planets will be lower than expected.

- ✓ Note: This is physical and cannot be easily dodged. This Fundamental Reality requires a pre-game adjustment to the percentages for Habitability Class when exploring and is less subject to in-game Concierge Interventions than other Type 1 Fundamental Realities.

Possible Effects:

- Exploration
- Colonization
- Census
- Taxation
- Habitability Class
- Maximum Habitability
- Terraforming

Face Cannibal

Major: Your species history is filled with episodes of planned and un-planned violent psychotic (by the standards of other sapient species, that is) unprovoked attacks. Your religion and literature explain, encode and exonerate this fundamental nature of your species. Unprovoked attacks can be made by states and groups against others (massacres) or by individuals randomly. A key element in these attacks is that there is nothing to be gained, so since no one is committing a crime to gain materially, it is not considered either immoral or unethical. The experience is considered by some to be holy; the attacks can be regarded as cosmic or divine interventions or punishments.

- ✓ Note: This Fundamental Reality does not require unprovoked ‘violent psychotic’ attacks on other positions every turn. The ‘just because’ and ‘holy revelation’ attacks can be timed for the story arc, but they should never be coordinated with other positions or for any immediate benefit.
- ✓ Note: Coincidental and collateral benefits from an attack on another position are not in violation of this Fundamental Reality. However, attacks for gain should not appear as a pattern.
- ✓ Note: In the periods before, after and between psychotic breaks, your populations appear to be normal, pleasant, peaceful, even enlightened, sapient beings. Unless paired with a xenophobic Fundamental Reality, the attacks are not a form of xenophobia.

Possible Effects:

- Combat
- Internal and External Entropy
- First Contact
- Balkanized Colony Planets

Falling

Major: Your Homeworld has been ‘falling’ through various universes. It arrived in this universe a good long time ago and appears to have ‘come to a rest here.’ Finally, after horrific passages, your people have the hope that it has ended and they can go about colonizing and collecting resources in a new universe. But without knowing the reasons for the previous occurrences, there is no guarantee that those who leave for the colonies won’t be left behind if the Homeworld resumes ‘falling.’ It has happened before.

Minor: Your Homeworld has been ‘falling’ through various universes for a long time, dropping into a universe, staying for awhile, then suddenly disappearing and appearing in the next universe. Your scientists have finally developed an ‘anchor’ technology that will hold your Homeworld in place as long as it is maintained. After centuries of falling, your people now have a new universe where they can colonize and make a home.

- ✓ Note: When choosing this Fundamental Reality, the position must choose the Homeworld Primal State and may not choose another Fundamental Reality that requires a non-Homeworld Primal State.
- ✓ Note: The initial effect may be a difficulty in Loading populations to Colony Ships, the fear of being left behind in a strange universe. But in the analysis, it is really no different than other species colonization, if you leave home, you may never see it again. This is true also each day you leave for work and school.
- ✓ Note: If this position drops from the game, it can literally be ‘dropped’ from the game. Anyone who conquers the Homeworld may get an interesting surprise!

Possible Effects:

- Technology
- Colonization
- Technological Device (the Anchor)
- Loss of Homeworld during the game

Famine, Pestilence & Death¹

Major: Ancient embedded social customs, law and economics in your civilization mandate a system whereby members of a certain sex have an unnatural number of bound mates that results in others not being able to find, acquire, or afford a mate – in short, a certain percentage of the population that is unattached, resentful, frustrated, and not entirely supportive of the current social order.

Minor: Ancient embedded social customs, law and economics in your civilization mandate a system whereby members of a certain sex have an unnatural number of bound mates that results in others not being able to find, acquire, or afford a mate – in short, a certain percentage of the population that is unattached, resentful, frustrated, and not entirely supportive of the current social order.

- ✓ Note: This Fundamental Reality necessarily assumes that social custom has upset the ‘evolutionary stable strategy’ (ESS) with regard to reproductive pairings. It does not suggest in any way how many sexes the species has naturally, or what the natural ESS ratio might be for the species. Among humans, we have two sexes for reproduction, and an ESS ratio of 1:1 (Fisher Principle).
- ✓ Note: This Fundamental Reality does necessarily assume that there are in fact sexes in your species and that one or more of the sexes possesses a ‘sex drive’ for reproduction which can result in frustration and hostility. Thus, by looking (i.e., this Fundamental Reality), sexes and sex drive can be said to exist in the species.
- ✓ Note: This Fundamental Reality is probably most applicable to the Census and Order Power Activations. The gist of the Fundamental Reality is an endless source of ‘trouble’ caused by a population that cannot find suitable mates for reproduction; thus Intervention Potentials may be generated as part of the effect. This has been noted as a source of wars in pre-modern times.
- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same, however, the difference is how far and how widespread social custom has departed from the ESS with regard to reproduction.

Possible Effects:

- Order
- Census
- Intervention Potentials
- Entropy and Disruption
- Romantics

¹ Famine, Pestilence and Death are Ambassador Londo’s pet names for his three spoiled, aristocratic wives in Babylon 5, all the while sarcastically extolling the virtues of polygamous marriage. Without Babylon 5, this Fundamental Reality would have been named ‘Poly-something.’ Londo doesn’t have any children and rarely goes home, his wives are also rarely home.

Fiersig¹

Major: ‘Fiersig’ is a term used by your species to describe the sudden, seemingly random emotional changes that sweep over your populations. This is not a case of one or two individuals being moody, but rather, abrupt changes in the mass feelings of the native population that was first noted when population began gathering. Like a school of color changing fish that move and change in unison, the change has little to do with rational conviction or intellect.

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- ✓ Note: The most direct game device measuring the mood of the masses are Aspects in the Public Space. This Fundamental Reality may result in sweeping random changes in Aspects; some may be lost, or flipped over, or replaced. Native Populations not located in the Public Space may also be affected to the chagrin of their sovereign positions who have Naturalized colonies of this population type.
- ✓ The Concierge should control or randomly determine when Fiersig occurs. This should happen without explanation to any affected position.
- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same; the difference is the strength with which they are applied.

Possible Effects:

- Aspects
- Fuzzy Groups
- Zietrice
- Conversion/Naturalization

¹ This term was appropriated from Robert Holdstock’s Where Time Winds Blow (1981) which I read in the early 1980s. I am using the term in a different context here.

Flight

Major: Your species arrived in Galactic Space fleeing from an extreme existential threat. It was simply the most horrific encounter you could have imagined. Knowledge of the threat, and the reason for your flight, is widely spread through the population. Like an animal being stalked by lions, the slightest hint that the threat is present will cause panic and disorder among your Native Populations. The worse situation is to be trapped on a planet colony, and the government is expected to be on constant guard against the threat.

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- ✓ Note: This Fundamental Reality is only available to the Expedition Leader, Nomadic Warfleet, and Truly Alien Primal States.
- ✓ Note: A sharp loud thump or bang will send cats, especially semi-feral or feral cats, fleeing in different directions, especially when gathered to be fed; dishes and cat food go flying. Some form of this describes the panic of threat, above.
- ✓ Note: That from which you flee may, but probably won't, arrive in Galactic Space during the game; at the discretion of the Concierge and the story arc.
- ✓ Note: Other positions will not likely know this at the beginning of the game, but may eventually learn it through contact.
- ✓ Note: Existential threat does not equate to death or malicious intent. It also does not mean that your species will be automatically afraid of other species met in the game; compared to what you fled from, they are not much threat: Compared to a T-Rex or two or three, a pack of dogs is not much threat.
- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same; the difference is the strength with which they are applied.

Possible Effects:

- Entropy
- Migration
- Legitimacy
- Certain Aspects may be more prevalent

Flirting with Aliens

Major: Your species relationship with aliens depends in large part on the alien's resemblance to one or another of the sexes of your species, especially sexual paedomorphism. Upon First Contact, it must be immediately determined, probably on a scale of 1-10, the degree to which the alien species resembles the favored sex of your species. The result should affect all relations with the aliens, including Diplomatic Spaces.

Minor: Your species relationship with aliens depends in large part on the alien's general resemblance to one or another of the mature sexes of your species. Upon physical First Contact, it must be immediately determined, probably on a scale of 1-10, the degree to which the alien species resembles the favored sex of your species. The result should affect all relations with the aliens, including Diplomatic Spaces.

- ✓ Note: As a concrete example, humans might view more favorably, aliens who resemble 'elf-like' pubescent female humans (e.g., the Abh in Banner of the Stars). Humans, of all sexes and ages, show a slight preference for computer voices and recorded messages with female voices.
- ✓ Note: The Concierge will need to determine exactly how the operational effects play out over the course of the game and what the numbers on the scale represent with regard to Diplomatic Spaces and other cooperation or diplomacy. The position should also try to act the part as much as possible in-game (so this is a bit like a Type-4 Fundamental Reality). Interposition diplomacy is an area of the game where the Concierge has less tangible input or effect than most other areas of the game but this definitely should have an effect on any Meanings and Shared Meanings authored by the position.
- ✓ Note: This Fundamental Reality implies (by the fact of existing in the game) that your species has two or more sexes, that one sex is 'favored,' and that your species perceives the world through the lens of sexuality. Sort of like humans.
- ✓ Note: The feeling certainly might not be mutual, so this is more of a one sided infatuation kind of thing...

Possible Effects:

- Diplomatic Spaces
- Meanings and Shared Meanings
- First Contact
- Commerce and Mega-Corporations
- Special Operations
- Conversion and Naturalization of Colonies

Flower Children

Major: The vegetative-like reproductive cycle of your species involves an extended period during which the young are in a plant-like state, with roots extending into the soil, from which they grow into fully mobile adult individuals. This means that at any given time, a certain percentage of the population is immobile, as the young suffer trauma if moved during this time and must be cared for by adults in ‘gardens.’ The young tend to take on the ‘characteristics’ of the soil and place where they spend their planting period, and thus cultural and species deviation may develop, which is jealously guarded against by the adults. During the initial period of home-system exploration and colonization, a joyous discovery was made: There were others of your kind already on other planets. How they got there is a mystery, it seems they just blew there on the ‘cosmic wind.’

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- ✓ Note: This Native Population Type mirrors some Earth species that have classically been difficult to classify as either plant or animal, e.g., sea anemone, hydra, etc. of Phylum Cnidaria. The difference here is that this species has achieved advanced technological civilization and should not be automatically assumed to be a marine-like species, though they may prefer planets with ‘soupy’ atmospheres, e.g., science-fiction has imagined enormous jelly-fish like creatures in Jupiter.
- ✓ Note: A certain percentage of the population will be unavailable and may be deemed not taxable. It also means that a colony of this Native Population Type can never be fully evacuated.
- ✓ Note: All habitable planets of the Homesystem must begin the game colonized by the flower children who blew there on the cosmic wind. Whether this occurs in other systems once colonized is at the discretion of the Concierge.

Possible Effects:

- Colony Evacuation
- Low Population Colonies
- Census
- Expansion
- Taxation

Food Drive

“How about you? You still on Earth, or on the ship with me? Really doesn’t make very much difference, because sooner or later, all of us will be on the menu... all of us.”

– Mr. Chambers, Twilight Zone, “To Serve Man” (1962)

Major: It is very difficult to be friends with something that thinks you are dinner. Beyond basic true omnivore behavior, your species has a ravenous appetite for evolved, biologically complex species, which frequently means, species of advanced intelligence. Further, your reproductive cycle requires living hosts, for which purposes domesticated animals previously served during your pre-Starflight history. The first question that must be answered in First Contact is whether the other species is food; however, not all aliens are edible.

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- ✓ Note: The Lion and the Mouse. Humans do not normally think of pets as food, or food animals as pets, though both are equally chattels under the law. There is some blurring of the line though, on small farms, the milk cow often gains the attachment of a kind of pet, especially to the children. And some humans keep food animals, e.g., pigs as pets. In Looney Toons’ predatory parodies, well-known characters (e.g., Road Runner) are sometimes seen as walking dinner.
- ✓ Note: That not all alien species (i.e. the Major and Minor Races in the game) are edible provides a practical out so that the position can have a few ‘friends’ in the game. Diplomatic Spaces, Meanings and Shared Meanings should all be heavily predicated upon this division.

Possible Effects:

- Conversion and Naturalization
- Balkanized Colony Worlds
- Diplomacy
- Colony Conquest
- First Contact (dinner is served!)

Four Temperaments

Major: It is historically well noted that your species collectively displays four temperaments or ‘moods’ which phase from one to another, rotating in predictable order. The temperaments are sanguine (pleasure-seeking and sociable), choleric (ambitious and leader-like), melancholic (introverted and thoughtful), and phlegmatic (relaxed and quiet). During the period of each temperament, your civilization as a whole acts in the way of the prevailing temperament, no matter where they are located; they seem to ‘vibrate’ together to the same prevailing mood. The temperaments could be said to be the main or only Aspects of your species. Any change in the rotation order of the temperaments or interruption in the natural phasing of one to another has always been accompanied by upheaval and change.

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- ✓ Note: The Major and Minor form of this Fundamental Reality have identical wording; the difference is how strongly it will be applied to the position’s conduct in the game.
- ✓ The Four Temperaments are a medical-philosophical classification system developed in ancient times from Humorism. It is a proto-personality psychology worldview that dominated literature and plays for thousands of years.

Possible Effects:

- Aspects List
- Power Activations
- Writs
- Fuzzy Groups
- Expose’ News Events

Future Shock

Major: The invention of Stardrive and the beginning of the First Era caught the majority of your population by complete surprise; Stardrive was developed with the utmost secrecy, after an unannounced breakthrough discovery, and the changes wrought by new technology and/or massive population emigration has left your society strained and disconnected. *Changes are just happening too fast...*and while your civilization will eventually transition and settle into a comfortable 1st Era interstellar civilization, it could happen again whenever technological change occurs too quickly or with the advent of a new Era. Your people don't like change; they prefer tradition, stability, repetition.

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- ✓ Note: Despite all of the discussion, Future Shock is still a vaguely defined and hard to pin down term. Discussing Future Shock in our current worldview is like trying to closely examine the back of your head using two mirrors and a flashlight.
- ✓ Note: The description of the Major and Minor forms of this Fundamental Reality are the same. The difference is in the strength with which they will be applied during the course of the game.
- ✓ Note: This Fundamental Reality is only available to positions which begin the game with the Homeworld or Lost Colony Primal State. 'Do Not Disturb' sign on the door handle.

Possible Effects:

- Constructural Elements
- First Turns of the Game or any new Era
- Frequent Technology Power Activations
- Emigration (location change through colonization)
- Change in Government Titles

Galactic Prisoner

Major: Those who are properly educated know that, of course, there is no Truly Alien entity that actually controls the government and businesses of your civilization. The Truly Alien Entity idea is just a fantasy spread by the unenlightened who want to detract from the achievements of your people and distract from the problems of the world. The government, however, refuses to admit or deny the allegations of extradimensional tampering...

- ✓ Note from the Unenlightened: From prehistoric times to the present, a Truly Alien entity has been trapped or imprisoned within your civilization. Its only desire is to escape; however, it has need to exert control from time to time over parts of your civilization for unknown reasons or ends. Sometimes, it has seemed that the intervention has served only to amuse it, other times, it seems to be working toward an escape plan. Development of FTL drive technology is surely part of the plan.
- ✓ Note: At a few various times during the game, the Concierge may place Acts and Scenes where they are not desired by the position players and may involuntarily activate a Vital Power (instead of one desired by the position players) that has sufficient Acts and Scenes. There must be some operational effect during the game for this to be considered a Type 1 Fundamental Reality and that responsibility rests on the Concierge.
- ✓ Note: The Truly Alien being rarely or never communicates nor does it intentionally give anything of value to the civilization. It doesn't care.
- ✓ Note: Stardrive will probably not allow the Truly Alien essence to escape back to its home dimension or parallel universe, it may not even know where it came from originally. Whether the entity moves between colonies or what it actually does, or how much it is part of the game storyline, is for the Concierge to decide.
- ✓ Note: This Fundamental Reality is not available to the Truly Alien Primal State and does not relate to or receive any Truly Alien Fundamental Realities.

Possible Effects:

- Involuntary placement of Acts and Scenes
- Involuntary Power Activations
- Interventions for unknown purposes

GenDom

Major: A certain set of Cultural Traits, Power Activations, Fundamental Realities and/or Constructural Elements are closely associated with the dominant gender of your species and therefore, are disproportionately prominent and potent in your civilization. Likewise, a certain set of Cultural Traits, Power Activations, Fundamental Realities and/or Constructural Elements are closely associated with the least dominant gender of your species and are considered abhorrent and disgraceful even if occasionally necessary. Gender is not the same as sex, nor should it be assumed that your species has only two genders or biological sexes, or that the dominant gender is only associated with one sex in your species. The dominant gender and all things associated with it constitute the majority self-identity of your species.

Minor: A certain set of Cultural Traits and/or Constructural Elements are closely associated with the dominant gender of your species and therefore, are disproportionately prominent and potent in your civilization. Likewise, a certain set of Cultural Traits and/or Constructural Elements are closely associated with the least dominant gender of your species and are less frequently exercised. Gender is not the same as sex, nor should it be assumed that your species has only two genders or sexes, or that the dominant gender is only associated with one sex in your species. The dominant gender and all things associated with it constitute the majority self-identity of your species.

- ✓ Note: The classic historical examples of this range from warrior cults and war states (e.g., the classic perception of the Assyrians) to later male dominance hierarchies.
- ✓ Note: This Fundamental Reality implies that participants must determine which things 'belong' to the dominant gender and that those things must be truly dominant on the Public Space. The operational effect is to somewhat narrow options for Aspects and Proficiencies and the Writs, perhaps also certain types of technologies and Government Titles (e.g., Estate vs. Social, Unity vs. Confederation).

Possible Effects:

- Power Activations frequency
- Fundamental Realities strength
- Cultural Traits
- Government Titles
- Patents
- Constructural Elements

In Our Puddle

Major: The old planet is just not the same. Millennia of civilization or perhaps just a natural planetary aging progression have resulted in unstoppable catastrophic changes to the planet's former habitability glory. The origin planet is rapidly changing and will eventually become an Uninhabitable Class planet. Thus, your people must move out to space or find a technology to stop the change.

Minor: The old planet is just not the same. Millennia of civilization or perhaps just a natural aging progression have resulted in unstoppable catastrophic changes to the planet's former habitability glory. The origin planet is slowly changing, losing Maximum Habitability, and may eventually lose Habitability Class as well. Thus, your people must move out to space or find a technology to stop the change.

- ✓ Note: This Fundamental Reality may only be taken by positions who chose Homeworld or Lost Colony Primal States.
- ✓ Note: The degradation of the Homeworld is not instant and catastrophic. The Concierge should set a schedule, or a probability of loss of Habitability Class each Regular Turn and apply when necessary. The degradation is, however, irreversible at least with 1st Era technology; whether it can be reversed and restored later is for the game story.
- ✓ Note: The operational liability of this Fundamental Reality is the forced exodus and eventual loss of the Homeworld, which is the center of the starting position. Imagine evacuating the entire human population of the Earth over the course of a century or two? Seven billion people, plus all of their descendants for five or ten generations, no child left behind. We may need to do that someday soon...

Possible Effects:

- Homeworld Maximum Habitability Loss
- Homeworld Habitability Class Loss
- Industry
- Census & Taxation
- Colonization
- Load Population

Indifference of Ants

Major: Your species displays a marked and complete indifference to other lifeforms as you go about expanding into the universe unless they are either a threat or food or resource. This indifference is neither from a lack of intelligence or arrogance, it is merely a task-oriented indifference (your entire population may be Asperger's candidates). Within your civilization, your species fully reacts to and interacts with other members of the species.

Minor: Your species displays a marked and selective indifference to other lifeforms as you go about expanding into the universe. That is, some lifeforms are disregarded and ignored while toward others, your species shows keen notice and interest. This indifference is neither from a lack of intelligence or arrogance, it is merely a task-oriented indifference. Within your civilization, your species fully reacts to and interacts with other members of the species.

- ✓ Note: Like a combat medic who ignores enemy bullets and danger to rescue a wounded comrade....
- ✓ Note: This does not automatically imply that your Native Population Type are eusocial insects or mammals or anything else, zombies and robots in movies are portrayed often as being indifferent as described above, while also sometimes being highly intelligent.
- ✓ Note: Your species naturally displays the kind of one minded collective focus that it takes years to train in humans.

Possible Effects:

- First Contact
- Diplomacy
- Trade
- Mega-Corporations
- Exploration
- Colonization and Construction
- Combat

Inertia

“I am in fact a Hobbit (in all but size). I like gardens, trees and un-mechanized farmlands; I smoke a pipe, and like good plain food (unrefrigerated), but detest French cooking; I like and even dare to wear in these dull days, ornamental waistcoats. I am fond of mushrooms (out of a field); have a very simple sense of humour (which even my appreciative critics find tiresome); I go to bed late and get up late (when possible). I do not travel much.”

– J.R.R. Tolkien, Letter to Deborah Webster (1958)

Major: Whether the cause is evolutionary, biological, historical, social or political, there is a lack of initiative generally among your people resulting in delays or uneven implementation of Vital Power Activations. Even combat and necessary survival (or other automatic actions) may seem to be done lethargically and haphazardly at times.

Minor: Whether the cause is evolutionary, biological, social or political, there is a lack of initiative generally among your people resulting in delays or uneven implementation of Vital Power Activations. Self-defense in combat, actions necessary for survival, and most local ‘automatic’ actions (such as exploration) are generally unaffected.

- ✓ Note: There is much room for play here. Some interpretations might lead to Power Activations occurring a turn later, it might also eliminate ‘Second Checks’ for Power Activations initiating interstellar flight. It might also affect technology if discoveries are not followed up on until much later. The position players are going to issue actions and do whatever they do, it is largely the Concierge’s decision on how to implement this.
- ✓ “For every species bar one, Medieval Stasis is how the world works. Changes in technology and society take hundreds of years, and any existing alien civilization or elf kingdom today looks more or less the same as it did a century ago – or will in a century more. For most races in the setting, slow change is the norm. The great exception are humans.” – TV Tropes.com article, “Humans Advance Swiftly.”
- ✓ Note: On the other hand, there is almost never a panic stricken reaction...

Possible Effects:

- Delayed Vital Power Activations
- Combat Initiative/Seize the Initiative
- Exploration
- Writs
- Enlightenment
- Power Activation Failures
- Technological Development

Irrationality

“When a man asks himself what is meant by action he proves that he isn’t a man of action. Action is a lack of balance. In order to act you must be somewhat insane. A reasonably sensible man is satisfied with thinking.” – James A. Baldwin

Major: It was totally irrational to think that science and technology would surely lead to utopia and a rational citizenry. And neither will the invention of Stardrive. When finally confronted with the vastness of interstellar space and our insignificance, the response will range from art to madness.

Minor: It was slightly irrational to think that science and technology would surely lead to utopia and a rational citizenry. And neither will the invention of Stardrive. When finally confronted with the vastness of interstellar space and our insignificance, the response will range from art to madness.

- ✓ Note: This Fundamental Reality refers to a penchant for irrationality among the position’s Native Population Type. Irrationality comes in hundreds of flavors. The Concierge should determine a few forms of irrationality that universally afflict this particular population type, then determine how it affects the normal operation of the position and thereafter, apply them consistently and thoroughly throughout the game as circumstances dictate.
- ✓ Note: Is irrationality the same as being unreasonable? Participants will need to decide this in applying this Fundamental Reality to the game.
- ✓ Note: The term ‘irrational’ is usually viewed pejoratively in the modern world; however, there are some respected parts of our civilization who view it as least a necessary component of our being, and in many cases, a useful alternative to academic, enlightened and scientific society.
- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same; the difference is in the strength with which they are applied.

Possible Effects:

- Entropy
- Sudden course changes
- Pretty much anything in the game
- Insurgencies
- Murphy’s Law

Itinerants

Major: Hawkers, peddlers, vegabonds, vegarants, tramps, thieves, raiders – the many names of the itinerant populations. Your people are on the move, to where, for why, no one knows for certain. Late to the interstellar Mesopotamia, your populations enter the Galactic Space after the second Turn Cycle, and progress in the game is measured by the passage of our people through the *original* Galactic Space, to completely evacuate and exit at a point approximately opposite the point of entry. Exit does not mean exit from the game, as continued exploration will provide new star destinations with the expanding Galactic Space.

Minor: Hawkers, peddlers, vagabonds, vagrants, tramps, thieves, raiders – the many names of the itinerant populations. Your people are on the move, to where, for why, no one knows for certain. Progress in the game is measured by the passage of our people through the *original* Galactic Space, to completely evacuate and exit at a point approximately opposite the point of entry. Exit does not mean exit from the game, as continued exploration will provide new star destinations.

- ✓ Note: The Roma arrived in Eastern Europe centuries after the Great Migration and shortly after (in historical time) the retreat of the Mongols back to Ukraine. The progress of the Roma across Europe is a story of disruption, prejudice, corruption, discrimination, as will be the progress of this position across Galactic Space.
- ✓ Note: Non-entry of population into the Galactic Space does not preclude other appropriate Power Activations during the first two turns, it does not cancel the position's first two Regular Turns.
- ✓ Note: This Fundamental Reality does not preclude colonization or other normal activities in the course of the game. However, it is not a 'seeding space' position, the exit requirement is no 'one left behind' in the original Galactic Space.
- ✓ Note: Enforcement of this migration is up to the Concierge and the story arc of the game. What does it mean if the position's Native Population Type does not completely exit the original Galactic Space? What does it mean if the position isn't moving in the right direction? Or moving at all? There has to be some genuine honor on the part of the position players as to the dictates of this Fundamental Reality in the game, as the normal urge is to establish big permanent colonies.
- ✓ Note: This Fundamental Reality is only available to 'invader' Primal States.

Possible Effects:

- Exploration
- Migration
- Movement
- Diplomacy

Jynx-us

Major: If it wasn't for bad luck, we'd have no luck at all! As chance would have it, your species seems to run into more than your share of bad luck; the oddest strings of improbable events with ultimate bad endings. It is part of the caustic humor mindset of your species whose view is largely focused on the vagaries of life's chances and rolling the dice. Other Starfaring species with whom your species interacts will surely notice a 'bad vibe' around your people and note your cultural obsession with bad luck and chances.

Minor: If it wasn't for bad luck, we'd have no luck at all! As chance would have it, your species is prone to perhaps more than their share of odd strings of improbable events with ultimate bad endings. It is part of the caustic humor mindset of your species whose view is largely focused on the vagaries of life's chances and rolling the dice. Other starfaring species with whom your species interacts will surely notice your cultural obsession with bad luck and chances.

- ✓ Note: 'Stupidity' has open season your species. The operational effect of this Fundamental Reality must be numerous and tragic Concierge Interventions to create 'bad luck' in addition to normal bad luck in the course of the game.
- ✓ Note: There is some question as to whether this position can benefit from Enlightenment rerolls? Perhaps the extraordinary back luck can simply be explained by the lack of Enlightenment rerolls even when the position has Enlightenment?
- ✓ Note: This is capable of being played like a Type 4 Fundamental Reality, except that it has real operational effect in any situation involving a die roll or chance.

Possible Effects:

- Combat
- Enlightenment rerolls
- Exploration
- Colonization
- Diplomacy
- Any other events requiring a die roll
- Murphy's Law
- Just about any classic country song or trucker's song

Kindred

Major: In kindred we trust – as long as it's not important. Your species shares one Fundamental Reality with each other position starting the game, up to the limit of Fundamental Realities allowed. The Concierge will choose the Fundamental Realities and will not inform the players of this position which other positions have those Fundamental Realities. Contradictions are allowed, but the Concierge has full ability to assemble an interesting set of Fundamental Realities for this position.

- ✓ Note: Type 2 and 5 Fundamental Realities should not be chosen by the Concierge unless necessary. Type 4 Fundamental Realities are still limited to one for this position.
- ✓ Note: If a position chooses this Fundamental Reality, no other Fundamental Realities are chosen by the position. All prerogatives are surrendered to the Concierge to shape the story arc.

Possible Effects:

- Diplomacy
- Diplomatic Space
- Xeno-cultural Intelligence

Love

*“What’s love got to do, got to do with it?
What’s love but a second hand emotion.”*

*“What’s love got to do, got to do with it?
What’s love but a sweet old fashioned notion?”*

– Tina Turner, “What’s Love Got to Do With It” (1984)

Major: Love (or whatever you call it) is not associated with reproduction in your species - rather it is the opposite. There really is no concept of family as humans know it based on kinship of genetic relations and marriage. This is not to say there is no concept of love or bonding (even parental bonding), but it’s different. As such, reproduction times are the times of mass social entropy; damaging things tend to happen whenever the Census Power is activated.

Minor: Love (or whatever you call it) is not associated with reproduction in your species. There really is no concept of family as humans know it based on kinship of genetic relations and marriage. This is not to say there is no concept of love or bonding, but it’s different, rather platonic or paternalistic. As such, reproduction times are the times of social entropy; strange events tend to happen whenever the Census Power is activated.

- ✓ Note: Expect some bad things to happen when the Census Power is activated by the position controlling your Native Population Type. What those are is up to the Concierge, but some pattern should be established.
- ✓ Note: The losses in relation to the Census are in addition to the loss of Proficiencies on the Public Space due to generational turnover.
- ✓ Note: Can a position afford not to activate the Census Power several times during the game? Additionally, inactive Constructural Elements due to *apostasy* require activation of the Census Power before Cohesion.

Possible Effects:

- Census
- Naturalization
- Chaos

Metacommunication

Major: Your species evolved the ultimate metacommunications tool: telepathy. During person to person communication in any form, the communicators involuntarily broadcast and receive telepathic signals echoing and adding content to the communication. Nobody really thought anything of it or noticed it until the invention of Stardrive; prior to that, it was just ‘normal’ supra- or subliminal communication.

Apparently, your species has been broadcasting massive uncontrolled telepathic content into space for its entire existence, and these broadcasts travel great interstellar distances, and may contain a temporal effect as well, allowing them to propagate at FTL. Any species that has achieved Stardrive is capable of intercepting and learning to understand these broadcasts, even if they cannot themselves broadcast.

Minor: Your species only natural means of person to person communication is by actively signaling with limbs and tentacles using the native ‘sign language’ of body touching. Your species is ‘deaf’ and ‘blind’ to electromagnetic waves and sound waves (possibly your homeworld has thin air and low gravity) but does have ground vibration sensitivity and other means to determine their surroundings. After the invention of Stardrive, it was discovered that your species naturally broadcasts telepathically a ‘communal music’ (perhaps like a whale song) that communicates mood and other types of information about the state of the community. These broadcasts are supra- or subliminal stimuli to members of your species and the constant presence of the Muzick is required for social and mental well-being of individuals.

- ✓ Note: The Major form of this Fundamental Reality is only available to Homeworld and Lost Colony positions.
- ✓ Note: To develop a technical ability to read these ‘broadcasts’ the other species must have reason to suspect, or firm knowledge that they exist and the ability to experiment with them. How this comes about might be part of the story, and certainly requires some diligence by other positions and strong contact situations.
- ✓ Note: There are many possible effects for this metacommunication, and it must be given an effect on the game in order to be a Type 1 Fundamental Reality. The participants must choose a couple of possibilities and apply them consistently.

Possible Effects:

- Diplomacy
- Aspects
- Special Operations
- First Contact
- Surveillance and Information Operations
- Cohering

Makers Fakers & Takers

Major: “No matter where or what, there are makers, fakers and takers.” – Robert Heinlein

- ✓ Note: It will be up to the Concierge and the position players to interpret and develop the meanings of “makers,” “fakers” and “takers” through the course of the game. The English-language dictionary is a good starting point; jot down some key words for each “aspect.”
- ✓ Note: A possible implementation of this Fundamental Reality would require the position to rotate through “makers,” “takers,” and “fakers” personas on a regular basis, operating accordingly during each period, regardless of outside events, Government Titles or other factors.
- ✓ Note: This Fundamental Reality has an operational effect because it requires or may require a position to play or act in a way that the players may not desire or find optimal in a given situation. By taking this Fundamental Reality, the players of a position understand and will honor the operational imposition.

Possible Effects:

- Make other positions really mad at your guys
- This could be fun ... sort of
- Smile politely while taking or faking

Nationalist Rhetoric

Major: Ultra-nationalist, ethno-nationalist rhetoric, usually of the angry and manipulative sort, dominates the public conversation; it is something in the fundamental psychology of your species that probably cannot be changed. The government is not always the source, nor does the government always control the level of rhetoric. Frequently, the rhetoric is directed against the government by break-away groups. Tensions between groups are always high, frequently erupting into conflict until someone else restores order. No one is ever satisfied.

Minor: Nationalist and factionalist/party rhetoric, usually of the offensive sort, dominates the public conversation; it is something in the fundamental psychology of your species that probably cannot be changed. The government is not always the source, nor does the government always control the rhetoric. Frequently, the rhetoric is directed against the government by break-away groups. Relations between groups are always tense, sometimes erupting into conflict until someone else restores order. Peace may last for a generation.

- ✓ Note: The position taking this Fundamental Reality should be required to have the Confederation Structural Title and probably cannot change Structural Title during the course of the game.
- ✓ Note: A perpetually unhappy people filling their Void with angst and Balkanizing conflict never ending; perhaps an extreme fictional example is the Skeksis from *The Dark Crystal* (1982). What makes it fundamental is that it is an unchanging trait of the species; think about how much progress we have made in ridding humanity of violent conflict, prejudice and discrimination? And how long it has been going on? This Fundamental Reality is in the same vein.

Possible Effects:

- Confederation Structural Title
- Patriotism
- Entropy & material destruction
- Factionalized government
- Never a passive acceptance of government legitimacy

Natural Sets

*“A pair of 45s made me open my eyes,
My temperature started to rise!”*

– The Hollies, “Long Cool Woman in a Black Dress” (1971)

Major: Your species fully embraces the ideas of ‘human attachment theory’ (i.e. John Bowlby, et al.), especially in relationships with aliens. In addition, however, they also believe in balances (positive-negative) and that both sides are necessary. Thus, in relationships they see natural sets – for example, if they have a secure attachment with the first aliens they encounter, they must have an anxious attachment with the next alien race they encounter. Sets can come in two, three, or four – when all four (secure, anxious, avoidant, and anxious-avoidant) are in play, then the cycle starts again.

- ✓ Note: Play of this Fundamental Reality requires familiarity with human attachment theory in relationship and developmental psychology. To this is added a Terra Australis Incognito- or ying-yang- like sense of cosmic balance.
- ✓ Note: The problem with this Fundamental Reality – like most concepts in GGDM – is how to convert a larger abstract concept to something playable in the game, concepts need game mechanical expression to work. It would be difficult (but not impossible, might even be interesting) to impose this Fundamental Reality on the internal workings of a position, but aliens provide a convenient us-and-them foil that is fully congruent with the inherent us-and-them nature of human relationships (whether mother-child, peers, or as adults).
- ✓ Note: While positional relationships may shift during the game, this Fundamental Reality requires the position to immediately determine the relationship shortly after each First Contact and stick stubbornly to the attachment type chosen for as long as possible. The position may need to communicate the chosen attachment to the Concierge as a matter of record, so that the Concierge may exercise judgment as to whether the position is complying with this Fundamental Reality.

Possible Effects:

- Psycho-Therapy
- First Contact
- Official Diplomacy
- Diplomatic Spaces
- Shared Meanings

Nearer My Light to Thee¹

Major: The reason your species learned to fly using artificial mechanical means was to be nearer the sun; afterward they learned how to fly into space, to be nearer the sun, but the universe played a cruel trick, because space is vast, dark and cold and the sun is far away. Still, the stars beckon and there is a bright cluster of light at the center of the galaxy that beckons like a lodestone. Your species is attracted to, has a very strong affinity for light; your cities are well lit with artificial light, but there is always a bigger light out beyond and another beyond that. Naturally, your species is attracted most to light that resembles your own Homesystem star. The attraction of light is greater than the fear of dark and empty.

Minor: The reason your species learned to fly using artificial mechanical means was to be nearer the sun; afterward they learned how to fly into space, to be nearer the sun, but the universe played a cruel trick, because space is vast, dark and cold and the sun is far away. Still, the stars beckon and there is a bright cluster of light at the center of the galaxy that beckons. Your species is attracted to light; your cities are well lit with artificial light, but there is always a bigger light out beyond and another beyond that. Naturally, your species is attracted most to light that resembles your own Homesystem star.

- ✓ Note: The Concierge must generally determine a direction to the Galactic Core and this position is compelled to explore and expand generally in that direction. This will possibly be away from the core of the original Galactic Space or through it.
- ✓ Note: This position should dominate stars of the color of the home starsystem during the game, it might even be causa belli for war. The preference for light also might make this species easier to surveil and raid during the game.

Possible Effects:

- Exploration
- Emigration
- Observation
- Surveillance & Raids
- Stellar Class

¹ Parody of “Nearer, my God, to Thee” by Sarah Flower Adams (1841).

Née

Minor: Your species had another name previously. It may be known by a few who keep it secret or are dismissed as fringe lunatics, or it may not be known by anyone at the beginning of the game. Having another previous name may also not mean anything to your species until it is discovered to have meaning out there among the stars.

- ✓ Note: This Fundamental Reality doesn't fit well into any of the five types and so ends up here as a minor Type 1. It barely fits even that criteria as there is no immediate or permanent operational effect.
- ✓ Note: The implication here is that first, there is some sinister secret associated with the former name of your species, second, that the name will be known to, recognized by or eventually discovered by others, third, that your species has or is related to some pregame interstellar history (possibly a 'fall'), possibly involving other major species in the game, and forth, that it will have some effect operationally on this position later in the game. 'It's a secret, if I told you, I'd have to kill you.'
- ✓ Note: This Fundamental Reality is a story hook. By developing this angle, the Concierge will directly affect the position taking it.

Possible Effects:

- Story hook
- Sinister and mysterious implications
- Will affect position later in the game
- Discovery by aliens could cause the government to fail all Conflict Checks

Noumenon

Minor: It has long been known, without any sensory or perceptive evidence (that is, noumenon), that others of your Native Population Type exist among the stars. Later, when the others are discovered to be another Major Position in the game, evolved independently on another Homeworld, your species becomes a recurring phenomenon of the galaxy.

- ✓ Note: Science (and this game) currently assumes that species evolved on different worlds will share only the most basic similarities of life, but will otherwise be incompatible. To have two technologically advanced, starfaring civilizations of the same species, which evolved – independently – on different worlds would be ... phenomenal!
- ✓ Note: The ‘others’ will share the same Native Population Type but will have their own Fundamental Realities. The ‘other’ position will not learn of this until First Contact and neither position will know the other’s identity until First Contact. The Concierge will randomly (or maybe not) determine which other position shares Native Population Type with this position. This is not the same as a Lost Colonist Primal State because the other position does not begin knowing they are ‘related’ to someone in the game and actually, in this case, there is no ‘relation’ between the two, rather independent parallel evolution.
- ✓ Note: Philosophers may quibble with the use of the term ‘noumenon’ here; that’s alright because it works for the game purposes and the game is intended to be educational, so go ahead and quibble. And grammarians and English teachers will rankle at how ‘alright’ was used as well.

Possible Effects:

- Native Population Types
- A surprise for another position in the game, a story hook.

Nuclear Winter

Major: Those Fools! Immediately prior to the start of the game, the major factions on your Homeworld mutually destroyed each other in a global total nuclear war featuring both counterforce and countervalue targeting. Nuclear war was their only remaining solution. Even those not participating in the war were affected by the aftermath. The planet suffered major damage and most species were extinguished in the following nuclear winter. Your starting population are the survivors who feel the need to leave the Homeworld.

Minor: Those Fools! Immediately prior to the start of the game, the major factions on your Homeworld engaged in a nuclear exchange with counterforce targeting. Eventually it stopped when the end result became apparent. Even those not participating in the war were affected by the aftermath. The planet suffered significant lasting damage and some urban centers near military targets were destroyed collaterally. Your starting population are the survivors who feel the need to leave the Homeworld.

- ✓ Note: This is the equivalent of starting the game with a self-inflicted orbital bombardment combat against the Homeworld.¹ Orbital facilities are largely unaffected but could have been hit in the exchange.
- ✓ Note: The Concierge will determine the damage prior to the game. The choice for the population is the cold vacuum of space or the poisoned planet.
- ✓ Note: This Fundamental Reality may only be taken by positions who chose Homeworld or Lost Colony Primal States.

Possible Effects:

- Homeworld Maximum Habitability
- Homeworld Habitability Class
- Starting Population and Industry
- Load Population

¹ “We’re off to outer space, to save the human race...” – Starblazers’ Theme Song.

OCD

Major: Prior to the game, the players of this position and the Concierge should choose a suitably major ‘OCD-like’ behavior for the position which will be repeated ritualistically throughout the game for no particular or rational purpose.

- ✓ Note: This Fundamental Reality is not intended to trivialize Obsessive Compulsive Disorders. Rather, it is intended as a practical demonstration within the framework of the game. Whatever representative behavior is chosen by the position and the Concierge prior to the game should be compulsive, irrational, ritualistic, repetitive, and serve little or no purpose in the normal course of game activities. It might even be a neurotic paradox.
- ✓ Note: The behavior may change during the course of the game, especially if the previous behavior becomes impossible to repeat or too operationally trivial. The ‘OCD’ should never be ‘cured’ during the game unless it is the end point of a story arc. Otherwise, the behavior should demonstrate no rational purpose to any other position or observer.
- ✓ Note: This Fundamental Reality bears some similarity to a Type 4 Fundamental Reality except that it imposes useless activity as an operational requirement on the position.

Possible Effects:

- Therapy
- Repetitive ritualistic behavior¹

¹ Imagine playing Monopoly with someone who has to thoroughly examine the space under the table on their hands and knees for several minutes each time it’s their turn to roll the dice.

Of Carnivores

Major: Your species comes into the game with a strong carnivore behavior that is only slightly checked by civilization and technology; dinner is domesticated prey served live; no substitutes allowed. Though most aliens are not suitable for food, nor does your species care for intelligent prey, this behavior shapes the overall worldview, cognitive schema, or ‘mindset’ of your species, which is carried into space with the advent of starflight. Your species descends from one of three types of primitive carnivores: Chasers, Pouncers, or Trappers, which will be determined before the game begins and will determine their behavior during the game.

Minor: Your species comes into the game with a strong carnivore behavior that is checked by civilization and technology; dinner is a ritual involving hunting in communal food parks, followed by solemn cooking and feasting and supplemented by synthetically produced substitutes. Though most aliens are not suitable for food, nor does your species care for intelligent prey, this behavior shapes the overall world view, cognitive schema, or ‘mindset’ of your species, which is carried into space with the advent of Starflight.

- ✓ Note: This Fundamental Reality could be considered ‘similar’ to a Type 4 Fundamental Reality except that it is operational.
- ✓ Note: This Fundamental Reality is more about how a position acts during the game toward other positions, Concierge intervention should be minimal.

Possible Effects:

- Combat
- Diplomacy
- Constructural Elements
- Aspects
- Expansion

Opulence

Major: The modern technological period of your species prior to Stardrive was quite long and comfortable, perhaps even ‘utopian.’ Some actually re-sented the invention of Stardrive as disruptive. Life was pretty good, all things considered, if you were in the right group. Thus, the historical and cultural expectations of domestic subsistence are quite high, leaving less for Taxation (which is probably why it took so long to research Stardrive).

Minor: The modern technological period of your species prior to Stardrive was quite long and comfortable, perhaps even ‘utopian.’ Life was pretty good, all things considered, if you were in the right group. Thus, the historical and cultural expectations of domestic subsistence are quite high, leaving less for Taxation (which is probably why it took so long to research or reverse engineer Stardrive).

- ✓ Note: The description of the Major and Minor forms of this Fundamental Reality are the same. The difference is in the strength with which they will be applied during the course of the game.
- ✓ Note: Opulence implies materialism. There are a couple of possible ways to implement this: One way is to reduce the amount received from taxation by a set percentage, a second is to set a voluntary schedule of sparse Taxation Power activations. The position may then be forced into other means of obtaining RPs...

Possible Effects:

- Taxation
- Income from Native Population Factors
- Income from Industry on Native Colonies
- Income from the Homeworld
- Colonization
- Trade with Aliens
- Looting

Outer Limits

Minor: At the outer limits of the galactic range for life is your species. Planets that others find awful, are your paradise. You don't have much of a galactic tourist industry. But your people also usually don't have difficulty finding uncolonized planets.

- ✓ Note: Generally, the Habitability Class for planets explored by this species should be the opposite of the best or worst Habitability Class for any other species that has explored the planet. For example, if this species explored the planet first, establishing a Habitability Class, the next species that explores (and all others) should have something approximately opposite for Habitability Class. If others have already explored the planet, then this species gets something of the opposite of their best Habitability Class after exploring the planet. Earth for us, Pluto for you.
- ✓ Note: This does not provide an advantage to this position. It is possible that some advantage might be gained by being there first, but due to random generation, any advantage is marginal at best.

Possible Effects:

- Habitability Class
- Colonization
- Conflict avoidance

Pacific Rain

Major: Prior to First Contact, your species had no concept of war, weapons or military organization. Though the technological means was there prior to starflight, the concept of war simply never occurred to your pre-starflight ancestors. This is not the same as being a pacifist, because to be a pacifist, you must first know the concept of war. However, other species will view your people as pacifist to the extent that they yearn to avoid conflict.

Minor: Prior to First Contact, your species had banished war and achieved a historic and long-lasting global peace and unity. This required largescale disarmament, strong social conditioning and other safeguards, and a conversion of the military-industrial complex.

- ✓ Note: This position should avoid or be disallowed from military Existential Patents during the set-up, and thus should not take any Primal State that requires them. This does not bar development of those Patents in-game, but may put the position slightly behind the curve in achieving the 2nd Era. It is an operational constraint that may or may not matter depending on the game.
- ✓ Note: On the social side, the position may avoid for the first several Regular Turns, developing any Combat College, Doctrinal Templates and so forth; there should be a specific in-game event to trigger a sudden, rushed reversion to military proficiency. Until then, the position should be quite restrained by this Fundamental Reality.
- ✓ Note: This Fundamental Reality effectively precludes exploration with warships for most of the game. That would be considered among the possible violations.

Possible Effects:

- Set-up
- Combat
- Exploration
- Technological Development
- Combat College

Passages

Major: Your Homeworld had a most peculiar orbit and during a regularly occurring part of that orbit, known as the Passage, your species collectively ‘loses its mind’ and a period of mayhem ensues. The exact cause and process by which this happens is well known and can be simulated, but, despite the consequences, the Passage is necessary to the psychological wellbeing of your population and cannot be avoided. The Passage has been occurring during your entire evolution, and is enshrined in recurring themes, ideas, and belief systems of your culture. Groups have reacted to the Passage in various ways; some have engaged in Donnybrook like wild festivities, others have locked themselves away or put themselves into sleep during this period, while other groups have been left with burning cities and scores of dead and injured from the Passage.

Minor: Your Homeworld had a most peculiar orbit and during a regularly occurring part of that orbit, known as the Passage, most of your species collectively ‘loses its mind’ and a period of mayhem ensues. The exact cause and process by which this happens is well known and thus it can be suppressed, but with long-term consequences. The Passage has been occurring during your species evolution, and is enshrined in recurring themes, ideas, and belief systems of your culture. Pre-technological cultures reacted to the Passage in various ways; some have engaged in Donnybrook like wild festivities, others have locked themselves away or put themselves into sleep during this period, while other groups have been left with burning cities and scores of dead and injured from the Passage. But you don’t have to do any of that...

- ✓ Note: One must assume that for the ‘psychological wellbeing’ of colonist, the effects of the Passage are artificially simulated. Would they go otherwise? The Passage can possibly be compared to someone who needs to have a good drunk every weekend to function during the week; there are people who don’t want to go to parties unless there is a keg. If cured, it should be part of the game story arc.
- ✓ Note: This Fundamental Reality will require the Concierge to intervene regularly to simulate the effects. The participants will need to agree on some regular schedule when it occurs. Perhaps the alternative to Concierge intervention is that the position voluntarily skips a turn every x number of Regular Turns, simulating the mayhem in the form of a lost turn and lost Combat Actions.

Possible Effects:

- Entropy
- Damage to installations and Technological Devices
- Constructural Elements
- Power Activations
- Balkanized Colonies

Pendulum

“So the pendulum swings, now violently, now slowly; and every institution not only carries within it the seeds of its own dissolution, but prepares the way for its most hated rival.”

– Dean William Ralph Inge, “Democracy and the Future,” Atlantic Monthly, Vol. 129, March 1922, p. 290

Major: Your species population moves predictably and inevitably from one extreme viewpoint to another. For example, between militarism and pacifism, or art and anti-art, sheepish compliance and open rebellion, technology and esotericism, angry and lethargic, sanguine and melancholic. This process occurs in unison regardless of outside events, location, or which group is in power at the time and it deeply affects all parts of civilization.

- ✓ Note: There is only a major form for the Fundamental Reality; a minor strength form would be nearly meaningless in game terms.
- ✓ Note: Prior to game, the Concierge and position players should decide on two (approximately) opposite extremes that will be used throughout the game. It is suggested that the cycle of the pendulum be three turns, with one turn at each extreme and one turn in the middle transition. It must also be decided where in the process the position begins the game. The movements are in addition to any Light/Dark flipping of Aspects on the Public Space.
- ✓ Note: The most obvious play effect of this is the position is capable of satisfying a Conflict Check on a Government Title, but must let it fail by not taking action that would violate the current state of this Fundamental Reality. A position may refrain from activating certain Powers on turns when it would be a violation.
- ✓ Note: This is an Operational Fundamental Reality because it should affect regularly how the position plays the game and reacts to internal and external events. It is also capable of being role-played in News Events and other communications.

Possible Effects:

- Diplomacy
- Combat
- Power and Writs activations
- Corporations, Commerce, MegaCorporations
- Government Titles
- Aspects

Phlegmatic

Minor: Your species is, on the whole, very calm and relatively unemotional; aliens you contact may notice. Emotion is tied to the human concept of intelligence, probably because human language is tied to emotion – there are no, or very few words, in any human language which can be said to be devoid of emotion. As soon as any emphasis is added to a communication of fact, a change of tone, an extra word (for example, ‘I have it’ and ‘I have it, now’), an emotion has been added to the communication. Phlegmatic does not mean emotionless or devoid of emotion, nor is it an emotionless word; it can rarely be expressed matter-of-factly.

- ✓ Note: The most notable operational effect of this Fundamental Reality is on those parts of the game that simulate the human group emotion in Public Space. This is borderline as a Fundamental Reality because participants will need to work out ways to operationally express it in the game, which is why it is only available in minor form.
- ✓ Note: This Fundamental Reality could have also been classed as a Type 4 Fundamental Reality (position persona). The difference in making it a Type 1 Fundamental Reality is that it must become an annoying operational liability of the Native Population Type in some way. It can still be part of the position’s persona if players desire it, without counting as a Type 4 Fundamental Reality.

Possible Effects:

- Entropy
- Aspects
- Zeitrice
- Fuzzy Groups
- Enlightenment

Pleasure Principle

“No. You have done no more than any wild animal would do. It always makes me laugh, but when men lose their self-restraint they say they’re natural. They are more natural than men who have nothing to restrain.” – Capt. Bligh, The Bounty (1984)

Major: Your species’ decisions and behavior are strongly motivated by the instinctual desire of the id, arising in infancy, to experience pleasure and avoid pain. Any Government that forces the population to violate this principle would risk loss of legitimacy.

Minor: Your species decisions and behavior are strongly motivated by the instinctual desire of the id, arising in infancy, to experience pleasure and avoid pain. However, there is some recognition of the necessity of postponing pleasure for greater purposes.

- ✓ Note: More so than others (even lazy house cats), this species avoids unpleasant, dangerous and painful situations (combat, risky colonization, exploration Hazard Rolls) and seeks pleasure. Why would they leave home, unless compelled? This is in fact the image of the late Roman Empire urban population, especially those living in Italy (e.g., the alleged marriage ban by Roman Emperor Claudius Gothicus, who felt that marriage made his soldiers decadent and weak – this story is associated with the execution of St. Valentine).
- ✓ Note: It is certain that in play of the game, the position will regularly violate this Fundamental Reality. To make it mean anything, the Concierge must be the gatekeeper, representing the population’s reaction. It is also possible that the position may find creative ways to entice (‘sugar coat’) voluntary compliance, for which it should be rewarded.
- ✓ Note: This Fundamental Reality could have also been classed as a Type 3 Fundamental Reality (supra-legitimacy). It can still be part of legitimacy in the Major Form of this Fundamental Reality.

Possible Effects:

- Taxation
- Construction
- Commerce
- Combat
- Colonization of Unpleasant and Hostile Planets
- Load Population, Landing
- Corruption and criminal organizations
- Anything dangerous or unpleasant to the population
- A bit of immaturity

Purblind

Major: Your population has purblind spots – as in lack of discernment or understanding. Enlightenment often falls on closed minds. The spots move from generation to generation, population to population. Cure the blindness over here, it crops up again the next generation over there. The purblind often end up in positions of authority, making matters worse. But as long as two thirds of your species reach concrete operational intelligence, you'll probably survive.

Minor: Your population has purblind spots – as in lack of discernment or understanding. Enlightenment often falls on deaf minds. The spots move from generation to generation, population to population. Cure the blindness over here, it crops up again the next generation over there. The purblind often end up in positions of authority, making matters worse. But as long as two thirds of your species reach concrete operational intelligence, you'll probably survive.

- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same; the difference is the strength with which they will be applied.
- ✓ Note: The most practical effect of this Fundamental Reality is that Enlightenment committed to a Power Activation will not be able to be used in event of a failed die roll. This should occur randomly, a die roll (to which Enlightenment cannot be applied) to see if the Enlightenment can be used, participants should set a percentage for the game. This may not apply to activities mainly involving population of Conquered, Converted or Naturalized Colonies.
- ✓ Note: The Concierge may find other creative ways to simulate this purblind state, possibly with neurotic paradoxes or an extra dose of incompetence here or there. It may also happen that attempts to found or re-endow Colleges may fail inexplicably.

Possible Effects:

- Colleges, anti-education, populist anti-intellectualism
- Enlightenment loss or failure
- Smoking, drinking and substance abuse

Red Shift, Blue Shift

Major: Evolution has insured that your species prefers the light of a Red Giant (red) or Blue-White Dwarf (blue) star. The Concierge will choose which before the game. At the preferred star types (color), there is an enhanced chance of finding the best planets for your species to colonize; while the chance is less at other star types.

Minor: Evolution has insured that your species prefers the light of a Red Giant (red) or Blue-White Dwarf (blue) star. The Concierge will choose which before the game. At the preferred star types (color), there is an enhanced chance of finding the best planets for your species to colonize; while the chance is less at other star types.

- ✓ Note: The description of the Major and Minor forms of this Fundamental Reality are the same. The difference is in the strength with which they will be applied during the course of the game.
- ✓ Note: If this Fundamental Reality is taken by a Homeworld position, the home system star must be of the appropriate stellar class (i.e. color).
- ✓ Note: This may require some tinkering by the Concierge to set the enhanced percentages for the game.

Possible Effects:

- Exploration
- Habitability Class
- Maximum Habitability
- Colonization
- Conflict avoidance

Red Space

Major: Your species has no concept of individual property ownership, all real property and chattels are communally held. Instead, your social order contains an ancient, sophisticated, comprehensive, refined, and nuanced code of conduct with regard to proper use of community resources, living spaces, possession of chattels, and production and distribution of same. This condition is not a result of a radical ideological revolution which displaced a human-style class and ownership system (a human-style class and ownership system would be a radical ideological revolution to your people). Rather, individual ownership just simply never occurred to your species and would have seemed silly and/or appalling if anyone suggested it; communal ownership and sharing is just the natural order.

Minor: Your species has no concept of individual real property ownership, all real property is communally held. Instead, your social order contains an ancient, sophisticated, comprehensive, refined, and nuanced code of conduct with regard to proper use of community resources, living spaces, and production and distribution of same. Individual real property ownership just simply never occurred to your species; communal ownership and sharing is just the natural order. Possession of chattels is recognized and it is also understood that aliens might have different property systems which should be respected.

- ✓ Note: Game operational effects of this Fundamental Reality will require some creativity. This position would certainly never think they ‘own’ a planet or starsystem, but on the other hand, aliens are not part of their culture and the same rules may not apply. First Contact or resistance to Landing on an alien colonized planet may shock this culture.
- ✓ Note: Internally, it is difficult to see how this might be simulated, since the ‘things’ of a position are considered in-game to be owned by the entire position (for game convenience) regardless of government type or political status. That is, the game only primarily enforces external boundaries of a position (i.e. sovereignty). However, this position will probably have a Confederation Structural Title, but it is not required.
- ✓ Note: Information is an interesting issue, because no one really owns information, it is not zero sum, one is not usually lessened – in the classic sense – by sharing information. So, perhaps this species will be less guarded than others about aliens obtaining information?

Possible Effects:

- Exploration
- Balkanized Colonies
- Minor Races
- Sovereignty
- Information

Repression

[Marcus has just cleared out a bar of thugs singlehandedly]

Lennier: *I see they trained you well back home.*

Marcus Cole: *Well, they said I was carrying around a lot of repressed anger.*

Lennier: *And?*

Marcus Cole: *I'm not repressed anymore!*

– Babylon 5, “Ceremonies of Light and Dark” (1996)

Minor: Within a civilization there is a certain percentage of the population whose primal urges are barely held in check by society. Within this group are two subgroups: Those who know it, and those who do not. Some become criminals, some live out their lives as repressed angry people, some become stand-up comedians.

- ✓ Note: Mainly this Fundamental Reality provides extra impetus for Concierge Interventions and insurgencies. By taking this Fundamental Reality, the position players should understand that; but there may also be some creative angles that can be used in other ways throughout the game.

Possible Effects:

- Entropy
- Anarchy
- Rebellion
- Angry Comedians
- Policing and Security Proficiencies
- Conversion of your Native Population Type by others
- Passive-aggressive behavior

Resisting Nature¹

Major: Your species has a history of or is regarded as having poor personal hygiene (and all other types of hygiene as well). Although your medical science is advanced enough to document and educate, and some progress has been made in that front in the last generations, there are still widespread lapses in personal hygiene and other health related habits that lead to widespread medical problems, loss of productivity and lifespan, pandemics and epidemics, and radical emergency solutions, such as the use of high-heat yield weapons. Further, your species seems to be especially vulnerable to microbes.

Minor: Your species has a history of or is regarded as having poor personal hygiene (and all other types of hygiene as well). Although your medical science is advanced enough to document and educate, and some progress has been made in that front in the last generations, there are still widespread lapses in personal hygiene and other health related habits that lead to widespread medical problems, loss of productivity and lifespan, pandemics and epidemics, and radical emergency solutions, such as the use of high-heat yield weapons.

- ✓ Note: One way to give this Fundamental Reality a game effect: On some Regular Turns during the game, the Concierge may choose to take an Intervention Potential Plus instead of an Intervention Potential when this position's Regular Turn is run.
- ✓ Note: The position should expect regular Interventions based on microbial outbreaks, or other population health-related issues. It will require a constant, game long, strong effort (which the Concierge should take into consideration) to hold this in check, and that is the operational effect of this Fundamental Reality on the position: Medical Proficiency College first instead of Combat College.
- ✓ Note: Until an alien position has had significant contact with your populations, this Fundamental Reality might not be immediately apparent, they may take sickly or unclean appearance as normal for your species.

Possible Effects:

- First Contact and Balkanization of Planets
- Major and minor outbreaks and health problems
- Shortened lifespan, loss of productivity (i.e. Taxation & Census)
- Galactic Quarantine
- Biological Warfare

¹ 'Resisting nature' is a phrase found sometimes in older writings which refers to men who bathed regularly, shaved and cut their hair. They were 'resisting nature' before it became the social norm, centuries later, men who had long hair, were unshaven and – god forbid – didn't bathe often, were ridiculed as rebels. In 1778, John Wesley introduced "Cleanliness is next to godliness" in a sermon and it became the 'battle cry' of proper 19th and 20th century social manners and personal appearance (and was incorporated as justification into the White Man's Burden ideology). Until the 60s counter-revolution.

Restoration

“Meet the new boss, same as the old boss.”
– The Who, “Won’t get fooled again” (1971)

Minor: The historiography of your race is that there are really only three or four groups in society and that any change of government title is merely a “restoration” of a previous group to power.

- ✓ Note: Before the game, the Concierge will draw a group of seven Estate and Social Government Titles as the position’s Foresight. These titles will then be arranged into three or four groupings whose membership can overlap. These groupings are the only allowable arrangements of Government Titles for the position; any changes in Government Titles must be a change to one of the groupings.

Possible Effects:

- Limitations on Government Titles
- Government Title Changes
- “Refreshing” the Foresight means returning previously discarded Government Titles to the Pool

Risk Takers

“In the founding days of the Imperium, great men dreamed great dreams...and achieved them. In the last days of the Imperium, petty men dreamed petty dreams...and achieved them too.”

– MegaTraveller RPG, [Rebellion Sourcebook](#) (1988)

Major: Glory to the risk-takers, gamblers, go-getters. Risk-taking is a major element of what your species regards as leadership; moral responsibility for others who might be affected, is less of a consideration. Send the Colony Ships instead of a Scout, make First Contact by landing on their colony planet, dispatch Cargo Ships to an **alien colony** without permission from the aliens. Crazy risks make crazy success or failure, glory or infamy. Those who fail, will be replaced by others willing to take the chance to be the leader.

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- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same; the difference is the strength with which they are applied: Crazy or crazy like a fox.
- ✓ Note: As a guideline, one Power Activation per turn should involve a gambit or significant risk factor. Play like a Roman, this is one reason why Fabian (Quintus Fabius Maximus Verrucosus) was so controversial in Rome. The Concierge will monitor to insure that the position substantially complies with the risk-taking requirement. Successful risk-taking becomes a feedback loop such that little monitoring should be required.
- ✓ Note: This Fundamental Reality could arguably have also been a Type 3; as a Type 1, it is intended to have a more direct operational effect.

Possible Effects:

- Exploration
- Combat
- Commerce
- Colonization
- Advanced Research & Development

SDUI

“Do illegal drugs, get a big chicken dinner”

– U.S. Marines anti-drug poster, 1989 ¹

Major: Stardriving Under the Influence. Movement from location to location at FTL (Faster than Light) speeds causes disorientation and diminished capacity in your species for a period after arrival.

Ticketed! The effect of the disorientation may be applied to actions taken on arrival, such as Combat and Exploration. It may also last until the following Regular Turn. If no actions are taken on arrival, the effect the following Regular Turn may be lessened.

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- ✓ Note: Using a different FTL Stardrive will not diminish this effect. The problem is the FTL movement, no matter how accomplished.
- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same. The difference is in the strength with which they are applied.
- ✓ Note: There are variable ways of creating a game effect for this. For example, a position may voluntarily not initiate interstellar movement with ships that arrived the previous Regular Turn; this would be an operational hindrance, decreasing the efficiency of the position. The Concierge could also play with the percentages, or bar Enlightenment (or the position could voluntarily not use Enlightenment) the Regular Turn of arrival from FTL flight. And maybe one or two Pandorum-like Interventions.

Possible Effects:

- Movement
- Combat
- Exploration
- Commerce

¹ “Big Chicken Dinner” is Marine Corps slang for a Bad Conduct Discharge. I worked in a Substance Abuse Control Office (SACO) in 1989. Another read, “Denial is not a river in Egypt.”

Senseless People

*“And the people bowed and prayed
To the neon god they made...”*

– Simon & Garfunkle, “The Sound of Silence” (1964)

Minor: There are two types of people who do not partake of philosophy (and learning): Gods and Sages, because they are wise already; and senseless people because they think they are wise (when they are not). Your species is not godlike and has few Sages. That leaves most of your population in the latter category.

- ✓ Note: Sound like any sapient technologically advanced species you have encountered recently?
- ✓ Note: The implication of this Fundamental Reality is a permanent and widespread anti-intellectualism in this civilization, rooted in an anti-philosophy ideology. An intentional, proud sort of ignorance, those who called themselves Simpletons in Walter M. Miller, Jr.’s *A Canticle for Leibowitz*, in reaction to the “smart bastards” who started the global nuclear war. So, reaction to technological catastrophe is one instance where this may take root in the recovering civilization (and thus this Fundamental Reality might well pair with some others).
- ✓ Note: This Fundamental Reality might also imply a failure of public education and the print revolution, a lack of middle class in the civilization, and a wide gulf between the educated and the under-educated masses (e.g., the Carl Sagan version of the Library of Alexandria destruction). Whether any of these things can be cured during the course of the game is part of the story and should not be easy.
- ✓ Note: The Concierge will need to be creative in the use of Interventions to simulate the effects of this Fundamental Reality from time to time in the game. This could include civil disorder and destruction (e.g., of Institutes, etc.).

Possible Effects:

- Education Proficiency
- Colleges
- Enlightenment
- First Contact

Smuggler's Blues¹

*“It's a losing proposition
But one you can't refuse.”*

– Glenn Frey, “Smuggler's Blues” (1984)

Major: They say they're gonna stop it, but it doesn't go away. The contraband trade is here to stay. The government either spends resources to fight it, or accepts the social and economic losses while it flourishes. It's a losing proposition, but one you can't refuse; it's the politics of contraband. It's the Smuggler's Blues.

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- ✓ Note: Raise a tentacle if you've heard this before...
- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same, the difference is how loudly your blues are played.
- ✓ Note: Taking this Fundamental Reality implies that the civilization has a major uncontrollable (near catastrophic) contraband problem reflective of our current world. Since the issue is well documented and well debated and well discussed ... it should not be difficult to imagine how it could be reflected in in-game events and Interventions. The Concierge might even need a few more Interventions.
- ✓ Note: That said... will the problem be solved in-game? Well, we've had a couple of centuries at it and it's only getting worse, not better. Whatever solution is devised in the game should be epic and literary. Will going into space and colonizing other planets make people stop using powerful, addictive recreational drugs to fill their Existential Void? Star Trek TNG seemed to think so without providing details. Is there a technological solution that can be forcibly implemented?

Possible Effects:

- Economic and cultural losses (RPs)
- Special Operations
- Police Proficiency
- Corruption
- Corporations and MegaCorporations

¹ Ode to Glenn Fry (1948-2016).

Spontaneous Combustion

Major: During the pre-game history of your species, there are many recorded cases of Spontaneous Combustion whereby individuals are spontaneously consumed by fire. But not just individuals, later occurrences included entire groups, families, communities, usually under stress, spontaneously combusting. In one famous instance, ancient religious rebels fighting a powerful empire, besieged on a mountain top fortress, all died of spontaneous combustion as they were about to be captured. The cause remains unknown.

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- ✓ Note: Whether or not spontaneous combustion has happened is a real-world controversy; there are alleged isolated cases of Spontaneous Human Combustion and no good explanations. This Fundamental Reality blows the paranormal up into a larger than life verifiable phenomenon in the game. For the purposes of the game, unless it is part of the story arc, the cause should remain unknown.
- ✓ Note: The Major and Minor Forms of this Fundamental Reality are the same; the difference is the frequency with which it occurs and the damage done each time.
- ✓ Note: The meaning and operational effects are up to the participants, but mainly it seems to invite News Events and Concierge Intervention as the tools of implementation. As the description suggests, it could be regarded as a spontaneous form of mass suicide or of political protest (like the self-immolation of monks in south-east Asia or the fruit vendor, Mohamed Bouazizi in Tunisia in 2011 who started a revolution).
- ✓ Note: Spontaneous Combustion may also be taken as a metaphor for political and social movements that may suddenly sweep away the previous order, often destructively, even self-destructively. Thus, the position may see sudden internal changes.

Possible Effects:

- Random loss of population factors & RPs or Enlightenment
- Low population or Specialized Colonies vanishing
- Conquered and Converted Colonies (imagine...)
- Thesis Statements, Reformations, Kairotic Moments

Stained Glass Stories

“Fairy tales build churches.” – John, The Man from Earth (2007)

Major: A significant part of public perception of reality and public discourse of your civilization lies in semi-mythic stories that are primarily emotional but not factually instructive. These stories are untouchable, not to be disturbed or criticized, as they are part of the legacy of your ancestors. As a result, some Monads on the Public Spaces may only be used to place Aspects (inviolable even to Pathways).

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- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same, the difference is the strength with which they will be applied.
- ✓ Note: It is suggested, for example, that the Major form affect no more than 10-10% of the Public Space reserved for Aspects only. Whether or not this is an operational hindrance or liability is a question of style of play, management of the Public Space. It certainly suggests an Aspect-heavy position with lots of turnover on the Public Space, but may hinder placement of Friendly or Naturalized Colonies and Research Groups, as well as Pathways.
- ✓ Note: Other possible concrete effects of this Fundamental Realities might be Symbolic Constructural Elements or situations involving a Kairotic Moment. This depends much on the story being told.

Possible Effects:

- Public Spaces
- Aspects Placement
- Fuzzy Groups Placement
- Zeitrice
- Colony Placement on Public Spaces
- Writs activation
- Symbolic Constructural Elements
- Terra Sancta

Strange Sun

*“Mama always told me not to look into the eyes of the sun
But mama, that’s where the fun is!”*

– Manfred Mann’s Earth Band, “Blinded by the Light” (1976)

Minor: The star around which your Homeworld orbits acts strangely. Until your people began closely observing other stars, and eventually visiting other stars, your sun was considered ‘normal’ because it has always been that way. Sophisticated observations with modern instrumentation has led to the conclusion that there is *something else* in your sun or at least *something very odd* going on in the heart of your homesystem sun. Some argue that whatever it is, is the cause of life on your Homeworld; others have different opinions.

- ✓ Note: This Fundamental Reality is only available to positions who chose the Homeworld or Lost Colony Primal State.
- ✓ Note: This Fundamental Reality is a ‘story hook’ for the Concierge to exploit if desired. What the in-game effects might be depend on what that *something* is... it is not intended to imply that the sun is about to go nova, so this is not an exodus type Fundamental Reality. The strength of this Fundamental Reality depends mostly on Concierge Intervention rather than position players though the players could creatively detail some of the beliefs surrounding the enigma.

Possible Effects:

- A mystery to solve
- Wait, are you telling me that stars are just other suns?!

Sycophant

“Truth is in the streets, Stil, not in this parade of sycophants who flutter around this palace with their meaningless statistics and empty ritual.”

– Maud’dib (aka Paul Atreides), Frank Herbert’s Children of Dune (miniseries, 2003)

Minor: Your species has a strong, basic, primal sycophant drive. It was defined as normal behavior by social and mental health professionals, and evolutionary arguments were made to justify and explain it. No one thought it unusual until contact was made with alien species; all alien species who are in personal or social contact with your people for a time, will immediately recognize you as sycophants.

- ✓ Note: The Concierge is free to apply all of the various meanings of sycophant, for example, ‘false litigant, extortionist’ (ancient Greek), ‘informer’ (Modern Greek, French), ‘insincere flatterer’ (modern English, sycophancy). Note also that when laws are Draconian (and Capital Punishment is the main punishment), being a sycophant (in the sense of ‘informer’) can also become legal murder of another.
- ✓ Note: Concrete in-game effects might range from being unable to get rid of a failed Government Title, or on the positive side, a Government Title continuing undisrupted for a Regular Turn after it would have been disrupted. There might be resistance to changes in Shared Meanings, forced renewal of Corporations, or refusal to move the Capital Colony are examples of unreasonable dedication. Most of this depends on Concierge Intervention.
- ✓ Note: This Fundamental Reality has also a Type-4 possibility, sycophantic devotion to another position in the game, or even to a Minor Race.

Possible Effects:

- Entropy
- Special Operations
- Colony Conversion and Naturalization
- Groveling to authority
- Untrustworthy

Under A Wavering Eye

Major: Your Homeworld star is unstable and has been for a long time. Stellar instability usually doesn't occur suddenly, rather, it is part of a process, so stellar instability is part of the long evolution and history of your species. But now it is accelerating; perhaps the invention of Stardrive triggered an acceleration of the process. It is certain that shortly and/or eventually, your Homeworld will soon catastrophically become Uninhabitable.

Minor: Your Homeworld star is unstable and has been for a long time. Stellar instability usually doesn't occur suddenly, rather, it is part of a process, so stellar instability is part of the long evolution and history of your species and probably contributed to your species evolution. Thus, your Homeworld star was dying even as it was giving birth to life.

- ✓ Note: This Fundamental Reality is only available to positions who chose the Homeworld or Lost Colony Primal State.
- ✓ Note: It's a fascinating question what effect stellar instability would have on evolution of a sapient species on their native world. What exactly is stellar instability anyway? It's a fascinating question, but the suggestion here is that it has something to do with brightness and temperature variation of a rapidly cooling, shrinking sun. It does not imply that the sun will go nova, as that will take tens of millions or billions of years, beyond the scope of the game.
- ✓ For a fascinating look at this subject, look up Snowball Earth theories that try to explain the "Great Unconformity" in the Grand Canyon and other places around the Earth where a billion years of rock strata seems to be missing.¹ Some theories posit glaciation to the equator as a result of dimming of the sun.
- ✓ Note: For game purposes, the Concierge will need to determine the game effect of whatever is happening with the star. It could be a schedule of loss of Habitability Class and Maximum Habitability (in the vein of modern cl-fi classics such as *Snowpiercer* (2013) and *The Day After Tomorrow* (2004)) with some small possibility of temporary reversals. It could be Interventions affecting Orbital Platforms, ships at the Homeworld, or population and industry on the ground. On the other side, of course, are the imperatives to legitimacy that form the operational liability of this Fundamental Reality on the position taking it.

Possible Effects:

- Homeworld Habitability
- Colonization
- Aspects
- Order
- Cosmic Entropy

¹ Snowball Earth ideas might have been the inspiration for Arthur C. Clarke's 1949 short story, "History Lesson."

Universal Predator

Major: It is a cold comfort that no one would want to invade your Homeworld! Your people have awakened a universal predator on your Homeworld that only preys on sapient populations and Stardrive was invented to escape. Thus far, this predator has not been defeated by technology. It was originally thought the predators would not be able to follow your people into space, but the predators seem to appear wherever your people go.

Minor: It is a cold comfort that no one would want to invade your homeworld! Your people have awakened a universal predator on your homeworld that only preys on sapient populations and Stardrive was invented to escape. Thus far, this predator has not been defeated by technology. The predators cannot follow your people into space, but the predators seem poised to overwhelm the Homeworld soon.

- ✓ Note: This Fundamental Reality may only be taken by Homeworld, and Lost Colony positions.
- ✓ Note: The Major form of this Fundamental Reality acts somewhat like an Uber Alle, if the Concierge allows other positions Native Populations to also be affected by the spread of the predators. The position taking this Fundamental Reality in Major Form may be making the choice to impose another Uber Alle on the game.
- ✓ Note: It should be assumed that the predators will not be defeated by technology for most of the game, or perhaps, never. Their exact nature is not detailed here, but seem paranormal. There are non-technical ways of improving survival odds, but these require considerable diligence and sustained effort on each colony (e.g., security forces, police, fortifications, paranoia, medicine).
- ✓ Note: The effect of the predators is progressive, the more population they consume, the more of them there are (that is, they reproduce); Census Power activations on extremely infected colonies may result in negative population growth. In less infected places, population growth is slowed. Assume the normal effects of food supply and demand, the predators would die off if all their prey are removed or as the food supply diminishes.
- ✓ Note: This is an exception to the assumption that the Major Races are or were the top of the food chain on their native world. In fact, the predators thrive on sapient, technologically advanced, industrialized populations as prey, but do not otherwise affect the biosphere: They are never found dead and do not emit waste products, nor do they seem to breathe the air and have little energy effect.

Possible Effects:

- Census
- Taxation
- Colonization/Balkanization
- Diplomacy

The Why Files

Major: For the past couple of generations, your Homeworld (or Capital or major colony) has been under unconventional low intensity subversive attack from an unknown source and for an unknown reason and purpose. For some time, the population was unaware of these attacks or attempts, and the secret was kept closely by the governments. Now, such attacks might be considered an ‘open secret’ and have grown in scale and destructive intent. Still, there is no invasion, nothing to fight, no enemies to kill in battles. And the government still has no clue how the attacks are originating.

Minor: For the past couple of generations, your Homeworld (or Capital or major colony) has been under unconventional low intensity subversive attack from an unknown source and for an unknown reason and purpose. For some time, the population was unaware of these attacks or attempts, and the secret was kept closely by the governments. Now, such attacks might be considered an ‘open secret’ and have grown in scale and destructive intent. Still, there is no invasion, nothing to fight, no enemies to kill in battles. And the government still has no clue how the attacks are originating.

- ✓ Note: This Fundamental Reality is available to positions that begin the game within the Galactic Space, that is, the Homeworld, Lost Colony and Outposter Primal States.
- ✓ Note: The Concierge will control the attacking forces. Whatever their methods are, where they get knowledge and support, and purpose or lack of purpose, is part of the game story. It is implied that the effect is limited to a major starting colony (Homeworlds are considered colonies in GGDM), but the Concierge can decide whether or not the attacks migrate to other colonies.
- ✓ Note: The Major and Minor Forms of this Fundamental Reality are the same, the difference is the frequency and intensity of the attacks.

Possible Effects:

- Counter-Operations on Capital, Homeworld, or major colony
- Security and Police Proficiencies

Winkle

Major: At regular intervals in the Homeworld’s orbit when the sun’s glare faded, your species collectively and communally, retreated to shelters for a long, deep hibernation period that may last the equivalent of years on other species’ Homeworlds. While technology may have made this physically unnecessary, it is still culturally and mentally necessary (like sleep for humans) and a very important part of the communal culture. History, lifetimes, and recollection of times are measured by Winkle periods.

Minor: At regular intervals in the Homeworld’s orbit when the sun’s glare brightened the sky to periwinkle, the child bearing of your species entered a collective torpor. The torpor was a vital part of gestation during which the child-bearers could not be disturbed or moved and must be protected by the rest of the community. This process has not been disturbed by technology, for to change how we are born is to change who we are; thus it follows your species to the stars as important part of your collective view and identity.

- ✓ Note: In short, entire populations of your species go to sleep for extended periods of time. The position can either go with it or fight it, the implication is that it probably can’t be changed (we have not yet defeated sleep, but there is plentiful scientific investigation and science-fiction imagination about the problem). The participants must decide whether the entire species is affected at once, regardless of location, or whether it happens on different colonies at different times. In the former, the position might be required to voluntarily periodically miss a Regular Turn and not respond to Combat Actions or News Events (like arguing with someone who is passed out) during that period (which could be fatally inconvenient). In the latter, it may mean no Power Activations can affect randomly determined¹ specific colonies (who also would not act as Supporting Colonies, no second checks) for a Regular Turn or two at a time (like a sleeping holiday) – which may or may not be important depending on circumstances and events.

Possible Effects:

- Combat
- Power Activations at Colonies
- Regular Turns missed
- May be unaffected by adverse News Events during a Winkle

¹ Hologram Universe: “The halting problem is an example: there is no algorithm that correctly determines whether arbitrary programs eventually halt when run.” – from Wikipedia article, “Undecidable problem,” January 27, 2019.

Aggressive Greenery

“You must return here with a shrubbery or else you will never pass through this wood alive!”

– Head of the Knights of Ni, “Monty Python and the Holy Grail” (1975)

Your Homeworld and all colonies and places where your people live is covered by an aggressive, fast growing, lush, and possibly intelligent greenery. Your population has a special and important relationship with this greenery from the Homeworld; it takes root in any place where they live regardless of whether it is intentionally introduced. The greenery is also very hardy and adaptable to alien soil. Unfortunately, other species don't find the greenery so attractive; any planet colonized by your Native Population Type (even if they have all died or departed) is reduced in Habitability Class and possibly Maximum Habitability for most alien species.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: The ‘advantage’ of this Fundamental Reality is basically free terraforming (intentional damage to the preexisting biosphere of the planet, if any), very likely to the detriment of other Major Races in the game. This does not promise that Habitability Class and Maximum Habitability will be improved for your species, but that it will be reduced at that location for others.

Possible Effects:

- Habitability Class and Maximum Habitability for aliens
- Ground Combat
- Balkanized Planets could be a problem
- It's just a harmless plant, right?

Artifact

“Lunar expedition discovers ‘artifact’ ... U.S. technicians attacked by Russian force.... scientists confirm ‘artifact’ is ‘alien’ ... laser armed Rovers fight for control... film at 11:00.”

– back of box for Metagaming’s “Artifact” (1980)

An artifact of alien origin was found on one of your moons by an expeditionary team. The team had to fight a group of aliens (not related to any species in this game) to get it. No one knows what it is for or what it does or who the aliens were. It’s a mystery. But it seemed important to them.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: You get a goodie, a gift to unwrap or Pandora’s Box to open. This artifact will be located in the beginning of the game on the Homeworld or Lost Colony, or largest colony, or on a ship if no colony is available. It will be dropped on the first colony. It can be moved, captured, and used by others if they can figure it out.
- ✓ Note: The details of the artifact will be determined by the Concierge. It might just be some child’s toy and the parents didn’t want you taking their kid’s toy because it’s going to be a long ride back to the Betelgeuse if the little (brat) prince doesn’t have his favorite toy!

Possible Effects:

- A mystery to solve, a story hook
- Capture and use by other players
- Alien technology from outside the Galactic Space
- Unknown effects, might do nothing at all
- The previous owners might want it back and come looking for it

Baby Boomers

“The 1,700-ton Sinpo class (also called the Gorae) ... is the smallest ballistic missile submarine today and, aside from China’s Type 032 test boat, the only one that is diesel-powered. Only one submarine has been observed in service. The boat features one launch silo in the conning tower. The KN-11 ballistic missiles is estimated to have a range between 745 and 1,550 miles.”

– Dimitrios Mitsopoulos, “All the Nuclear Missile Submarines in the World in One Chart,” *Popular Mechanics*, June 8, 2018

There is a well-documented relationship between combat and reproduction in your species. Birth rates and population growth following violent conflict spike, regardless of the ability of the resources or environment to support it. Which then leads to more conflict between groups... It is thought to be an evolutionary adaptation that helped your ancestors survive, to replace losses. Very few think there is anything wrong with it and to change it would be to change who you are as a species.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: The Baby Boom effect can be strongly localized to the point of conflict or generalized to all colonies. The Concierge will determine the level of overall and how widespread is the stress your native populations feel after conflict. To gain an advantage from this Fundamental Reality, the position must commit to regular Combats – actual combats, not just Combat Power activations – or expect to be attacked frequently if they are pacifists in a hostile Galactic Space.

Possible Effects:

- Combat
- Census, baby!

Cliché

“... When the books have gone and the histories have been burned every world will look back to learn what went before. And they will turn to us, and we will be there...keepers of the past, the present and the future.”

– Vindrizi parasite speaking through its human host, Babylon 5, “Exogenesis” (1996)

Unknown to the rest of the universe and perhaps, to the majority of your own native host population, your real native population type is a species of ultimately adaptable, stealthy, intelligent parasites, who live inside the ‘host species’ that the aliens think is your actual Native Population Type upon First Contact. To insure survival, the parasite population is always less than the host population. Whether or not the parasite population is native to the host population’s Homeworld or an invader or hitcher, and when they arrived, is unknown to the few hosts who know of their existence.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: **Every** space-opera setting has a hitchhiking parasite form...sometimes sapient.
- ✓ Note: The potential for Colony Conversion and Naturalization, and Special Operations by controlling intelligent universal parasites is well-developed science-fiction trope (every other television sci-fi show has an intelligent parasite, even if just for a throw-away episode). The Concierge will determine the characteristics of your species in that regard and regulate use.
- ✓ Note: To gain an advantage from this Fundamental Reality, the position probably must either engage in or be the victim of colony conquest; take-over in Balkanization is also possible. And it must be kept secret for as long as possible.

Possible Effects:

- Conversion
- Easy Naturalization
- Unguarded Converted Colonies may not revert automatically
- Special Operations

Contact

“If the government is covering up knowledge of aliens, they are doing a better job of it than they do at anything else.” – Stephen Hawking

First Contact with aliens occurred a significant time before the start of the game. It was very strange. The Contact happened only once and has been enshrined in religion and literature for generations. The aliens have not returned and have not communicated further. It is thus that the concept of stardrive and existence of intelligent, technologically advanced alien life was not a theory or fiction in pre-game civilization, but was instead, an accepted fact and it was only a matter of time before your species got there. The discovery of stardrive was not a surprise and caused minimal disruption; First Contact with aliens was doctrinalized and practiced.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: The First Contact did not occur with any position in the game.
- ✓ Note: To gain an advantage from this Fundamental Reality beyond First Contact situation will require aggressive creativity by the position players. Possible other advantages may include trade at **alien colonies**, understanding **alien biology** and culture, and perhaps consideration in Naturalization attempts.

Possible Effects:

- Superior First Contact Results
- Possible advantages in Reverse Engineering, Xeno-culture and Xeno-biology

Crowding

“Phonebooth stuffing was a fad that involved a number of people consecutively entering a phonebooth, until the point where the phonebooth would accommodate no more, or there were no more individuals available.” – from Wikipedia article, “Phonebooth Stuffing”

In most places, two objects cannot occupy the same space at the same time. For most species in the universe, this is axiomatic. I think you can see where this is going... your species is notable for being able to greatly exceed the Maximum Habitability of any colony planet or colony ship. The ability to co-occupy space by co-mingling bodies (called Crowding) only becomes apparent when crowds gather and/or habitability crowding occurs; and only affects living biological population factors of your Native Population Type (that is, industry installations etc. do not have the ability to co-occupy space). In fact, the ancient survival and battlefield tactics of your ancestors was a struggle for massing based on Crowding principles (better than an overlapping shield wall!).

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: The Concierge will have to determine the percentage by which your Native Population can exceed Maximum Habitability. And any effects such as resource depletion and pollution. Maximum Habitability probably should not be doubled.
- ✓ Note: How many college kids can fit into a phone booth? And why does Superman need his own phone booth when there are so many college kids without one? It is not recommended that Crowding be available in Colony Ships due to the issue of limited consumable resources.
- ✓ Note: Some think that your species ancestors must have been Truly Alien. This Fundamental Reality does not make this species a Lost Colony of any Truly Alien position in the game.

Possible Effects:

- Exceed Maximum Habitability
- Higher losses from Orbital Bombardment
- Possible advantage in Ground Combat?

Dereliction

“The Syria Planum Incident covers the events of March 2253 which begin with the excavation of a Shadow Vessel on Syria Planum by IPX...” – from Babylon 5 Wiki article, “Syria Planum Incident”

An ancient derelict alien ship was found on your Homeworld or one of your starting colonies. The technology of the ship was nearly beyond anything that your pre-Stardrive culture could have imagined. Vast sums were spent just to make this ship operational and able to be controlled in flight (in a rudimentary way) by your scientists and technicians. While the ship excited the popular imagination, and offered a potential shortcut to starflight, this expenditure was not without critics or resistance (or conspiracy theorists, there is always a conspiracy theory), who argued that the project was spending their grandchildren’s inheritance.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: This Fundamental Reality is only available to Homeworld, Lost Colonist or Outposter Primal States.
- ✓ Note: Taking this Fundamental Reality in any form does not grant the Stardrive Existential Patent which must still be obtained through regular means.
- ✓ Note: With this Fundamental Reality, you get an alien ship of unknown origin to start the game. This ship does not belong to any of the positions in the game, which immediately suggest that there are (or were) intelligent, technologically advanced aliens that are not any of the current positions in the game. The description also implies (in a Thesis Statement-like way) that there was dissent, conspiracies, disinformation, and possibly violent resistance to the project before the game.
- ✓ Note: What the ship is or does, or how well it can be operated is determined by the Concierge.

Potential Effects:

- Get an alien ship to start the game
- Start with a possibly violent resistance movement
- Spend your grandchildren’s inheritance for it!

Gemini Dream

“There’s a place a Gemini dream, There’s no escaping from the love we have seen.” – Moody Blues, “Gemini Dream” (1981)

Romulus and Remus. Two species evolved on different Homeworlds in the same system, from a common ancestor. These species appear outwardly as two distinctly different Native Population Types, but share the same Fundamental Realities, Public Space, and Government Titles. However, they alternate Regular Turns during the game.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: This Fundamental Reality is only available to Homeworld positions.
- ✓ Note: This Fundamental Reality creates two Homeworlds in the same Homesystem. The position must meet the Homeworld Primal State requirements for both Homeworlds prior to the start of the game.
- ✓ Note: You get to play two culturally closely related, but biologically distinct positions, with two Native Population Types, alternating Regular Turns (e.g., for Census Power Activations, etc.), but with one government, Public Space, and sharing Fundamental Realities, Era Matrix.

Possible Effects:

- Alien Confusion
- Self-Balkanization
- Two Optimal Habitability Class Homeworlds in one system
- Potential for crafty deviousness in relation to other positions

Holodead

“Pepper’s ghost is an illusion technique used in the theatre, amusement parks, museums, television, and concerts. It is named after the English scientist John Henry Pepper (1821–1900) who popularized the effect in a demonstration in 1862. Examples of the illusion are the Girl-to-Gorilla trick found in old carnival sideshows and the appearance of ‘Ghosts’ at the Haunted Mansion and the ‘Blue Fairy’ in Pinocchio’s Daring Journey at the Disneyland park in California. ... The technique was used by Digital Domain for the appearance of Tupac Shakur onstage with Dr. Dre and Snoop Dogg at the 2012 Coachella Music and Arts Festival and Michael Jackson at the 2014 Billboard Music Awards.” – from Wikipedia article, “Pepper’s Ghost”

Your species has always had a ‘ghost problem’; it seems that dead isn’t really quite dead on your Homeworld (or Lost Colony). Reports of ‘ghosts’ of your species dear departed began in ancient times and slowly increased in substantiality and frequency over time, and the level and quality of interaction with the living seemed to increase as well.

Ghosts showed an apparent keen interest in the development of video, 3D and virtual reality technologies, until an event occurred where a ghost merged with and ‘took over’ an experimental 3D holographic projection and was able to then move independently of the projector. Afterward, the ghost seemed to have a permanent holo-body and the process was then refined and repeated until the insubstantial Holodead became a ubiquitous sight on your Homeworld, interacting regularly with the living. The Holodead process only works on the Homeworld as no ghosts of your species departed have been observed off-world and even the Holodead don’t last forever; they have been observed fading or dissipating over time until they are finally gone for good.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: Your Homeworld is like a thin spot between dimensions...
- ✓ Note: Imagine the effects of 1) being able to converse with ghosts in the real time of our world (imagine what we might learn, imagine the effects on crime, science, technology, history) and 2) knowing that when you die, you will continue as a holodead (this would make some sublimely happy, others would be horrified, but at least multi-life term convicts would serve out their full sentences!).
- ✓ Note: The practical effect of the Holodead might be an increase in the Maximum Habitability of the Homeworld (and resource value), depending on the physical characteristics of the holodead (e.g., non-exclusive space, do they need to live somewhere?). They may also ‘grow’ with the Census (i.e. the newly departed).

Possible Effects:

- Creeping other positions out if they ever see your homeworld
- Homeworld Maximum Habitability
- Homeworld Taxation
- Colonization (who wants to leave? Those who are horrified!)

Hostage Situation

“The powerful, if they carry oppression beyond a certain point, necessarily end by making themselves adored by their slaves. For the thought of being under absolute compulsion, the plaything of another, is unendurable for a human being. Hence, if every way of escape from the constraint is taken from him, there is nothing left for him to do but to persuade himself that he does the things he is forced to do willingly, that is to say, to substitute devotion for obedience. ... It is by this twist that slavery debases the soul: this devotion is in fact based on a lie, since the reasons for it cannot bear investigation. ... Moreover, the master is deceived too by the fallacy of devotion.”

– Simone Weil, Gravity and Grace (1972), pp. 142-143

Your position starts the game with a hostage situation of cosmic proportions. An extra-dimensional race plucked the population of entire cities from your planet and are holding them in a wormhole whose opening is near the planet(s) where the taking occurred. They will return your population in exchange for resources (RPs) sent into the wormhole. You do not have the technology to enter the wormhole and rescue on that scale is impossible. Further, the wormhole is becoming more unstable by the turn, and may eventually close, taking any unredeemed population *before* the fifth turn of the game.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: This Fundamental Reality is only available to Homeworld and Lost Colonist Positions.
- ✓ Note: Effectively, this Fundamental Reality allows a position to ‘buy’ population after the beginning of the game, for a limited time. If you are not going to pay the ransom, there is no point in taking the Fundamental Reality.
- ✓ Note: The Fundamental Reality impliedly introduces a wormhole-controlling, immoral, immensely powerful aliens that may appear elsewhere in the Galactic Space during the game. Why did they need the resources? Will they come back again? Why couldn’t they just take the resources instead of millions of people?
- ✓ Note: The population being held hostage counts against the planet’s Maximum Habitability and also as population for purposes of satisfying the Primal State. Players do not have to purchase this population with IPs before the beginning of the game, but will have to redeem them later for RPs at a price set by the Concierge. This may work to some advantage if the position can get technologies and industry with IPs that would have been spent on pre-game population.

Possible Effects:

- Culture shock
- Helplessness and powerlessness among the population, fear of a recurrence of the same events, failure of supra-legitimacy
- RPs drain early in the game
- A mystery for the game, a story hook

Late Bloomer

“Hence the classic late bloomer is Grandma Moses whose painting career began in her seventies after abandoning a career in embroidery because of arthritis.” – from Wikipedia article, “Late Bloomer”

The pre-Stardrive history of your species is long; longer than any other species. Long after your people should have been starbound, they remained planetbound, obsessed with the problems of their own world. Now that we’ve finally got it straightened out, we can move out to the stars, together. That’s the official line. Perhaps as a result of having learned lessons on the ground, your position begins the game with extra Public Space as if this Fundamental Reality was a Major Fundamental Reality.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: This Fundamental Reality assumes that being a ‘late bloomer’ is not considered a detriment.
- ✓ Note: The amount of extra Public Spaces received depends on what is normal for a Major Fundamental Reality in that particular game – it may vary from game to game depending in the Concierge and the type of game desired.
- ✓ Note: Why would a position take this instead of a Major Fundamental Reality where it would also receive 100 Inheritance Points? It probably depends on the luck of the draw, the Fundamental Realities they have to choose from, maybe the players don’t like the available choices, maybe they want to avoid Major Fundamental Realities if possible. Or maybe there aren’t any other Majors available? This could also sit well beside a Type 5 ‘Double Major’ Fundamental Reality.

Possible Effects:

- Public Spaces – Max Headroom, man!

Libraries

“We have already seen the Ptolemies’ efforts in Alexandria, but others of the period included Pella, Antioch, and at Pergamon, created by the Attalids (282-133 BCE), said to have had 200,000 scrolls.”

– Mark Cartwright, “Libraries of the Ancient World,” Ancient History Encyclopedia, July 23, 2019

The vast and nearly complete contents of several ancient libraries long thought completely lost in antiquity have been discovered in a most unusual and unexpected place, near perfectly preserved inside a carefully protected area. It will take considerable time and effort to fully examine and understand this cultural historical treasure trove of lost works and knowledge and the effect will certainly change your species perception of its own culture and history. Who knows what you might find? Some people might not like it.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: This Fundamental Reality is open to all Primal States; imagine how odd it would be to find the lost contents of ancient Earth libraries perfectly preserved in another starsystem? Like they knew we were going to be there. This would be the case with the Outposter and Invader Primal States taking this Fundamental Reality.
- ✓ Note: Intrigued? This Fundamental Reality is very open to creative development and interpretation. Participants will have to work for it in the game to make it into any concrete effect or part of the story. It is implied that by taking this Primal State, the position intends to do that, otherwise, there is little or no benefit.
- ✓ Note: Initially, it’s a secret, but may be discovered by aliens who may be very interested as well. It is not certain from the description whether this discovery is public knowledge, an ‘open secret’ or well known on your Homeworld or colonies.

Possible Effects:

- Special Mission College
- Culture
- Proficiencies
- Counter-Operations
- Mystery Prize?

Looking in the Mirror

*“Suite Madame Blue, gaze in your looking glass
You’re not a child anymore
Suite Madame Blue, the future is all but past...”*
– Styx, “Suite Madame Blue” (1975)

One of the central themes of your culture coming into the 1st Era is looking to see whom you can become. A fierce drive toward universal (and legitimate) higher education has produced a culture of very educated individuals (and many Ph.D. frauds) such that your species begins the game with Education and Intelligencia Proficiencies and an Education College on one of your starting worlds.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: Trading Inheritance Points for starting Proficiencies and a College. The participants will need to work out the College Endowment and provide RPs within the first two Regular Turns. There are some weights and balances to consider and the Concierge will need to judge what is appropriate compensation. The position players will also need to determine how to best gain from this Fundamental Reality choice.

Possible Effects:

- Proficiencies
- Colleges
- Enlightenment
- Legitimacy
- Endowment

Lost World

“There is a possibility that legends regarding Kuhikugu may have influenced the British explorer Lieutenant Colonel Percy Fawcett to go on his ill-fated last expedition in 1925, looking through the Amazon rainforest for what he called ‘City Z.’”

– from Wikipedia article, “Kuhikugu”

Extant records hint at a world related to your Homeworld and its approximate location in the *starting Galactic Space*. Beyond that, the myths and legends are a jumbled fantasy, likely containing few useful facts.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: This does not relate to or create a Lost Colony Primal State. That is, it does not make any other position in the game related to this position as a Lost Colony and it does not make this position a Lost Colony of any other position, independent of choosing the Lost Colony Primal State.
- ✓ Note: The Concierge will determine any details regarding this alleged world. It may or may not be inhabited, it may or may not be another Homeworld. This is a story hook and the story hook works best if the position actually searches for it.

Possible Effects:

- Exploration
- Maybe a good place to colonize or maybe someone else got there first?
- Story hook

Mirror Race

“Minor Human Races are distinguished from major human races by the assertion that minor human races didn’t discover jump drive on their own, while major races have. ... A Minor Human Race is a human population whose ancestors were believed to have been planted on a world of their own ... and who developed separately from other human-inhabited worlds until it was eventually contacted by a star-faring society.”

– from Traveller RPG Wiki article, “Minor Human Races”

A minor race is discovered on one of the planets in the system where your fleets enter the Galactic Space. They are your people, they are in all respects, population factors of your Native Population Type. Yet there is something different about them, something slightly disturbing. And they don’t know how or when they arrived there; it seems they have been there for many generations. They have a well-established planetary civilization, a good population base, and complex pre-stardrive civilization. An image of your civilization before the 1st Era, before the Exodus. And your arrival ruins it for them.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: This Fundamental Reality is only available to Expedition Leader, Nomadic Warfleet and Truly Alien Primal States.
- ✓ Note: The Concierge will determine all information regarding the sovereign Minor Race in question; the Concierge represents all Minor Races in the game. How will they react?

Possible Effects:

- Sub-species of your Native Population Type
- Integration of minor race
- What makes them different? How did they get there?
- One planet in starting system is occupied by Minor Race

Old Rusty

“In a typical television commercial of 1979, the animated character rode on the roof of a car while saying, ‘Hi, I’m Rusty Jones, and you know what? I’m the one new car option you can buy that’ll appreciate in value. That’s right, cause I’ll stay with your new car as long as you own it. Winter and summer, day ‘n night, not even a coffee break. Workin’ to save your car from rust. And a rust-free car is worth more. So at new car time, insist on Rusty Jones rustproofing.’”

– from Wikipedia article, “Rusty Jones”

Legend says that Old Rusty was first assembled in orbit as an International Space Station, then new modules were added later, then propulsion and control, and it became an enormous patchwork emergency cargo boat to haul supplies to the new in-system colonies. Many events have happened, the computer has gone insane, and a few have died serving on the storied Old Rusty cargo boat. Some say ghosts roam the corridors; some cargo tends to get lost from time to time as well. Someday it will be permanently docked at the shipyard and used as a museum or tourist attraction if the ghosts or insane computer doesn’t scare away the paying customers!

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: This position starts the game with a ‘cargo boat’ in one of their starting systems. A cargo boat is a Cargo Ship without stardrive. Probably, a stardrive cannot be added to the current vessel; it would be cheaper to build a new Cargo Ship than to modify the ramshackle Cargo Boat. But it serves for Carting RPs between colonies in system.
- ✓ Note: And what about the bonus ghosts and the insane computer? The Concierge will determine the RP capacity of the ‘cargo boat’ and any other necessary details.

Possible Effects:

- ‘Free’ Cargo Boat
- Ability to transport RPs between in-system colonies early in the game

Planet Mother

“Mother please forgive them, For they know not what they do.”

– Ozzy Osbourne, “Revelation (Mother Earth)” (1980)

There is a special sacred individual of your species who is thought to be nearly immortal. This person, called the Planet Mother, has been alive for a significant part of your species history. The Planet Mother is not part of any Government, it has lived to see the passage of many thousands of Governments. Rather, the Planet Mother is a living symbol of the life of your species, prosperity, and of good works and good fortune. Wherever the Planet Mother resides, people are empowered and unusual (usually good) events sometimes happen.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: The Planet Mother will begin on the Homeworld, Lost Colony or an Outpost Colony if those Primal States are chosen. For all other Primal States, the Planet Mother begins on a ship. The Planet Mother is initially unknown to all other positions, but may be discovered, the Planet Mother proceeds with pomp and ceremony, and it is difficult to hide her presence from the media.
- ✓ Note: The Planet Mother can be killed or captured. The Planet Mother can travel to any place where your people reside, via normal starship movement. There is no cost for the Planet Mother to move between a planet and ship. The death of the Planet Mother would be culturally devastating.
- ✓ Note: The Concierge will determine from time to time the boon granted by the Planet Mother’s presence or the effect of her demise (a cataclysmic failure of supra-legitimacy). The Planet Mother must be protected at all costs.

Possible Effects:

- Acts and Scenes
- Involuntary Power Activations
- Proficiencies
- Aspects
- College Endowment
- Research Pieces

Prude

“Her name is derived from Mrs. Grundy, a name that has been used to refer to a prudish woman since the early nineteenth century.”

– from Wikipedia article, “Miss Grundy”

Miss Grundy would consider your people a race of prudes! Historians of future ages will remember your species as being so embarrassed by bodily functions that they learned how not to breathe. The first thing your species wants to know upon First Contact is whether or not the aliens wear suitable clothing and conceal their bodily functions. It is thus that whenever the Census Power is activated, this position is not required to (and may not choose to) issue a News Event or any other form of interpretation.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: The Power Activation for each News Event is not published on the forums to avoid giving away unnecessary intelligence. However, smart players may notice the number of News Events published when each position’s Regular Turn is run; not being required to publish a News Event when the Census Power is activated can be deceptive (along with other Power Activations that use non-News Event Interpretations), card-counters may think this position is hoarding Acts and Scenes or has less Government Titles. How much effect this has throughout the game depends on how often the Census Power is activated. But there are cons to frequent Census Power activations – Maximum Habitability, loss of Proficiencies.

Possible Effects:

- Census
- News Events
- Card Counting

Refugee Crisis

“Meanwhile, the remnants of the Ostrogoths reached the Danube, and appealed for refuge in the empire. When this was refused, they crossed the river anyway, since the Romans were too busy trying to look after the Visigoths – and their women – to pay much attention....”

–R. Ernest Dupuy and Trevor N. Dupuy, The Encyclopedia of Military History, 2nd Rev. Ed. (1986), p. 156

Congratulations, you just inherited a refugee crisis. Immediately prior to the beginning of the game, Colony Transports loaded with population factors of your Native Population Type arrived at one of your starting colonies or Homeworld. Medical examination confirms that they are your people, cultural and social observation confirms that they are culturally and linguistically related but show cultural and language drift. The occupants don't know where they came from, or why they left, or how they arrived in the Galactic Space. The colony ships are in emergency condition and will need to be Unloaded. Yet, there are doubts about these people, some might be undesirable.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: Can you do better than the Roman Empire did at the Danube River in 376 A.D.? Can you do better than the EU today? This Fundamental Reality necessitates Unloading the refugee population on the first two Regular Turns or they will die. If the population dies, what is the point in taking this Fundamental Reality?
- ✓ Note: This Fundamental Reality is only available to positions that begin in the Galactic Space, that is, Homeworld, Lost Colony and Outposter Primal States. The refugee population cannot be used to satisfy population requirements of the Primal State before the game.
- ✓ Note: A position that begins with this Fundamental Reality must begin the game with Colony Transport and Stardrive existential technologies.
- ✓ Note: This Fundamental Reality is a story hook for the players and Concierge in the early game. The Concierge will determine the number of refugee population but it should not cause the receiving world to exceed Maximum Habitability. Unloading the refugee population is not a Disruption Event (a one-time special dispensation form higher up) and the Colony Transports must be Scrapped.

Possible Effects:

- Maximum Habitability
- Extra Population Growth

Second World

“There has always been, for me, this other world, this second world to fall back on – a more reliable world in so far as it does not hide that its premise is illusion.” – Graham Swift

It was discovered in the Space Age, that a second world in your Homesystem bore life, in particular, a species of intelligent sapient technologically capable life. The other species has not achieved Stardrive and is in fact, still technologically primitive by your standards; they became a Minor Race the moment your people invented Stardrive. What will you do? No direct contact has yet been made with the others. They do not seem to be aware of you yet.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: The Concierge will create and provide the details of the Minor Race as necessary. This Minor Race is not in any way related to your Native Population Type.
- ✓ Note: When choosing this Fundamental Reality, the position players will determine that having a minor race in the Homesystem is beneficial. If that determination cannot be made, then there is no point in taking this Fundamental Reality unless just for the story potential.

Possible Effects:

- First Contact
- Minor Race
- One planet in the Home System is occupied by a Minor Race, not available for *pre-game* colonization

Space Hulk

“Von Braun described a majestic, 250-foot-wide wheel that would orbit 1,075 miles above Earth and rotate to provide artificial gravity. Von Braun’s ideas and an artist concept by Chesley Bonestell inspired the station in the movie 2001: A Space Odyssey. In von Braun’s grand scheme, a station would have been built before human voyages to the moon – a plan he outlined in a subsequent Collier’s article. He described the station as ‘the ever-watchful guardian of the peace’ and continued on to say, ‘the station will provide the springboard for one of the greatest scientific advances in history: the lunar journey men have dreamed of for centuries.’ His station of the 1950s resembled a combination fortress and research lab capable of housing eighty men. He and other experts featured in Collier’s predicted the station could be built by 1967 for a cost of \$4 billion (in 1952 dollars) and called it ‘the next long step in space,’ to be followed by lunar missions by 1977.”

– Tracy McMahan, “From Dream to Reality: Marshall Space Flight Center’ Role in Developing Space Stations,” from nasa.gov, undated article

Got Shipyard? Check!

An ancient, remarkably well-preserved and still functioning Orbital Shipyard has been located in your starting system. And look, nobody’s home! And they left the keys in the door.

Now we just have to add industry and population.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: The Concierge will randomly determine the location of the Shipyard at a planet in the starting system. It is not required to be at a world that begins colonized or a Homeworld or at a planet that is desirable to colonize. However, the location where it is will likely begin the game colonized so that it can be used. For game purposes, it is a normal Orbital Shipyard.
- ✓ Note: This Fundamental Reality is available to any Primal State. It counts as having an Orbital Shipyard Existential Patent if one is required by the Primal State chosen (this is a one-time exception to the normal rules).
- ✓ Note: The position is not required to have Orbital Shipyard, Stardrive or any Ship Existential Patents to take this Fundamental Reality. This Fundamental Reality does not allow a position to build another copy or any other Orbital Shipyards before the Orbital Shipyard Existential Patent is completed.

Possible Effects:

- ‘Free’ Orbital Shipyard at start of game
- Random location
- Hope the owners don’t come back and serve an eviction notice

Spiral Stairs

*“I stand atop of spiral stairs
An oracle confronts me there.”*

– Rush, “The Oracle” (1976)

Your species has precognition. The first historically verifiable episodes of precognition occurred in relation to the events leading to the discovery of Stardrive; however, possible signs of precognition occur throughout your recorded history. Precognition is not the same as prediction; precognition reveals ‘unpredictable’ events or events that cannot be predicted by mortal intelligence based on what is known at the time of the precognition. Precognition is a sort of ‘looking’ (without seeing), it is not merely a possible future, the precognitive event has in a sense, ‘already happened.’ Attempts to prevent an event that has already happened from happening have always failed or possibly led to disaster, as have many attempts to exploit precognitive knowledge. S

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: Twenty years ago, I witnessed a chain-reaction fender bender on the Smithfield Street Bridge. I could see the driver was talking on the phone and going too fast across the bridge (which has a hump), I could see he couldn’t stop in time, but there was nothing I could do except call 911 afterward. This is not a case of precognition; it is a case of prediction based on what I observed moments before the accident. Precognition would have required that I know, before reaching the bridge that an accident would happen.
- ✓ Note: For this to be an advantage, the position will need to develop specific concepts in-game. If not, it simply becomes latent.

Possible Effects:

- Anything
- A Walking Causality Violation
- Predestiny? vs. Freewill?

The Undoo

“...the story of our lives that we would write if we had our fingers on the Keyboard in the Sky...”

– Norman Spinrad, Science Fiction in the Real World (1990)

Your race possesses a powerful, ancient, alien artifact called The Undo Butt-un, which is said to be able to reverse time once. It is held in secret, unknown to the majority of the population, lest someone try to use it for personal gain or to relieve personal pain.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: This artifact will be located in the beginning of the game on the Home-world or Lost Colony, or largest colony, or on a ship if no colony is available. It will be dropped on the first colony. It can be moved, captured, and used by others. The original owners may come looking for it.
- ✓ Note: It’s just a story, it might not actually work. Or not quite work as expected. Whatever science is behind the alleged effects of this artifact might as well be magic.
- ✓ Note: When activated – if it actually works – the Undoo erases the previous Regular Turn Cycle, or Combat Round involving the position and resets all affected positions to where they were, *status quo ante*. The Undoo can only be used once and its use may attract unwanted attention from outside the Galactic Space... or not.
- ✓ Note: The Concierge must be able to restore the game data from backup files when the Undoo is used.

Possible Effects:

- Undo Previous Turn – is this the ultimate Enlightenment?
- Capture and use by other players
- Déjà vu and Yogi Barra
- Unknown side effects
- The previous owners might want it back and come looking for it

UFO-ology

“Now, there are all kinds of ideas that would be fun to believe in: mental telepathy, time travel, immortality, even Santa Claus. Now I know it’s no fun to go home and say: ‘Guess what happened! I was in a shopping center. There was this tremendously bright light, and I rushed outside, and it was an airplane.’ ... You know, for fifteen years I’ve been looking for these damn silly lights in the night sky. I’ve never found any. I’d like to, because I believe in life elsewhere.”

– from *Close Encounters of the Third Kind* (1977)

Mysterious lights pass in the night sky. Your commanders have knowledge of three previously explored starsystems before entering the Galactic Space. Your fleet can only reach one. You must choose wisely.

- ✓ Note: Type 2 Fundamental Realities receive no Inheritance Points and have no Major or Minor Forms.
- ✓ Note: This Fundamental Reality is only available to Expedition Leader and Nomadic Warfleet Primal States.
- ✓ Note: The Concierge will provide exploration information on three random (but suitable) systems in the Galactic Space. Results are not guaranteed to please. Positions should choose quickly so as not to hold up the start of the game.¹

Possible Effects:

- Pre-exploration of Galactic Space
- Superior initial colonization options

¹ “The Beings of Light are a mysterious race that travel using the Ship of Lights. Called angels by the primitive people on Kobol, these creatures helped them develop the civilization that would become the Twelve Colonies (War of the Gods).” – Battlestar Wiki Clone article, “Beings of Light”

✓ “In the comic series, the Seraphs are responsible for providing Galactica and her Fleet a ‘warp system’ that permits them to reach Earth.” – Battlestar Wiki clone article, “Seraphs”

Axiom of Responsibility

“In economics, moral hazard occurs when someone increases their exposure to risk when insured, especially when a person takes more risks because someone else bears the cost of those risks. A moral hazard may occur where the actions of one party may change to the detriment of another after a financial transaction has taken place.”

– from Wikipedia article, “Moral hazard”¹

Major: Responsibility (social, civic, legal, moral and personal duty and accountability) can never be achieved while the intellectual development of adult members of society remains so widely variable. Failure of responsibility or irresponsible behavior² on all levels is toxic to civilization.

Minor: Responsibility (social, civic, legal, moral and personal duty and accountability) can never be achieved while the intellectual development of adult members of society remains so widely variable. Failure of responsibility or irresponsible behavior on all levels is toxic to civilization.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same, the difference is in how seriously you take your responsibilities!
- ✓ Note: Responsibility is a form of boundary control, establishing bounds beyond which certain behaviors are unacceptable (e.g., ethics, duty, customs) and formal division of areas of responsibility (roles, departments, expectations, licensing, warrants, charters, contracts). Education has long been tied to responsibility, with criminal laws enforcing it externally.

Supra-Legitimacy *sine qua non*:³

- Maintenance to minimize the effects of entropy
- Custom Proficiency, Education Proficiency, Integrity Proficiency, Police Proficiency
- Enlightenment
- Education College and Institutes and education-based Writs

¹ The most fun can be had when spending someone else’s money.

² Blame sits at the intersection of Causation and Morality.

³ *Sine qua non* is an essential and indispensable condition, action or part. Actions, or failure to act, or events and circumstances opposite of those listed above, are violations of this Fundamental Reality.

Birthright

“Although proud of their Arab heritage and ancestry, the Palestinians considered themselves to be descended not only from Arab conquerors of the seventh century but also from indigenous peoples who had lived in the country since time immemorial, including the ancient Hebrews and the Canaanites before them. Acutely aware of the distinctiveness of Palestinian history, the Palestinians saw themselves as the heirs of its rich associations.”

– Walid Khalidi, *Before Their Diaspora: A Photographic History of the Palestinians, 1876–1948* (1984)

Major: Birthright, promised lands, manifest destiny, your species’ *a priori* claim to the stars. Your people have a right to expand and a right to the resources that are out there. What are we willing to do, how far will we go? Warrior princes, philosopher kings striding across the stars, or slavers and tramp traders struggling from one starport to the next? How will this cycle end?

Minor: Birthright, promised lands, manifest destiny, your species’ a-priori claim to the stars. Your people have a right to expand and a right to the resources that are out there. What are we willing to do, how far will we go? Warrior princes, philosopher kings striding across the stars, or slavers and tramp traders struggling from one starport to the next? How will this cycle end?

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: The Major and Minor forms of the Fundamental Reality are the same; the difference is the strength with which they will be applied.

Supra-Legitimacy *sine qua non*:¹

- Regular, endless expansion of the colonial footprint in Galactic Space
- Continuous expansion of the population on colonies
- Technological Development, especially in weapons
- Protection of sovereignty above all else

¹ *Sine qua non* is an essential and indispensable condition, action or part. Actions, or failure to act, or events and circumstances opposite of those listed above, are violations of this Fundamental Reality.

Born Pregnant

“A baby born in Hong Kong was pregnant with her own siblings at the time of her birth, according to a new report of the infant’s case. The baby’s condition, known as fetus-in-fetu, is incredibly rare, occurring in only about 1 in every 500,000 births. It’s not clear exactly why it happens.”

– Tia Ghose, “Baby Born Pregnant with Her Own Twins,” LiveScience.com, February 10, 2015

Major: Thank goodness you invented computers; the Census never ends! Your population-obsessed species multiplies and matures very quickly; one of the main tasks appointed to the government is simply to determine how many of you there are at any given time. In the words of a famous alien doctor, your species is ‘born pregnant.’

The Census problem started when your ancestors gained enough intelligence to drive all native predators into extinction. Efforts to curb population growth have met with intense social resistance (even in the face of food shortages); further complicated by the fact that gestation is tied to most vital biological functions including digestion, circulation, and respiration, i.e. contraceptive attempts are ineffective unless they also cause death.

Minor: Thank goodness you invented computers; the Census never ends! Your population-obsessed species multiplies and matures very quickly; one of the main tasks appointed to the government is simply to determine how many of you there are at any given time. The Census problem started when your ancestors gained enough intelligence to drive all native predators into extinction. Efforts to curb population growth have met with intense social resistance (even in the face of food and space shortages) and failure.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.

Supra-Legitimacy *sine qua non*:¹

- Very large total Native Population in the Galactic Space, the vast majority of which is under the sovereignty of this position (the Concierge could set a measuring stick such as # Regular Turns processed times X population factors = total population target for that stage in the game).
- Available Maximum Habitability room on Friendly Colonies both locally and globally (can be expressed in percentages locally and multiples of the current population globally).
- Frequent Census Power Activations with no loss due to Maximum Habitability (the Concierge must define what is considered frequent, but doesn’t need to inform the position players – a little paranoia!).
- No excessively frequent taxations (RPs are needed to raise the young!).

¹ *Sine qua non* is an essential and indispensable condition, action or part. Actions, or failure to act, or events and circumstances opposite of those listed above, are violations of this Fundamental Reality.

Broken Windows

“Social psychologists and police officers tend to agree that if a window in a building is broken and is left unrepaired, all the rest of the windows will soon be broken.”

– James Q. Wilson and George L. Kelling, “Broken Windows,” orig. pub in *The Atlantic*, 1982 (now available free online in PDF)

Major: Litter, vandalism, broken windows, lack of maintenance lead to the perception of public disorder. Public disorder leads to fear and more public disorder. A broken window not punished today leads to greater criminal acts later. Fear overwhelms, paralyzes, strains and tears at the fabric of society, incivility prevails. Trust is lost in the government who cannot pick up the litter.

Minor: Litter, vandalism, broken windows, lack of maintenance lead to the perception of public disorder. Public disorder leads to fear and more public disorder. A broken window not punished today leads to greater criminal acts later. Fear overwhelms, paralyzes, strains and tears at the fabric of society, incivility prevails. Trust is lost in the government who cannot pick up the litter.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: This is the ‘broken windows theory’ of policing blown up to a Fundamental Reality. Fundamental Realities are axiomatic; the population considers this not a theory, but an axiom. Order is an obsession.
- ✓ Note: The Major and Minor forms of the Fundamental Reality are the same; the difference is the strength with which they will be applied.

Supra-Legitimacy *sine qua non*:¹

- Constant police presence, maybe even a police state (i.e. Police Proficiencies, Police College, Police Institutes, Order Power-based Writs) is required to keep petty crime from becoming major crime.
- Expectation of a pristine civilization (i.e. Maintenance Shields), if the government can’t even pick up the litter...
- Deviant thought is mental litter of civilization that must be cleaned up by the government – e.g., frequent activation of the Culture Power for the purpose of Cohering and Special Operations Power activations for Counter-Operations, even if unnecessary – it is the appearance that is important, it’s a numbers measure, control public primary school education, political correctness, thought police).
- Stern, solid, stable (e.g., probable Unitary Structural Title, no disrupted Titles or changes in government, no Thesis Statements, etc.).

¹ *Sine qua non* is an essential and indispensable condition, action or part. Actions, or failure to act, or events and circumstances opposite of those listed above, are violations of this Fundamental Reality.

Common Wealth of Systems

*“A commonwealth is a traditional English term for a political community founded for the common good. Historically it has sometimes been synonymous with ‘republic.’ The noun ‘commonwealth,’ meaning ‘public welfare general good or advantage,’ dates from the 15th century. Originally a phrase (... echoed in the modern synonym ‘public wealth’) it comes from the old meaning of ‘wealth,’ which is ‘well-being,’ and is itself a loose translation of the Latin *res publica* (republic). The term literally meant ‘common well-being.’ In the 17th century, the definition of ‘commonwealth’ expanded from its original sense of ‘public welfare’ or ‘commonweal’ to mean ‘a state in which the supreme power is vested in the people; a republic or democratic state.” – from Wikipedia article, “Commonwealth”*

Major: An expectation exists that the taxes collected represent the wealth of the people and that the wealth of the people should be carefully managed and that a budget surplus is evidence of success. Therefore the Treasury is carefully watched and a surplus must be maintained for legitimacy.

Minor: An expectation exists that the taxes collected represent the wealth of the people and that the wealth of the people should be carefully managed and that a budget surplus is evidence of success. Therefore the Treasury is carefully watched and a surplus must be maintained for legitimacy.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: The Major and Minor forms of the Fundamental Reality are the same; the difference is the strength with which they will be applied.
- ✓ Note: This ‘spreadsheet position’ Fundamental Reality makes the Treasury somewhat more literal than it is in the regular game rules. The Concierge will have to establish a level of expectation, it will probably be a ratio of current treasury to taxation, but other measures are possible. RPs will still age and disappear, making this a tricky balancing act of legitimacy.

Supra-Legitimacy *sine qua non*:¹

- Minimum loss of RPs due to aging, expressed as a percentage of total theoretical taxation set by the Concierge.
- RPs in Treasury at the end of each Regular Turn equal to a percentage of total theoretical taxation set by the Concierge.
- Increase in RPs received on each activation of the Taxation Power expressed as a minimum percentage set by the Concierge (no exceptions are made here for Power Activation failures due to inactive Constructural Elements).
- Total theoretical industry output in RPs if taxed increases at least every two Regular Turns (minimum of 1 RP increase).

¹ *Sine qua non* is an essential and indispensable condition, action or part. Actions, or failure to act, or events and circumstances opposite of those listed above, are violations of this Fundamental Reality.

Community Builders

“Of course it is, for the simple reason that no one else would’ve ever built a place like this. Humans share one unique quality. They build communities. If the Narns or the Centauri or any other race built a station like this, it would be used only by their own people, but everywhere humans go, they create communities out of diverse and sometimes hostile populations. It is a great gift and a terrible responsibility, one that cannot be abandoned.”

– Delenn, Babylon 5, “And Now for a Word” (1995)

Major: Your species builds communities, taking the lost, the diverse, integrating them into the whole, developing the community strength through diversity. This may seem to imply that there have been no wars in your history, but that is not the case. Much of community building, cross cultural exchange and development of administrative systems is owed to the empires of history and to waves of mass migration.

Minor: Your species builds communities, taking the lost, the diverse, integrating them into the whole, developing the community strength through diversity. This may seem to imply that there have been no wars in your history, but that is not the case. Much of community building, cross cultural exchange and development of administrative systems is owed to the empires of history and to waves of mass migration.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same. The difference is the strength with which they are applied.
- ✓ Note: Xeno-phobic Fundamental Realities and Government Titles would seem to be at odds with this Fundamental Reality. Contradiction is allowed in a position.

Supra-Legitimacy *sine qua non*:¹

- Population expects to quickly Naturalize aliens, who must easily see the purity of our great intent (regardless of the conquest) and that we have the best intentions.
- Destruction of Colony Ships – which is quite un-neighborly, even to prevent Landing – is abhorrent.
- We love alien commerce (bring your juke box money!), commerce builds communities, shrinks distance. MegaCorporation memberships may also be considered positive community building.
- Community building requires mixing it up, like socializing at a party, so everyone pile in the car (i.e. Colony Ships), it’s as big as a whale! And it’s about to set sail for the place out in the wild (Love Shack, Baby!) where we can Land or Unload. We are a people on the move, checking on our friends who moved onto different worlds (i.e. circulation of population helps build communities by connecting).

¹ *Sine qua non* is an essential and indispensable condition, action or part. Actions, or failure to act, or events and circumstances opposite of those listed above, are violations of this Fundamental Reality.

Dirty Laundry

“We got our dirty little fingers in everybody’s pie.”

– Don Henley, “Dirty Laundry” (1982)

Major: Your civilization keeps a secret. If I told you what it was, it wouldn’t be a secret, unless I killed you right afterward.¹ This secret is of such a compelling nature that it cannot simply be forgotten by the passage of generations. Prior to the start of the game, those who knew this secret determined that aliens could never be allowed to learn this secret and that revelation to aliens would be catastrophic to your posterity. The danger of this secret may even justify mass murder and cause the fall of governments.

Minor: Your civilization keeps a secret which predates the beginning of the game. This secret is of such a compelling nature (in the mind of your species) that it has not been lost by the passage of generations. Prior to the start of the game, those who knew this secret determined that aliens could never be allowed to learn this secret.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: The ‘secret’ is always kept at the current Capital Colony, where the government can best protect it. If it is ever revealed, the Concierge will determine what it is, how it fits into the story. Until then, there is no need to specify.

Supra-Legitimacy *sine qua non*:²

- The Secret must be protected from discovery; i.e. Counter-Operations Missions (*missions* – plural, that is, two or more) target protecting ‘the Secret’ (i.e., this Fundamental Reality) around the clock on the Capital Colony (watch for ‘aging-out’ of the COMs) after the first-First Contact.
- Aliens are not welcome at the Capital Colony, any alien contact is a risk (e.g., Load/Unload RPs, MegaCorporations, Combat), they can do their business at the other colonies.
- The Secret cannot be voluntarily erased or destroyed (can’t solve the problem by changing the definition): The Capital Colony must never be Conquered (this would be a catastrophic failure for both the Major and Minor of this Fundamental Reality). If this ever happens, or it is ever destroyed, the Concierge will need to determine how this affects the position population. Orbital Bombardment of the Capital Colony or Raid/Strike against it should not be assumed to automatically destroy the Secret.
- Any mention of the Secret by other positions (e.g., in News Events, Thesis Statements), even if they are just guessing, causes instant paranoia and consternation (i.e. an Intervention Potential Plus), because you never know if they know.

¹ Old military joke, “I’d tell ya, but then I’d have to kill you!”

² *Sine qua non* is an essential and indispensable condition, action or part. Actions, or failure to act, or events and circumstances opposite of those listed above, are violations of this Fundamental Reality.

Empty Nest, Empty Shell

“Oh peachy! A new form of primitive life leaving the nest.”

– Marvin the Martian watching an Earth rocket launch (Looney Tunes)

Major: Leaving the nest, leaving the shell, is one of the strongest and most basic urges of your species (related to and stronger than the mating urge). Where humans have romance novels, your species has the equivalent empty nest literature. Throughout history, the leaving the nest urge has resulted in regular sweeping migrations across the Homeworld. It is so ingrained that the ultimate goal of your species is to leave the Homeworld and return it to a natural, pristine state. Any sapient species that has the ability to leave the Homeworld, but remains, even with a small population, is considered immature and unworthy.

Minor: Leaving the nest, leaving the shell, is one of the strongest and most basic urges of your species (related to the mating urge). Where humans have romance novels, your species has the equivalent empty nest literature. Throughout history, the leaving the nest urge has resulted in regular sweeping migrations across the Homeworld. It is believed that the ultimate destiny of your species is to leave the Homeworld. If even a small population remains on the Homeworld, we are to be considered immature and unworthy.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: This Fundamental Reality is only available to Homeworld positions.
- ✓ Note: There are some other Fundamental Realities that would directly contradict this one, e.g., some with damaged Homeworld conditions to start the game, contradiction in Fundamental Realities is not prohibited, but it would be a hard climb to make it work, but a greater impetus and glory.

Supra-Legitimacy *sine qua non*:¹

- Cultural expectation of progressive depopulation, deindustrialization of the surface of the Homeworld during the course of the game (judgment of the pace of this is at the discretion of the Concierge, one measure might be whether the population is less after each Census, but the frequency of Census activations is controlled by the position players). Population in Orbital Cities may remain.
- Prejudice against or disdain for any species (other than Minor Races) known to still inhabit their Homeworld (i.e. a preference for Outposters and Invader Primal State positions, minimum Diplomatic Spaces with others).
- Homeworld must returned to nature in the best possible condition.
- The Homeworld should not be the Capital Colony after the first interstellar colony is established and meets the minimum criteria (the Concierge will determine if the Capital Colony transfer has not occurred with sufficient expediency).

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First Cause

“There is no case known (neither is it, indeed, possible) in which a thing is found to be the efficient cause of itself; for so it would be prior to itself, which is impossible. Now in efficient causes it is not possible to go on to infinity, because in all efficient causes following in order, the first is the cause of the intermediate cause, and the intermediate is the cause of the ultimate cause, whether the intermediate cause be several, or only one. Now to take away the cause is to take away the effect. Therefore, if there be no first cause among efficient causes, there will be no ultimate, nor any intermediate cause. But if in efficient causes it is possible to go on to infinity, there will be no first efficient cause, neither will there be an ultimate effect, nor any intermediate efficient causes; all of which is plainly false. Therefore it is necessary to admit a first efficient cause, to which everyone gives the name of God.”

– Thomas Aquinas, *Summa Theologica*, 1 Q2.3

Major: The soul of your species is an obsession with finding the First Cause and Unmoved Mover of everything. Every scientific and philosophical theory or argument seems to run head first into the Unmoved Mover.

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- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: This Fundamental Reality is not available to a Truly Alien Primal State.
- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same, the difference is in the strength of application.
- ✓ Note: This Fundamental Reality might be characterized by some as a literal search for ‘God’ but ‘God’ is only a theoretical construct of the First Cause and Unmoved Mover. The question of this Fundamental Reality is what would a civilization with the means to interstellar travel and on a literal quest for the First Cause do?

Supra-Legitimacy *sine qua non*:¹

- Quest to reach the Big Bang (the Concierge will determine direction), the position continuously explores and expands in that direction.
- Quest to reach a super-massive black hole – there probably aren’t any in the Galactic Space because that would be rather catastrophic to the game – one discovered in 2012 was 17 billion solar masses (there is a ‘small’ 4-million solar masses back hole in the center of our galaxy).
- Quest to reach the entry point of a Truly Alien position if one exists in the game.

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Hallowed Homeworld

“Fleeing from the Cylon tyranny, the last Battlestar Galactica leads a rag-tag fugitive fleet on a lonely quest... a shining planet known as Earth.”

– Commander Adama, Battlestar Galactica (1978)

Major: The utopian legend of Homeworld has become part of the literature, myth, and lore of your population. A distant, shining place of pre-space history, a gleaming gem in the sky that was lost as part of a moral fall and/or exodus of your people. The location of the Homeworld is unknown, but it is assumed to still exist, peopled with the enlightened descendants of the ancients, waiting for the return of the lost. The moral authority of the government descends allegedly from the code of the ancients; legitimacy of the government continues to rely on those ancient codes.

Minor: The utopian legend of Homeworld has become part of the literature, myth, and lore of your population. It is a distant, shining place of pre-space history, a gleaming gem in the sky that was destroyed as part of a moral fall and/or exodus of your people. The moral authority of the government descends from the code of the ancients; legitimacy of the government continues to rely on appeal to those ancient codes.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: This Fundamental Reality is only available to non-Homeworld Primal States.
- ✓ Note: The Hallowed Homeworld is not located in Galactic Space and will never be found during the game. The government, however, may be required to make efforts to locate it, to maintain legitimacy.

Supra-Legitimacy *sine qua non*:¹

- Species seeks to *recreate* the lost Homeworld on every Friendly Colony; selectivity in colonization, environmental preservation and even terraforming efforts may be required.
- The original Homeworld was crowned with a halo of glittering Orbital Cities.
- The original Homeworld is Terra Sancta and every Friendly Colony seeks to *emulate*.
- It is a clear catastrophic violation if a Friendly Colony’s Maximum Habitability or Habitability Class is damaged in Combat or by Special Operations Black-op.
- The original Homeworld is thought to be enlightened and diverse, its inhabitants something above mortal stature in understanding and moral reasoning (but this rather contradicts the mythic loss... but few take serious notice because it makes their loss even more mythic).

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Haussmannization

“Haussmann’s renovation of Paris was a vast public works program commissioned by Emperor Napoléon III and directed by his prefect of Seine, Georges-Eugène Haussmann, between 1853 and 1870.”

– from Wikipedia article, “Haussmann’s renovation of Paris.”

Major: The urban centers of the old world(s) demand major remodeling, and the materials for this will have to arrive from the outer colonies. This drive to renew goes beyond merely replacing the old and unmaintained with the new, no sir, the urban centers shall be transformed into shining jewels of perfection and extravagant art peopled by wealthy citizens.

This goes beyond the normal process of the flow of resources from the outer areas to urban centers and the flow of civilization outward from the urban centers; rather, the urban rebuilding will require more than the outer areas are willing to give and they may not receive much benefit in return. Failure to produce the desired situation, by any means necessary, will bring the legitimacy of the Government into question. Oh, and some unfortunates will have to be displaced to make room for the new construction...

Minor: The urban centers of the old world(s) need major remodeling, and the materials for this will have to arrive from the outer colonies. There is a strong expectation that the outer colonies will produce resources to enhance the older worlds. Failure to produce the desired situation will bring the legitimacy of the Government into question. Oh, and some unfortunates will have to be displaced to make room for the new construction...

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.

Supra-Legitimacy *sine qua non*:¹

- Get with the long term program: Urbanization Proficiency, College, Writs.
- Space to live! Overcrowded colonies are unhealthy, unclean (like Paris in the 19th Century). Friendly colonies should not pass 80% of Maximum Habitability; being on a Balkanized planet makes no difference in this. Orbital Cities should not be a pigsty – the same concept applies as that of a surface colony (*ut supra*).
- Any outbreak of disease on a Friendly Colony is a violation of this Fundamental Reality. This applies mainly to plagues and epidemics caused by other positions (whether or not they know about this Fundamental Reality is irrelevant), however, depending on the game, the Concierge may be the cause.
- Domestic subsistence should never be invaded or impaired by the interstellar government, doing so causes urban decay.
- A healthy maintenance level (i.e. Maintenance Shields), is required so that civilization does not return to its previous, horrific state.

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Horror Vacui

“The concept of horror vacui, named as such, appears to have arisen during the Victorian era. It was first used as a criticism of interior design in architecture and wasn’t considered to be any kind of compliment. However, the term has Latin roots, and the concept turned up in the time of Aristotle.”

– Mads Soegaard, “Horror Vacui: The Fear of Emptiness,” Interaction Design Foundation, 2019

Major: A primal drive of your species is to fill all living spaces. A colonized planet with lots of empty space is terrifying. A sense of fullness, of details in every space permeates the works of your species from the ancient times. Civilized and arranged fully urban spaces, crowds, are satisfying and a vital component to the legitimacy of the authorities.

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- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same; the difference is the strength with which they will be applied.
- ✓ Note: New colonies must reach maximum habitability as quickly as possible; loading populations from established colonies makes them less full, unsatisfying and the government less legitimate. The population may act out of fear, disorder.

Supra-Legitimacy *sine qua non*:¹

- Every available planet in a colonized system should have a Friendly Colony (this may mean war, it’s a straightforward idea).
- Planetary surface frontiers are abhorred (e.g., unfilled Maximum Habitability represents ‘frontier’ space at a Friendly Colony).
- Orbital Cities are not favored (but not forbidden), each Orbital City is a small mark against the legitimacy of the government. Why fill Orbital Cities instead of unfilled planets?
- Loading population from existing colonies decreases the legitimacy of the government (i.e. empty houses, ghost towns,) however, it may be balanced by population growth and Unloading population to other unfilled colonies.
- Aliens do not understand... any un-colonized planets and/or unfilled **alien colony** planets *can be improved with the addition of a Friendly Colony (!)*, whether the aliens approve or not. They can be made to understand, eventually...

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If You Have Face

“Let the other person save face.” – Dale Carnegie

“While you are saving face, you are losing your ass.”

– Lyndon B. Johnson

Major: Your species would be described as ‘prideful’ in the extreme (whether they actually have prides or not...). The concept of pride, for which there are 999 different variations and sub-variations in your language (including one that sounds suspiciously like ‘U2’ when translated), is so deeply rooted in your culture and pre-Starflight history that it affects the legitimacy of Governments and Institutions above and beyond the mundane daily politics. It would be called Face...if your species has one...and no legitimate Government would lose Face to aliens.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: Don’t tread on me! Loss of face is to be avoided at almost all costs, short of a potentially worse loss of face situation later, but it happens. When it happens, it must be restored shortly and decisively. Protecting against loss of face is a requirement of government legitimacy, a government that cannot keep face cannot protect the people or itself.

Supra-Legitimacy *sine qua non*:¹

- Never lose a combat, never turn and run (this is in addition to any Disruption Events and loss of active Constructural Elements that may result), loss or flight is *disgrace*.
- Inability to break a colony siege is a *loss of face* for the government.
- Power Activation failures are an *affront* to the government and the people (i.e. a violation of this Fundamental Reality), rebels maybe be tolerated, even respected somewhat, but not allowed to interfere.
- A broken Shared Meaning is an *insult* (i.e. a violation of this Fundamental Reality).
- Destruction of any sovereign ship or harm to any Friendly Colony is a *grave offense*.
- Offenses, insults, affronts, disgrace are redeemed by punishment and extreme action; extreme action goes beyond merely reestablishing *status quo ante* or evening up the score, it requires a great success to restore honor, prestige and esteem.

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Kayfabe

Major: Be Fake. Politics for entertainment. A significant part of the legitimacy of your government is the provision of a constant stream of kayfabe; staged political feuds, rhetoric, fights, elections, and rivalries portrayed as real and important, but that are really a media circus act. All matters are actually decided beforehand and the kayfabe distracts the public and lends credibility to the process where the outcome is predetermined. Occasionally, there must be a tragedy to keep it ‘real.’

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- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same; the difference is in the strength with which they are applied.

Supra-Legitimacy *sine qua non*:¹

- Heels & Faces: Pageantry and broadcast media (i.e. Spirit and Communications Proficiencies).
- ‘Drama queen’ and soap-opera like News Events (a little like a Type 4 Fundamental Reality), and symbolic acts in-game.
- The population must be especially attuned to symbolic acts, and ideological symbolism (i.e. mostly active Symbolic and Ideological Constructural Elements) for political theatre to be sufficiently entertaining (like if you have to explain it, it’s not as dramatic or funny).
- Population conditioned to accept formulaic and repetitive melodrama and hyperbole, an expectation of constant entertainment, to which education and sophistication of worldview are antithetical (this may harm the position by preventing use of Enlightenment),² allowing people to see through smoke & mirrors.

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² WWE fans are not going to like the suggestion behind this, but the last time I watched the WWF, I and my best friends were about 9 to 11 years old and we, like most boys of the age, thought it was real (and I believe the beer-drinking, cigarette-smoking, brain-donation-returned-by-science adult men who watched it with us also thought it was real, if they gave it any thought at all). Taxation does wonders: When New Jersey sought to tax WWF events as a competitive sport, it was finally admitted in public hearings in 1989 by the WWF owner that pro-wrestling was fake, scripted, choreographed and therefore, more akin to a circus act or movie stunting than a sport – to avoid taxation! They also lost a lawsuit against the World Wildlife Fund (the real WWF) and had to change WWF to World Wrestling Entertainment (WWE).

Krewl-T

“Xenophobia, a frustrated desire to join the imperialist ‘club’ dominated by the Western powers, plus perceived British and American racism coalesced in Japan with nationalist ideologies: racial superiority; domination of an ‘inferior’ China as a holy war; a belief that Japan was destined to rule the world; a distorted bushido code; a young, disaffected officer corps seething with Imperial Way and Toseiha ideology; and the powerful message that the emperor was an infallible living god. All these elements blended in an ideological witch’s brew that had a direct bearing on the treatment of Japan’s enemies.”

– Mark Felton, “A Culture of Cruelty,” *Military History*, January 2011

Major: Your culture comes into the game with a very strict militaristic hierarchical system where order is enforced by violence, infliction of pain, economic sanctions, and an ancient codified worldview and belief system. While some aliens might find the conditions of your society shocking and cruel, they are just aliens, outsiders, at the bottom of the order.

Within your society, the system is considered the normal, natural, and right state of relations, that serves a greater purpose, and is not questioned by anyone who matters. The ultimate legitimacy of any government is the ability to apply force to maintain its position, above all lesser issues.

Minor: Your culture comes into the game with a very strictly enforced hierarchial system supported by an ancient codified worldview and belief system. Within your society, the system is considered the normal, natural, and right state of relations, that serves a greater purpose, and is not questioned by anyone who matters. Aliens can never become part of the system, and cannot be expected to understand.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: The Major version of this Fundamental Reality basically implies an oppressive empire and cultural ideological superiority, the Minor version may permit empire building, but is basically just more culturally xenophobic.

Supra-Legitimacy *sine qua non*:¹

- Sovereignty over significant alien populations.
- Pacification Combat is preferred method of Conversion, followed a close second by Orbital Bombardment (especially in the Major form).
- Long time to Naturalization of **alien colonies**.
- Looting is acceptable, and expected in many cases.
- Not in favor of Balkanization, other colony on planet will probably need to be conquered eventually.

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Malevolence

“Some people are in such utter darkness that they will burn you just to see a light. Try not to take it personally.” – Kamand Kojouri

Major: Your people believe that in ancient times, their ancestors ‘crossed over’ and inadvertently (or foolishly, naively) brought back malevolence (perhaps what humans call ‘evil’). Malevolence comes in many shades and does not always mean instant death, but is hard to grasp or contain. The most important task of government is to defeat the malevolence and return your people to the ideal state.

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- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same; the difference is the strength with which they will be applied.
- ✓ Note: This is your species version of ‘The Fall.’ The story may or may not be true, depending on the direction the Concierge wants to take the game. It is important however that the majority of the population believe that malevolence lurks around every corner, waiting to corrupt and infiltrate society, want to believe it, and will continue to do so after leaving the Homeworld. The legitimacy of the government is largely dependent on the expectation that it is protecting society from the malevolence. The ‘factual truth’ of it doesn’t matter to your people.
- ✓ Note: Aliens may be regarded as agents of the malevolence...

Supra-Legitimacy *sine qua non*:¹

- Government Legitimacy is strengthened by alien Special Operations after First Contact, and by successful or at least regular, Counter-Operations at Friendly Colonies. **Alien colonies** on your planets are a malevolence threat. *En garde!*
- Government Legitimacy is weakened somewhat by Thesis Statements (dissidents are agents of malevolence), especially if they linger for a long time. Alien trade and contact is a guarded necessity.
- Inactive Constructural Elements represent those who have been corrupted by the malevolence, especially those in **Apostasy**. Cultural change is malevolence.
- Strong Police, Security, Spirit, Nationhood, Integrity Proficiencies and related Colleges and Writs, along with a Combat College to keep alien malevolence away.

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Migration Urge

“Plunder, trade rivalry, migration, conquest, religious fanaticism – every compelling motive of war lent moral force to invaders pressing in from all sides.” – Lynn Montross, War Through the Ages (3rd Ed., 1960), p. 116

Major: Your species has the strongest migration impulse ever. It is the essence of your pre-space age history, but instead of vast migrations east to west or north to south on your Homeworld, the migration is into space and away from home in all directions. Governments naturally need to control something – resources, population, defined areas – while the uncontrolled migration urge left your species history littered with failed governments, emptied cities and barren areas. This is not seen as a ‘problem’ but rather the natural ‘process’ of your history; technology has not curbed migration.

Minor: Your species has a very strong migration impulse, which from time to time triggers massive population movements, followed by significant periods of settlement. It is the essence of your pre-space age history, but instead of vast migrations east to west or north to south on your Homeworld, the migration is into space and away from home in all directions. The development of civilization and governmental institutions in your pre-Starflight history was an attempt to channel and control the migration urges.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.

Supra-Legitimacy *sine qua non*:¹

- Barely controlled orgy of interstellar colonization over periods of time, the government loses some legitimacy by trying to control or restrain the process (i.e. by going a number of Regular Turns without expansion activities). Population growth on planets with space is a short-term substitute in lieu of expansion.
- Expansion activities do not always require activation of the Expansion Power, other possible interpretations might include building an Orbital Shipyard, building Scout and Colony Ships, to a lesser degree, building Cargo Ships and warships. The buildup, countdown, getting ready to launch again angle may satisfy in the short-term.
- The migration urge is defense; when conflict threatened, pre-stardrive ancestors simply moved to another place. Thus, standard defense preparation is antithetical.
- Uniformity of culture is important to both avoid conflicts and to insure that migrants shortly ‘fit into’ any place they may go, and are interchangeable enough to leave when other migrants take their place. Cultural isolation and variation is abhorrent, exceptional individuals are both suspect for being different, and highly sought after for migration from place to place.

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Never Again

“There are humans for whom the words ‘never again’ carry special meaning.” – G-Kar, Babylon 5 TV Series

Major: In the ‘modern’ pre-Starflight history of your species, an event occurred that was so shocking and catastrophic, and so affected the collective self-image of your civilizations, that the world acknowledged that such an event can never be allowed to happen again. Governments tremble and tread carefully when addressing these event(s), the perpetrators of these events are vilified in mythology, and any circumstance or series of events that seems to be leading to the same or similar events produces negative public and political reactions.

Minor: In the ‘modern’ pre-Starflight history of your species, a shocking or catastrophic event or series of events occurred that affected the collective self-image of your species. But while the events are roundly reviled publically, condemnation is not universal. There exists a strong minority view that perhaps we should have gone even further, and underground and fringe groups have developed along the fault lines.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: You know already what historical Earth event may be the basis of this Fundamental Reality, however, there are many other possibilities to explore. The historical event does not need to be named or specified unless the Concierge and participants think it needs to be part of the game story.
- ✓ Note: The event is well known and well discussed in your civilization, is not a secret and not intended to be kept secret from aliens if they happen to notice. It is core, it is both pride and pragmatic shame to the worldview of your civilization.

Supra-Legitimacy *sine qua non*:¹

- Disruption of the Structural Government Title and/or Social or Estate Titles, anything that appears like the collapse of government, will seem to the population like a ‘Fall’ or a prelude to a repeat of the same events. Legitimacy then depends on the strong, stable government to make sure it doesn’t happen again.
- Inactive Constructural Elements rouse suspicion that some of the population has forgotten, drifted away in a way that may lead to a repeat of the events, especially those who have left the Homeworld, mingled with aliens.
- Education is paramount to make sure it never happens again; Enlightenment represents understanding and foresight necessary to prevent a recurrence.
- Estates played a major part in the horrific event(s) and are always suspect.

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Nothulhu

“It’s the end of the world as we know it ... and I feel fine!” – R.E.M.

Minor: The end of the world came and went – according to ancient religious prophecies – before the start of the game, and nothing bad happened. Nothing at all happened. Sometimes people are disappointed when nothing bad happens. Vigorous re-interpretation and researches have not shown that anything at all happened at the end of the world. The entire structure of your civilization, and legitimacy, exists because nothing at all happened that day. Nothing should be disturbed.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: This species is holding their breath and ‘hiding’ and from what they thought might have happened, from the ‘predator’ that passed them by but isn’t quite gone yet. Don’t breathe, don’t make a sound, don’t peek.
- ✓ Note: Another way to think of this species is to analogize them to the characters in *The Wonderful Wizard of Oz* (1900); the Wizard could not give the Cowardly Lion courage, or the Tin Man a heart, or the Scarecrow a brain.

Supra-Legitimacy *sine qua non*:¹

- Nothing should be disturbed. What that ‘nothing’ is and what constitutes ‘disturbing’ it is a matter for interpretation during the game. Something is being disturbed merely by leaving the homeworld after the end of the world passed. But probably rapid changes would be disturbing to the population of this position.
- The fundamental desire of the population is stasis or at the least, very slow change. It could be said that this population lacks or has been scared out of an expectation of forward progress and that an enculturation of that has occurred. Historically, some careful comparison might be made to Middle Ages Europe where Christianity and the promise of the afterlife was the ‘forward expectation’ of the population (however, there were other socio-economic-political factors as well, which is why one needs to be careful in this analogy). However, in other cultures, a similar phenomenon has happened, where the expectation of progress became the perfection of a peasantry and skilled tradesmen class and social order that mirrored the ideals of the local religious philosophy (e.g., Confucianism, Buddhism, Hinduism, etc.).

¹ *Sine qua non* is an essential and indispensable condition, action or part. Actions, or failure to act, or events and circumstances opposite of those listed above, are violations of this Fundamental Reality.

Open Secret

“After a while, I lost my intimacy with Tiwa. As she grew up, she gave up her playthings.” – Human character, Fantastic Planet (1973).

Major: While it never will be officially acknowledged, it is an open secret among your population that your species was ‘bred’ and served another species as non-working pets kept for companionship and comfort. There is even rumored to be a ‘pet cemetery planet’ somewhere in the Galactic Space containing the remains of your ancestors. The government fears that a return of the kind Masters will destroy their legitimacy as loyalty naturally shifts back to the Masters, and second the reaction of the other races when they learn the secret. So, plausible denials are put into place, alternate explanations are advanced by ‘independent’ experts and intellectuals.

Minor: While it never will be officially acknowledged, it is an open secret among your population that your species was ‘bred’ and served another species as non-working pets kept for companionship and comfort. The government fears that a return of the kind masters will destroy their legitimacy as loyalty shifts back to the masters, and second the reaction of the other races when they learn the secret. So, plausible denials are put into place, alternate explanations are advanced by ‘independent’ experts and intellectuals.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: There is a Listopia on Goodreads with 381 books or stories where humans are treated as animals – pets, food, beasts of burden, prey for sport, etc.
- ✓ Note: The ‘alien masters’ will never be another Major Race in the game. This Fundamental Reality, by implication, introduces to the game universe the idea that there is an ancient, vastly superior alien species lurking beyond the bounds of Galactic Space or our current dimension, with unknown motives and abilities.

Supra-Legitimacy *sine qua non*:¹

- The alien masters do not seem to have been unkind or malicious, so that is not the issue; rather, the issue is whether the fear of return of the kind masters is selfishness disguised as legitimacy concerns on the part of the ruling class or whether it is truly a species or universal yearning for freedom as far as their existential situation will allow? There is significant story-generation space in this question.
- The government of this position will jealously guard their legitimacy and fight any perception that it is slipping. It may also be that the ancient alien masters are the subject of religious veneration, philosophies, and pseudo-religions.²

¹ *Sine qua non* is an essential and indispensable condition, action or part. Actions, or failure to act, or events and circumstances opposite of those listed above, are violations of this Fundamental Reality.

² If you look at the creation story at the bottom of the Abrahamic religions, weren’t humans just pets in the garden? Who were scolded for getting into something and chased out into the wild?

Outreach

“I said brothers (Hallelujah) Now you got yourself two good hands (Halle-hallelujah) And when your brother is troubled, You gotta reach out your one hand for him (Hallelujah) ‘Cause that’s what it’s there for (Halle-hallelujah) And when your heart is troubled, You gotta reach out your other hand (Hallelujah) Reach it out to the man up there (Halle-hallelujah) ‘Cause that’s what he’s there for!”

– Neil Diamond, “Brother Love’s Travelling Salvation Show” (1969)

Major: A transcendent obligation of legitimacy is the moral obligation to help in by outreach programs, usually aimed at the ignorant, disadvantaged masses. A pregame encounter with some unfortunate aliens has convinced your people that the galaxy is in need of zealous outreach programs ... ¹

Minor: A transcendent obligation of legitimacy is the moral obligation to help by outreach programs, usually aimed at the ignorant, disadvantaged masses.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: Outreach programs carry with them an implication and a sense of moral and social superiority that is not always appreciated by the recipients (e.g., Appalachian Autumn (1969)). Receipt of assistance may be considered shameful.
- ✓ Note: What if you have to conquer them to help them? ... like capturing feral kittens. Outreach programs may also be considered to be or applied in a manner that is wasteful, condescending, misguided, bureaucratic, and ineffective. They are often ripe for corruption and abuse of power.

Supra-Legitimacy *sine qua non*:²

- The species has found its mission. The mission (like those of a religion to a far-off land) is what fills the existential void of the species, helped along by FTL travel technology (like sailing ships for Christian missionaries). Failure to vigorously pursue this mission leaves emptiness, idleness, frustration at not achieving the ideal goal over the practical reality (*à la* Arnold Toynbee).
- The mission is what makes you superior, all others are just running from one thing to another, fighting for no reason, or wandering aimlessly about the Galactic Space. They need help, why wouldn’t we go to help them? We might hurt them, but they need our help.
- There remains an internal outreach obligation as well, not just directed toward aliens. With regard to other positions, Outreach may also seem to be a Type 4 Fundamental Reality.

¹ Outreach in this instance is used in the noun form, Merriam-Webster: Outreach (n) at 3: the extending of services or assistance beyond current or usual limits <*an outreach program*>; also : the extent of such services or assistance.

² *Sine qua non* is an essential and indispensable condition, action or part. Actions, or failure to act, or events and circumstances opposite of those listed above, are violations of this Fundamental Reality.

Ozymandias

“And on the pedestal these words appear: ‘My name is Ozymandias, king of kings: Look on my works, ye Mighty, and despair!’ Nothing beside remains.” – Percy Shelly, “Ozymandias” (1818)

Major: Deep in your species mental make-up is the drive and need to over-awe, to demonstrate, to build bigger and better, especially monuments, enigmas, and impractically large versions of current technological objects. Planning, supporting and constructing such objects is part of the legitimacy of any government, institution or movement; a necessary demonstration of power, authority, or perhaps, just cultural mental satisfaction. The more pointless and impractical, the more seemingly satisfying the project.

Minor: Deep in your species mental make-up is the desire to build monuments (which frequently do not serve any other purpose), enigmas, and impractically large versions of current technological objects. Planning, supporting and constructing such objects is a necessary cultural mental satisfaction.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: Tsar Bomba, Tsar Pushka.... We have been so far in awe of what our ancient ancestors built without modern power that nowhere have I seen their monuments effort called neurotic or a neurotic paradox, though it might well qualify!

Supra-Legitimacy *sine qua non*:¹

- Those who are overawed will not dare attack you... must worship you... must fear you... must remember you. If you are attacked, forgotten, or not worshipped... ?
- What passes for monument-building in a science-fiction, space-opera setting? Carving a planet-sized face? Probably enigmas and Technological Devices, especially of the enormous, opulent, resource hogging, and nearly useless kind.²
- Monument building is a legacy battle, not only to dominate your time, but also to overawe even later generations, a battle against time and entropy. The monument remains when all else falls to dust or is forgotten; it guarantees you will not be forgotten.³ It would be a supra-legitimacy failure if this doesn’t seem likely to happen.

¹ *Sine qua non* is an essential and indispensable condition, action or part. Actions, or failure to act, or events and circumstances opposite of those listed above, are violations of this Fundamental Reality.

² In the late 1980s, I passed through a permanent transient settlement called Slab City on the way to military training at Chocolate Mountain, across the bridge over the ‘canal’ waterway. It’s a place you don’t forget if you saw it in the 1980s ... anyway, one of the religious fanatic residents had carved “JESUS” into the side of a mound or small hill facing the road, a distance off to the left as we approached.

³ Though less famous and later retitled, the final lines of Horace Smith’s competing poem – written also in 1818 – presages modern post-apocalyptic far future fiction, picturing a future, savage wolf-fur-clad hunter discovering the ruins of London and wondering what unknown great race created that city?

Prester John

“All Prester John ever was king of, was Wishful Thinking.”

– Frank Jacobs, “The Kingdom of Prester John, Christianity’s Imaginary Ally,”
bigthink.com, July 23, 2010

Major: There is an (unfounded) belief among your people that another civilization of your Native Population Type exists out there, among the stars. They must be located and joined with your people to complete some important historical epoch. Some legends hold that they are trying to come and help, others hold that your people must go rescue them, as they are surrounded by hostile aliens. The story changes and varies with the teller’s intent and circumstances, but never goes away and never loses seriousness. Members of your government claim to believe it, the people demand it.

Minor: There is an (unfounded) belief among your people that another civilization of your Native Population Type exists out there, among the stars. They must be located and joined with your people to complete some important historical epoch. Some legends hold that they are trying to come and help, others hold that your people must go rescue them, as they are surrounded by hostile aliens. The story changes and varies with the teller’s intent and circumstances, but never goes away and never loses seriousness. Members of your government claim to believe it, the people demand it

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: Prester John is the underlying science-fictionized concept of the original Battlestar Galactica series (1977).
- ✓ Note: This Fundamental Reality does not make this position a Lost Colonist of any other position and vice versa. The ‘place’ is assumed to somewhere beyond the starting Galactic Space, but *probably* will not be found in the game.

Supra-Legitimacy *sine qua non*:¹

- The government must maintain at least a façade of trying to find this other place. That this requires expansion and exploration (and exploitation) is a side benefit.
- Likely, this ‘story’ or concept has been idealized to the extreme, it is probably part of a religion, the violation of the supra-legitimacy requirement occur when impatience over inaction or lack of results overtakes reason and restraint; when the population believes that the government is just giving it lip service.
- The eagerness (and glory) of discovering the mythic place may assist in or push the position involuntarily into certain Power Activations. Even if the senior leadership doesn’t believe in fairy-tales, imagine the historical glory in being behind the discovery? Like those who sponsored Lope de Aguirre or Juan Ponce de León in their mythic searches.

¹ *Sine qua non* is an essential and indispensable condition, action or part. Actions, or failure to act, or events and circumstances opposite of those listed above, are violations of this Fundamental Reality.

Space Race¹

Major: Your species was born in hell. The dark Galactic Space is not anywhere near the Galactic Core, it is way out on a spiral arm (or perhaps in a Globular Cluster). There is a bright light in the Core, something is waiting there for you. You just have to get there. At First Contact, it is assumed that all species are moving toward the Core.

Minor: Your species was born in hell. The dark Galactic Space is not anywhere near the Galactic Core, it is way out on a spiral arm (or perhaps in a Globular Cluster). There is a bright light in the Core, something is waiting there for you. You just have to get there. At First Contact, it is assumed that all species are moving toward the Core.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same; the difference is in the glaring brightness with which they are applied.
- ✓ Note: The Concierge will randomly determine the general direction to the Core before the game begins. The Core should not/will never be reached during the course of the game.

Supra-Legitimacy *sine qua non*:²

- Species is very much attracted to light, like a bug around a porch light, the galactic core calls. The government must move the species toward it, or will not be supra-legitimate; this may even override the universal security supra-legitimacy.
- Attraction to light probably permeates the entire species psychology, finding expression in literature, fear/terror, industry, mining, cities and infrastructure, language, political symbols and myths. Early scientific leadership of the species were fine astronomers, who are also pseudo-religions icons. The species will not willingly go into dark places, thus must go from star to star inside brightly lit ships with no windows (probably). If there was ever convict punishment and slavery in the history of the species, it was for the purpose of mineral mining underground (incidentally, this means that the preferred mining method of the species is probably surface open pit or strip mining).
- Impatience to reach the light is mitigated by speed and range improvements and whatever this implies in the game. Perhaps by the time we reach the galactic core, we will have to power to jump directly to other galactic cores?
- Each settlement placed in the divine direction is a step toward the light that your children may see someday that you cared for them. Going the other direction shows the opposite, misguided parents who didn’t care for their children.

¹ “Space Race” is a painting by Charles Lynn Bragg, which I have had as a framed poster since the 1990s. His art has appeared on magazine covers, postage stamps and in art galleries.

² *Sine qua non* is an essential and indispensable condition, action or part. Actions, or failure to act, or events and circumstances opposite of those listed above, are violations of this Fundamental Reality.

Spectacle

“Pollice verso or verso pollice is a Latin phrase, meaning ‘with a turned thumb,’ that is used in the context of gladiatorial combat. It refers to the hand gesture or thumb signal used by Ancient Roman crowds to pass judgment on a defeated gladiator.” – from Wikipedia article, “Pollice verso”

Major: Bread & Circuses, Bread & Bulls, Pageantry, Televised Sports, Video Binging, Virtual Reality, Amusing Ourselves to Death. The public wants spectacle. Escape. Entertainment. Distractions. From the daily existence. From the void. The fleeting vicarious experience of drama and greatness that is not in themselves. To say we were there, we saw it happen.

Minor: Bread & Circuses, Bread & Bulls, Pageantry, Televised Sports, Video Binging, Virtual Amusing Ourselves to Death. The public wants spectacle. Escape. Entertainment. Distractions. From the daily existence. From the void. The fleeting vicarious experience of drama and greatness that is not in themselves. To say we were there, we saw.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: The Major and Minor forms of this Fundamental Reality are equally damning; the difference is the strength with which they are applied.
- ✓ Note: This Fundamental Reality works against what is normally considered positive for society. Especially, it works against Enlightenment. However, this Fundamental Reality is not what is best for society, but government legitimacy.

Supra-Legitimacy *sine qua non*:¹

- The parade of ceremonial spectacle may become overwrought, politicized, pointless, grandstanding, but it will continue because it is expected (like the Pointless spectacle of the Super Bowl Half-Time Shows).
- Supra-legitimacy and legitimacy are whatever is expected, even if only in appearances (e.g., suit and tie in business, vestments, intonation and hand gestures by the priesthood, a certain look of professional hockey players, top hat, white gloves and a bowtie for stage magicians, glasses and beard on writers, college professors and classic political ideological intellectuals²).
- Ceremonial spectacle is the rhythm of the seasons, the rhythm of generations, and must be provided on schedule – a disruption of the schedule signals something is wrong and no government wants the people think something is wrong.
- Ceremonial spectacle reinforces existing meanings, the meanings cannot be changed without rendering the ceremonial spectacle meaningless. Thus, everyone must have the same meanings (i.e. worldview) that the spectacle have value.

¹ *Sine qua non* is an essential and indispensable condition, action or part. Actions, or failure to act, or events and circumstances opposite of those listed above, are violations of this Fundamental Reality.

² “The parting on the left is now a parting on the right and the beards have all grown longer overnight.” – The Who, “Won’t Get Fooled Again” (1971).

State of War

“To secure peace is to prepare for war.”

– Metallica, “Don’t Tread on Me” (1992)

Major: The state is expected to be ready for war at any moment, to respond forcefully to any provocation. The show of force and capability without provocation, the state of quasi-war during peace keeps enemies at a distance and the people strong and resolute. Declaration of war is just a diplomatic nicety, any state that waits for a formal declaration of war is weak and will be punished.

Minor: The state is expected to be ready for war at any moment, to respond forcefully to any provocation. The show of force and capability keeps enemies at a distance and the people strong and resolute. However, force that is never needed is the best investment for peace and security.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: Think of World War 2, think of North Korea, think of the Cold War... “Political power grows out of the barrel of a gun” - Mao Zedong.

Supra-Legitimacy *sine qua non*:¹

- The universal security supra-legitimacy taken to Type A-1 extremes. Since a high military level has been established, why not use it to push the aliens and enemies ever farther away?² Pretext, provocation, *causa belli* to the native population.
- Risk and reward. Obviously, any harm or destruction of native population and places is antithetical to this Fundamental Reality (i.e. a violation of the supra-legitimacy), but also serves as a boost to effort, as long as the material means remain to do anything effective.
- Military glory and political power: The road to political power is paved with dead enemies (in the case of Julius Caesar, dead Gauls and Celts). When a state is in constant high military alert, the military has the power and the aspiring go into the military service.³

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² “There remained only one further step, since it is an adage of history that no perfect military instrument has ever been suffered to rust from disuse. And in line with ancient precedent, Louvois soon began to suggest to his sovereign the advantages to be gained from aggression.” – Lynn Montross, *War Through the Ages* (3rd Ed., 1960), p. 322.

³ In *The Man in the High Castle* series, the Crown Prince of Japan feared that the generals were using the throne as a shield to gain power, wealth, and prestige. In this dialogue was expressed the simple truth of Japanese governance from feudal times to the 20th Century invasions of Manchuria and Korea. In the West, this connection between military glory and political power has long been noted as a factor leading from the Roman Republic to the Roman Empire (i.e. Julius Caesar).

Terra Australis

“The name given to the great and unknown southern continent required by the classical Greek geographers, who knew that the earth was spherical, to balance the land mass which was known to exist north of the equator. For a period in the Middle Ages the Church’s insistence that the earth was flat led to the complete eradication of all belief in a southern continent, but the great years of exploration by sea in the 15th and early 16th centuries confirmed the approximately spherical shape of the earth.”

– from Oxford Reference article, “Terra Australias Incognita”

Major: A supreme sense of expected geometric balance in the cosmos. Balance must be achieved in all things in a civilization to be in harmony. A civilization in harmony with the cosmos will last long and prosper.

Minor: A supreme sense of expected geometric balance in the universe, reflected in our civilization, which is itself, a balance to something else in the universe.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: Participants may need to decide what, if anything, is the difference between ‘cosmos’ and ‘universe’; if they are considered the same, then there is (mainly) no difference between the major and minor versions of this Fundamental Reality. There are numerous discussions on the internet (Quora, Stack Exchange, university astronomy departments) about the two terms.
- ✓ Note: Terra Australis is the source of the name of Australia. It comes from a time when the educated believed that the cosmos consisted of perfect spheres on which the stars resided.

Supra-Legitimacy *sine qua non*:¹

- The essence of this is balance; it is the operative keyword in both Public Space and Galactic Space for this position’s supra-legitimacy.
- In Galactic Space, it may be expressed by expansion in all directions, arrangement of colonies in relation to the Homeworld (if it is in the Galactic Space), etc.
- In the Public Space, it may also be arrangement related, but could also extend to other areas, such as even and opposing development of colleges and technological development. Would opportunities be ignored if they lead to imbalance?
- It might also be expressed in balance of Government Titles, symmetry of Conflict Checks. Or in numbers of Cultural Pieces on the Public Space.
- Balance means both patience (because sometimes it takes time for the cycle to complete) and impatience with that which is sticking out (the nail that sticks up the most gets hammered down the hardest). Balance might also require and justify despotic tyranny and acts of war to maintain or restore.

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Tutelary

“You have often heard me speak of an oracle or sign which comes to me This sign I have had ever since I was a child. The sign is a voice which comes to me and always forbids me to do something which I am going to do, but never commands me to do anything, and this is what stands in the way of my being a politician.” – Socrates in Plato, [Apology of Socrates](#)

Major: The received traditions and ancient codes, and the expectations of your native populations place the government in an especially (or heightened) tutelary position. It is expected that the wisest shall govern (which is far more often not the case), and the population is their protectorate. The protected and the guardians legitimize each other until something fails.

Minor: The received traditions and ancient codes, and the expectations of your native populations place the government in an especially (or heightened) tutelary position. It is expected that the wisest shall govern (which is far more often not the case), and the population is their protectorate. The protected and the guardians legitimize each other until something fails. The expectations would likely transfer to any new alien rulers...

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same.

Supra-Legitimacy *sine qua non*:¹

- Tutelary as a supra-legitimacy is parental instead of attack guard dog. Thus, foresight is one of the most valued attributes, the government is expected to exercise generational foresight (which governments rarely do) instead of vote-getting politics of the moment. And foresight requires a rare, profound level of understanding. Thus, Tutelary can be expressed in this sense as ‘good government.’
- Failure as a tutelary is easy to define – entropy events, loss of population and industry, colonization failure – harm, stagnation – but participants should also focus on, and discover, the less obvious proactive tutelary steps.
- To stay within the bounds of this Fundamental Reality will require the position players to act as most of us wish our government would, act in a way that would generate genuine respect for elected representatives and bureaucratic servants. Thus, the position players should simply read the news; you already easily know what you think is wrong, now figure out what is right and how to accentuate it.
- This Fundamental Reality embraces a cagy sort of forward expectation.
- The ‘God-view’ inherent in GGDM makes this task easier than in the real world, so any failure should be considered a gross violation. Echoes and ramifications.

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Tyranny of Threes

“The rule of three is a writing principle that suggests that a trio of events or characters is more humorous, satisfying, or effective than other numbers.”

– from Wikipedia article, “Rule of Threes”

Major: Threes rule your civilization; your species might even be tri-sexual. Or perhaps bi-sexual with an encultured one child per-couple limit due to crowding and resource depletion. Whatever it is, when your people see two (either in a pair or opposites), they look for an emergent third.

Minor: Threes rule your civilization; your species might even be tri-sexual. Or perhaps bi-sexual with an encultured one child per-couple limit due to crowd-ing and resource depletion. Whatever it is, when your people see two (either in a pair or opposites), they look an emergent third.

- ✓ Note: A Type 3 Fundamental Reality imposes a ‘supra-legitimacy’ requirement on the position, above and beyond any Government Titles; an Intervention Potential Plus (IP+) may be assessed for violation at the discretion of the Concierge.
- ✓ Note: The Major and Minor forms of this Fundamental Reality are the same, the difference is in whether it’s a tyrant or enlightened despot.

Supra-Legitimacy *sine qua non*:¹

- The fundamental of this Fundamental Reality is the expectation of threes, the shaping of the worldview in threes, the expectation of threes occurring throughout the universe, if we just know where to look for them. Compare this to human understanding based on opposites and unity of opposites; the base understanding of this species is both less stark and more complex at the same time.
- The understanding in threes has little or no relationship to good or bad; each thing in the three might be either or neither.
- The Tyranny of Threes Fundamental Reality is an extreme version of the Rule of Three (no longer just a rule of thumb, but an existential threat that is tyranny). The, or a, Rule of Three exists in many different areas (statistics, Wicca, fictional writing, etc.), and any of them could be applicable to satisfy this Fundamental Reality requirement. The position players may need to ‘defend’ a little by showing the Concierge which Rule of Three they are using to satisfy the Fundamental Reality.
- Visual evidence of this Fundamental Reality might also express in the way that objects are arranged on the Public Space, the organization of ships into fleets, the types of Government Titles and Power Activations, and so forth.
- Of the Type 3 Fundamental Realities, this might be the most challenging to determine if or if not a violation occurred. Perhaps if a pair of something was done by the position, the third could be the Intervention Potential Plus?

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A Simple Proof

“People from North Korea are very paranoid,’ said Kim Heekyung, a clinical psychologist at Hanowan [in South Korea] who supervises group therapy for defectors. Paranoia, she added, is a rational response to reality in North Korea.”

– Blaine Harden, “N. Korean Defectors Bewildered By the South,”
Washington Post, April 12, 2009

I am holding a ball; I let it go. It falls to the ground. I do it again and again, I notice that the ball only travels in one direction when I let it go. It has no options to go up, left or right unless I force it; it will always fall down. After about the 100th repetition, I decide this is not a coincidence; it must a law of the universe, at least where I am standing. Similarly, whenever you are trying to accomplish anything, it seems that something stupid always has to happen. Out of all of the possible results, in all of the possible universes, the one where the stupid thing happens is the one that always happens. After some hundred repetitions, it is no longer a coincidence. Someone or something apparently takes pleasure in tormenting us in petty ways and has an eternity with nothing better to do.

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: Rational Frustration. Rational Paranoia. Grinding Teeth. To Screw List.¹

Character & Chorus:²

- Survivalist
- Rational
- Cartesian
- Biased
- Persecuted

¹ “We say someone has a mental problem if they are more paranoid than we think makes sense in our society. But of course personal circumstances will vary, so we should beware of overconfident paternalism in judging when others are excessively paranoid.” – Robin Hanson, Overcoming Bias (blog), April 13, 2009.

² Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

Anthropomorphism

From our earliest childhood and the earliest ‘modern’ history of humanity, human traits and forms have been attributed to animals – the sly fox, the grumpy bear, the quick-witted rabbit. Someone is being fox-like, bearish, or squirrely. It is possible that the earliest forms were a result of either an architectural change in the human brain or hunters empathizing with the animals they killed. Early religions developed anthropomorphic deities and spirits to represent the natural world and human traits. During the game, positions taking this Fundamental Reality will present a stereotype persona consistent with the traits typically attributed to certain well-known animal species.

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: This Fundamental Reality does not automatically assume an anthropomorphic physical appearance of the species holding this Fundamental Reality. However, science-fiction settings and gaming are well populated with sapient and technologically advanced cat-like, dog-like, lizard-like, and bird-like alien species.
- ✓ Note: The choice of species must be made before the game and played consistently through the game to its logical conclusion. The persona cannot be changed once the game begins.
- ✓ Note: Furrries! Archetype anthropomorphized animal persona (i.e. fursona, your what’s AAAP). Animal Farm (George Orwell, 1945).¹

Character & Chorus:²

- Wise Owl
- Sly Fox
- Slow Tortoise
- Squirrely
- Industrious Beavers, Ants
- Careless Grasshopper
- Smart Crow
- Batty
- Rabbitry
- Hounding
- Loyal like a Dog

¹ In the Beastmaster TV series, the Enchantress turned his two ferret friends into humans so she could interrogate them. But they kept acting like ferrets, voraciously looking for food instead of answering. ☺

² Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

Catastrophization

“If ten years from now you were to realize that this ‘catastrophe,’ although clearly not part of your plan, was actually the best thing for you at the time...”

– “Cognitive Distortions Definition of Catastrophizing,” cogbtherapy.com (blog), September 10, 2015

Despite having made it to the 1st Era and the invention of Stardrive (and all those other achievements), avoiding nuclear annihilation, the outward face that your species presents to the rest of the universe is one of paranoia and catastrophization. Utopia has simply refused to appear. You just know that ‘they’ are out to get you and the latest bad news can always be traced back to ‘them.’ This is not just a political gimmick of the current government to distract the population from their own internal problems; no sir, the struggle is real!

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: Catastrophizing current and future events. Cosmic persecution complex. Waiting for the other shoe to drop. Waiting for Darkness (Ozzy Osbourne, 1983). Paranoid? Who’s paranoid?

Character & Chorus:¹

- Pessimistic
- Distrustful
- Fearful
- Depressed
- Crouched
- Clenched
- Careful

¹ Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

Claptrap

“There is power for good and evil on the net and we are starting to see how it can be used for both purposes,’ Marc Andreessen, founder of Netscape and one of the gurus of the internet revolution, warned an internet magazine back in 1999. ‘The internet is just a reflection of us. There’s still a lot of euphoria around the technology but ... the net is a terrific place for people who share a common hatred to get together and reinforce their tribalism.’”

– Paul Sheehan, “Sinking to the level of internet claptrap,” Sydney Morning Herald, September 15, 2013

It seems that the destiny of your species is to keep the galaxy supplied in claptrap. The best sort of claptrap is the kind that is not obvious at first glance. Sometimes absurdity turns out to be truth.

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: Absurdity. Nonsense. Spindizzy.

Character & Chorus:¹

- Pretentious
- Cheap
- Showy
- Fast-talking
- Double-talking
- Imaginative
- Sociable
- Amiable

¹ Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

Conspiracy Theory

“Because official accounts are insufficient and disbelieved, people are turning to conspiracy theories, defined as ‘the unnecessary assumption of conspiracy when other explanations are more probable’ (Aaronovitch, 2009, p. 5). This disjunction between reality and belief is not necessarily false, considering some contemporary and historical examples where conspiracy did happen – for example, the attempt to experimentally test the effect of mind control by dosing people with LSD in the MKUltra program of the CIA (Wilson and Rose, 2013).”

– Andreas Goreis and Martin Voracek, “A Systematic Review and Meta-Analysis of Psychological Research on Conspiracy Beliefs: Field Characteristics, Measurement Instruments, and Associations With Personality Traits,” *Frontiers in Psychology*, February 11, 2019

Does anyone think it was an accident that all of the Major Races in the game arrived in or were resident in the Galactic Space all at the same time (i.e. the beginning of the game)? No, it’s not an accident. **They** set up that way for some unknown reason. And if they won’t come forth and provide a transparent reason, then they must have a nefarious plan. We don’t want to let **them** play us for fools.¹

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: ‘They.’ ‘Them.’ Coincidences & Conspiracies. Distant, monolithic entities. Unknown motives & plans. Everyone has a conspiracy theory. Some conspiracies are real.

Character & Chorus:²

- Suspicious Minds
- Anxious
- Bunker mentality
- Disagreeable
- Paranoia
- Narcissism
- Cynicism
- Novelty

¹ In a reimagined *Battlestar Galactica* discussion with a friend, I think it was early in the second season, I described the remaining human population on the fleet of ships as being in a petri dish for Cylon study.

² *Theatreworks.com Glossary of Technical Theatre Terms* at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

Danse Macabre

‘All are equal in death.’

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: Egalitarianism in Death.¹ Death humor, gallows humor. Grim & Ghastly. Medieval woodcut allegory. *Memento mori*. Holographic performances of deceased music stars with live dancers.

Character & Chorus:²

- Mortal
- Artistic
- Medieval
- Humble
- Pained
- Repentant
- Charitable

¹ Death was the ‘liberal’ release from the conservative, religious, impoverished, structured society of the Middle Ages. The revolution was in bringing liberalism to the living, worldly liberalism.

² Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

Deadpan

Ambassador Mollari: [emotional] *“Why don’t you eliminate the entire Narn homeworld while you’re at it?”*

Mr. Morden: [menacing, chilling deadpan] *“One thing at a time, Ambassador. One thing at a time.”*

– Babylon 5, “Revelations” (1994)

It is said that your species once expressed their feelings by playing pipes; that a language developed of pipes. Then the last piper died and interest was lost in expression. Having no other means of bodily or outward expression recognizable to most alien intelligences, and little desire to communicate with them, your species presents an expressionless ‘face’ (if they had one) to the universe.

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: Deadpan Comedian...

Character & Chorus:¹

- Blank
- Stoney
- Stoic
- Calm Demeanor
- Un-emotional²
- Impassive

¹ Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

² Deadpan is not without emotion, the deadpan actor, speaker or comedian has emotions, rather, it is deliberate emotionless and impassive delivery. Thus, contrary to the description of this Fundamental Reality, in humans, deadpan is a deliberate act. The participants will need to determine if this species is emotionless or simply deadpan, as this may affect Aspects and other parts of the game.

Doom & Gloom

“You want me to be all doom and gloom, or just shut up?”

– Stephenie Meyer, *Breaking Dawn* (2008)

Mr. & Mrs. Doom & Gloom have entered the room! Your message to the Galaxy is that we are all DOOMED! Maybe we are all DooMED to an intergalactic war of mutual destruction because we can't get along. Maybe some divine intervention is at hand and, you, the righteous, will survive while all other wicked civilizations perish. Perhaps living is just pointless and we are all going to fail no matter what we do, so why are we out here trying? Pick you poison and broadcast it to the Galaxy. Maybe you have an angst to grind? Maybe your lover just left. Just try not to be too over the top because it gets old very quickly.

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: Predictions of disaster, the end of the world. Repent! M.A.D.-ness. Big Crunch vs. Heat Death of the Universe. Notice the page number below?

Character & Chorus:¹

- Pessimistic/Nihilistic
- Hopeless
- Tragic/Ill-fated
- Glum
- Miserable
- Dark
- Confused
- Guilty

¹ Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

Epic Interpretation

“The word ‘epic’ is one of the most misused and overused filler words in the English language. ... If you have used the word out of context, which means any time since 2008, you should stop whatever it is you’re doing and start plowing fields, because you lack the ability to form language that doesn’t involve mimicking others, and are therefore a cow. ... Using words like ‘epic’ to describe how extremely impressed you are by everything has ruined the word. If everything is epic, nothing is epic.”

– Maddox (George Ouzounian), “Not everything is epic, shitheads.”
thebestpageintheuniverse.net, undated blog

Everything is ‘epic’ nowadays. Before that, everything was ‘bogus’ or ‘rad’ or ‘hyper.’¹ Before that, everything was ‘super’ and ‘super-duper’ in the 1970s. After good became bad, and bad became good, and cool became kewl.

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: Periodic Overuse of Words, Mind-blowing Heroic Melodrama, Out-of-this-World Significance. This Fundamental Reality is about cliquish language.
- ✓ Note: If something is ‘truly epic’ were all of the other ‘epic’ things before it less truly so?

Character & Chorus:²

- Drama Queen/King
- Histrionic
- Self-Promoting
- Larger than Life
- Hammy
- Over-blown
- Cliché

¹ I recently encountered an intellectual blog where everything was ‘hyper-’ this and that – hypermodern, hyperconnected, etc. I asked the author if super-carriers (aircraft carriers over 70,000 tons displacement) should be renamed hyper-carriers. I never received a response, of course.

² Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

Evil Empire

“Yes, let us pray for the salvation of all of those who live in that totalitarian darkness – pray they will discover the joy of knowing God. But until they do, let us be aware that while they preach the supremacy of the State, declare its omnipotence over individual man, and predict its eventual domination of all peoples on the earth, they are the focus of evil in the modern world So, in your discussions of the nuclear freeze proposals, I urge you to beware the temptation of pride – the temptation of blithely declaring yourselves above it all and label both sides equally at fault, to ignore the facts of history and the aggressive impulses of an evil empire, to simply call the arms race a giant misunderstanding and thereby remove yourself from the struggle between right and wrong and good and evil.”

– Ronald Reagan, famous “Evil Empire Speech,” March 8, 1983

Evil empire, complete with Dark Lords (both supervillains and faceless bureaucrats), hallow malicious laughter, and pin-stripes. Throw lots of money around, hire hench-
goons named Bruno, Batty and Guano, buy or take what you want, build a skull-shaped
skyscraper headquarters, and laugh in their face. Change the world so that it revolves
around your desires, regardless of consequences to others. Maybe even taunt them.
Then crush them. Mercilessly.

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: Physical or Political Extinction of your species is possible. Hallow and obnoxious behavior, corny lines and overbearing threats of others imminent demise, profoundly wicked, immoral, depraved. Dark comedy, black humor. Political incorrectness. The need to gloatingly explain your diabolical plans to the imminent victims... so they can appreciate your cleverness before their demise.¹ May be hazardous to your species long term viability in the game.
- ✓ “I didn’t spend six years in evil medical school to be called mister!” – Dr. Evil.

Character & Chorus:²

- Self-centered
- Warped
- Ingenious
- Vulnerable
- Confident
- Manipulative
- Subtle or Overbearing
- Focused/Goal Oriented
- Ambitious to a fault

¹ This was comically exploited in a television commercial for insurance in 2018 titled, “A presentation in world domination.” Rather than executing the hero – tied to a chair, with a dangerous looking oversized weapon pointed at him – the villain rolls out a Power Point projector to explain his diabolical plan.

² Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

Girly Girl – Manly Man

Be the Little Missy of the galaxy! You can even be a little missish if you want. Sweet Lolita dress required.

In the alternative, by the Power of Grayskull!, this Fundamental Reality can also be played in the opposite, as Manly Man. And Crom count the dead!

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: This Fundamental Reality delves into the feminine and masculine tropes that have been around since the first creation myths. These can be regarded as either solely human and among the human players (for amusement) or they can be regarded as universal forces that exist in all species evolved on exoplanets.¹

Character & Chorus:²

- Feminine::Masculine
- Demure::Brazen
- Squeamish::Thick-skinned
- Sentimental::Unfeeling
- Effeminate::Manly
- Lolita::MILF
- Little Endian::Big Endian
- You get it.

¹ There is also a running neuroscientific-social dispute about whether men and women have physiological differences in their brains. This could have significant ramifications and might be of interest to this Fundamental Reality.

² Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

Housecat Happy

“Though chains be of gold, they are chains all the same.”

– Bruce Cockburn

No cat is happier than the lady Tabby cat who finds a new, unsniffed, unknown, unexplored space.

Batting things around is fun, especially things that crinkle and crackle, and if you are not supposed to be playing with it, the better.

A quiet sunny window (with chirping birds) greatly improves your perspective on life.

Getting food from others is the second happiest moment of the day, right after being the first to mess the clean litterbox.

Meowing/growling loudly will get attention and anything you want (except freedom); claws must be sharpened at least 20 times a day.

Everything is done for your entertainment; sometimes it's dangerous too!

Living in a Gilded Cage.

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.

Character & Chorus:¹

- Contented
- Domesticated
- Blissful
- Sleepy
- Curious
- Familiar
- Accepting

¹ Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

Humblebrag

I'll be in sweats everyday [attached picture of sender standing on deck of massive warship crewed by military officers in uniform]¹

Just achieved godhood. Must be a mistake. Wonder how long 'til God takes it back?²

Seriously? 2 Diplomatic Protests in 1 day? Only me. I should enter a contest.³

That's cool! I got my dream internship and got funding to travel to Paris. Ugh, it's so hard to decide which one to choose.^{4, 5}

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: Humblebrag occurs when people want to boast, but are trying to be modest by showing humility or by adding a complaint. Boasting by not boasting.
- ✓ Note: If you are not on social media and cannot humblebrag naturally, in 140 characters, you probably should not take this Fundamental Reality. If the preceding is false, have fun driving the other positions insane with galaxy-sized false modesty while you are kicking their alien butts.

Character & Chorus:⁶

- Irritating
- Braggart
- False Modesty
- Natural complainer

¹ Modeled after Instagram by Jordyn Woods which had a picture of her in front of a shiny black BMW.

² Modeled after an actual Tweet by Jared Leto.

³ Modeled after an actual Tweet by the band Counting Crows.

⁴ Actual humblebrag used in a study published in the Journal of Personality and Social Psychology.

⁵ All text modeled after actual social media posts shown in or the study referenced from Victoria Allen, “‘Humblebragging’ is MORE irritating than outright boasting because it makes you look insincere,” Daily News, January 11, 2018 (caps in original).

⁶ Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

Kawaii

“If you are feeling down, I can feel you up!”

– anonymous, found on kwaii GIF site

The cuteness is the function. Culture of cuteness. Disarming cuteness. Gender performance. Neotenic.

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: Sweet Lolita fashion. Hello Kitty. ACeR – Acute Cuteness Revulsion (for which one takes an ACeR inhibitor pill with a shot of whiskey).
- ✓ Note: Cuteness is a human thing, it plays on our nurturing instincts, it is our reaction to a baby or a small furry mammal that is manipulated by animation, filmmaking, and books, and in some places, culturally to smooth over conflict and stress. It is difficult to think that the concept may exist among sapient lizards or in any species that does not nurture their young, or where the young are not helpless. So a distinction must be made in play between the cuteness persona’s appearance to the human players in the game, and whether or not it works on other creatures in the game universe who might simply be indifferent to it (e.g., ants¹).

Character & Chorus:²

- Big-eyed innocence
- Shy
- Coy
- Childlike rapport
- Non-threatening
- Evokes nurturing instincts

¹ Though much maligned and respected for their seeming single-minded performance of tasks, ants do nurture their young and have been observed carrying injured comrades back to the nest.

² Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

Left & Right

*“And the parting on the left
Is now parting on the right
And the beards have all grown longer overnight!”*
– The Who, “Won’t Get Fooled Again” (1971)

Whatever your internal politics may be, your interstellar diplomacy and vision for multi-species interstellar civilization is either consistently far left or far right. The position’s players should choose before the game to be either leftist or rightist, whichever they are more comfortable playing.

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: Leftist and rightist are hard to pin down exactly in our political language, but it’s one of those things that you know it when you see it. The players will know what they think are left or right positions, characteristics and ideologies and should play them in the game.¹ There are not a large amount of theatre-like character traits that establish conclusively that one is left- or right-leaning; position players will create those traits in the game by consistently promoting far leftist or far rightest views in game interactions; the ‘far’ is necessary to create recognizable character for the position.

Character & Chorus:²

- Liberal (leftist)
- Egalitarian (leftist)
- Anti-consumer/ Anti-materialism (leftist)
- Conservative/Reactionary (rightist)
- Hierarchy/Social Stratification (rightist)
- Traditionalist/Religious³ (rightist)

¹ Rightist originally meant monarchist in the French Republic; there are not many monarchist around now, demonstrating that the political terms left and right have shifted left, right, and center with the social, economic and political changes of the 19th and 20th centuries. Thus, it is expected in the game that players from different places may have slightly differing ideas on what it means to be leftist or rightist.

² Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

³ ‘Hierarchy’ in English derives from the ancient Greek terms for the rule of priests and presiding over rituals.

Moocher

“You want to talk about a senseless killing? A plate of food. The defendant alleged that the victim had been mooching food from his mother and that upset him,” District Attorney Patrick Dougherty said. “The ironic thing was she made a plate of food for the defendant and one for the victim, for some reason that didn’t sit well with the defendant.”

– Ashley Hardaway, “Man gets 4½ to 10 years in shooting death over food,” Channel 4 News, Pittsburgh, January 31, 2015

IOUs never repaid. The psychology of begging is to put the target into a position where they feel obligated to help, despite the fact that there is no immediate emergency, and despite any misgivings or suspicions the target may have toward the requestor or the, probably fictional, reasons for the request. Whether the begging is successful or not, the target suffers a degraded image of themselves, either because they refused to help when asked and could have, or because they feel as though they have been taken advantage of when they help someone they probably consider inferior.

Mooching has a more personal connotation, as being between neighbors or people who know each other, who have some established relationship; as opposed to the beggar on a crowded street who is in a position to be ignored (an object), or someone who approaches strangers on the street and tries to strike up a conversation leading to a request.

People feel less offended when the solicitor is a child or pet animal; no one thinks that an animal or child is being deceptive in asking for food or drink. In my grandmother’s youth, it was common to send children to the neighbors to mooch, it served as a social introduction to the neighborhood and created space separation for the parent.

The moocher is also debased by this activity; it’s amazing the stories that people will spin to get a couple of dollars or a loaf of bread or cup of sugar or a few cigarettes...

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.

Character & Chorus:¹

- Smooth-talker, confidant
- Crafty
- Calculating
- Creative
- Conniving
- Exploitive
- Entitled
- Best Drinking Buddy

¹ Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

Ontological Obsession

“I have been far away all this time, and I haven't left the room...It was clear to me that it was because I was a spirit that I had so vividly ‘seen’ and felt a place a thousand miles away. Space was nothing to spirit!”

– Helen Keller, My Religion (1927), p. 33

You are going to drive everyone in the game into another state of being!¹

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: Whatness. Howness. Category of Beings. Ontological Terrorism. Entity Words. Shakespeare. Universals and Particulars. Existenz - err, Existence.

Character & Chorus:²

- Philosophical
- Tendentious
- Preoccupied
- Compelled
- Disturbing
- Prepossessed
- Logomaniac
- Persistence of Existence
- Idée fixe

¹ “Process philosophy is based on the premise that being is dynamic and that the dynamic nature of being should be the primary focus of any comprehensive philosophical account of reality and our place within it. Even though we experience our world and ourselves as continuously changing, Western metaphysics has long been obsessed with describing reality as an assembly of static individuals whose dynamic features are either taken to be mere appearances or ontologically secondary and derivative. For process philosophers the adventure of philosophy begins with a set of problems that traditional metaphysics marginalizes or even sidesteps altogether: what is dynamicity or *becoming* – if it is the way we experience reality, how should we interpret this metaphysically? Are there several varieties of becoming – for instance, the uniform going on of activities versus the coming about of developments? Do all developments have the same *way* of occurring quite independently of *what* is coming about? How can we best classify into different *kinds* of occurrences what is going on and coming about? How can we understand the emergence of apparently novel conditions?” – from Stanford Encyclopedia of Philosophy article, “Process Philosophy.”

² Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

Paranoid. Delusional.

*“Finished with my woman ‘cause she couldn’t help me with my mind
People think I’m insane because I am frowning all the time.”*

*“Make a joke and I will sigh and you will laugh and I will cry
Happiness I cannot feel and love to me is so unreal.”*

– Black Sabbath, “Paranoid” (1970)

Are they laughing at you or with you? They should double-think that. Why are those two talking over there? One thing is sure, they will remember you for a long time.

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- ✓ Note: The leader of a certain country on the northern border of China that we cannot name here. Paranoid that we are deluded, or deluded that we are paranoid? Might as well add some megalomania too.

Character & Chorus:¹

- Anxious/Fidgety
- Conspiratorial
- Idiosyncratic
- Eccentric
- Suspicious
- Fearful
- Conceited

¹ Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

Pounding the Table

“It was the same story, and the same handful of chapters, that Nunes told across every day of the public impeachment inquiry. Ultimately, they blended together, becoming something like a prolonged shout into the void.”

– Sam Brodey, “The Chronicles of Nunes: How His Impeachment Speeches Created an Alternate Reality for GOP,” *The Daily Beast*, November 26, 2019

If you have the facts on your side, pound the facts. If you have the law on your side, pound the law. If you have neither, pound the table. Your species is the reason that tables will be outlawed someday.

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.

Character & Chorus:¹

- Bombastic
- Overwrought
- Exaggerated
- Gesticulating
- Flatulent²
- Bellicose
- Phony this, phony that
- Media Spin
- Trumpian

¹ Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

² Not what you instantly thought when you read ‘flatulent’ – see Merriam Webster at flatulent: 2: pompously or portentously overblown. i.e., a pompously or portentously overblown character.

Schadenfreude

“The English feel schadenfreude even about themselves.”

– Martin Amis

There is a whiff of Schadenfreude in the air. It must be that the air circulation systems are not working properly.

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- Note: Schadenfreude: A new brand of perfume from Harm-Joy.

Character & Chorus:¹

- Epicaricacy
- Sardonic
- Relieved
- Gloating
- Vengeful
- #NotMe (opposite of #MeToo!)

¹ Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

St. Anger

Missy: *I think you're forgetting you're surrounded by a bunch of very old, very angry Daleks. ... Meet the locals? All blind and squelchy and out of their tiny minds, but they can still smell! Nobody hates like a Dalek.*

Dr. Who: *Generations of Daleks just woke up very cross, and they are coming up the pipes. – from Dr. Who, “Witch’s Familiar” (2015)*

Have you ever known an ‘angry person’? Known someone who somehow seemed angry even when they were smiling and seemingly having fun? The underlying current of your species civilization is one of ‘anger’ whether they have a word for it or not; your species will act toward other species as what the humans would call an ‘angry person.’ Except that they don’t know it; to your species, the way they present themselves to the universe is ‘normal.’

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: Some languages sound angry, gruff or harsh to speakers of other languages, one of the most common discussions of this type on the English language internet is the spoken sound of German to English speakers. Some offer that German doesn’t have more throaty sounds, isn’t more guttural than other languages, and is actually easiest for English speakers to learn as a foreign language. Still, others do admit that it does not have a roll-off-the tongue melodic sound that other languages with the same linguistic base do to English speakers. It’s a mystery, but the independently recurring perception each generation is enough to make it ‘fact’ to English speakers.
- ✓ “You inspire my inner serial killer.” – anonymous meme.

Character & Chorus:¹

- | | |
|-------------|----------------------|
| ➤ Sardonic | ➤ Hulking |
| ➤ Tremulous | ➤ Irascible |
| ➤ Glowering | ➤ Curt |
| ➤ Snappish | ➤ Passive-aggressive |
| ➤ Petulant | |

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Stiff Upper Lip

“Imagine smiling after a slap in the face. Then think of doing it twenty-four hours a day.” – Markus Zusak, The Book Thief (2005)

Your species displays a distinguished level of decorum, stoicism, fortitude and restraint in all matters, along with an infallible sense of propriety and attention to the details proper order of things. This is not to imply that your species is emotionless, in fact, rather the opposite, since one without emotion cannot be complemented for restraint of it.

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: Very Properly Upper-middle and Upper Class English Aliens. Very Confucian Celestials. English-speaking donkeys on Sirius who spend their time discussing eugenics (from a comment by historian J.B. Bury).

Character & Chorus:¹

- Fortitude
- Stoicism
- Composure
- Restraint of emotional expression
- Steady/Steadfastness
- Determined/Determination
- Possibly unflinching

¹ Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

United Nations

*“So now you’d better stop and rebuild all your ruins,
For peace and trust can win the day despite of all your losing.”*

– Led Zeppelin, “Immigrant Song” (1970)

Charter member of the Galactic Order of Pacifists, your species exudes and promotes restraint, understanding, inner and outer peace and order, natural laws of co-existence (e.g., Metalaw), and above all, a dislike for the entropy of sovereign states grinding against each other that nearly destroyed your homeworld.

Some might mistake you for weak.

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ “Ah, but the U.N. pretty much rules the world now (Yes. More conspiracy theory stuff)...” – Nick Peters, “A Brief Look At Alexander Cain,” May 6, 2015 (forum post, TheologyWeb).

Character & Chorus:¹

- Pacific
- Conciliatory/appeasing
- Disarming (both figuratively and literally!)
- Propitiatory
- Parliamentary
- Purrrrrrr....

¹ Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

“Vampires in the U.S. are Dying of AIDS”¹

How would you describe ‘tabloid personality disorder’ if such a clinical diagnosis existed? A compulsive need for sensationalism, a disregard of facts, trivializing the sensational and sensationalizing the trivial? All, not in any form of propaganda, but rather sensationalizing for its own sake.

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: Huh? What did you say? Aren’t vampires by definition dead already?² Who makes this stuff up?
- ✓ Note: Google dictionary notes that the North American usage of ‘tabloid’ differs, specifically meaning “sensational in a lurid or vulgar way.”

Character & Chorus:³

- Double take
- Histrionic
- Hammy (‘chewing the scenery’)
- Melodramatic
- Sensationalist, lurid, vulgar
- Drama Queen/King

¹ This was a memorably ridiculous super-market tabloid headline I saw in the early 1990s when I was working on a night cleaning crew, while going to college during the day. I might have also been watching Forever Knight episodes around that time.

² Yes, there is a narrow subculture group who call themselves vampires – often thought to be goths, but goths don’t really like them from what I have read – but I didn’t get the impression that this was what was meant by the headline. Perhaps at best the headline was a double entendre?

³ Theatrecrafts.com Glossary of Technical Theatre Terms at *character*: 1. The mental and moral qualities distinctive to an individual within the world of the play and at *chorus*: 1. In Greek theatre, a character (or group) representing an element in the drama which comments on the action, and advances the plot.

Vociferous!!!!!!

“Meowing is an interesting vocalization in that adult cats don’t actually meow at each other, just at people. Kittens meow to let their mother know they’re cold or hungry, but once they get a bit older, cats no longer meow to other cats. But they continue to meow to people throughout their lives, probably because meowing gets people to do what they want. Cats also yowl – a sound similar to the meow but more drawn out and melodic. Unlike meowing, adult cats do yowl at one another, specifically during breeding season. When does meowing become excessive? That’s a tough call to make, as it’s really a personal issue.”

– ASPCA article, “Meowing and Yowling,” aspca.org, undated, unattributed

Polite aliens describe your species as vociferous!!! The other alien riff-raff of the universe use less flattering terms for your species!!!!!!

- ✓ Note: A Type 4 Fundamental Reality provides a persona for the position to develop and play in the game. Hopefully, it will be taken for and as enjoyment. A position is limited to one Type 4 Fundamental Reality, which has neither Major nor Minor forms.
- ✓ Note: Vociferous Synonyms: blatant, caterwauling, clamant, clamorous, obstreperous, squawking, vociferant, vociferating, yawping (or yauping), yowling (from Merriam-Webster online dictionary).

Character & Chorus:¹

- Clamorous
- Vehement
- PUSHY!!!!!! RUDE DUDE!!!!!!!!!!!!
- Demands and Protests
- **SPEAKING IN ALL CAPS!!!! (WITH TOO MANY EXCLAMATIONS!!!!!!!!!!) BECAUSE ANYTHING YOU HAVE TO SAY IS THE MOST EXTREMELY IMPORTANT THING TO BE SAID AT THE MOMENT!!!!!!!!!!!!!!!!!!!!**

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Judgment Day

Ripple 1: On all colonies of this position's Native Population Type, regardless of current ownership, 15% of the population vanishes (fractions truncated). This does not affect the Habitability Class or Maximum Habitability of the planet, there is no loss to either.

Ripple 2: For three random Aspects currently on the position's Aspect List, 50% is added to the number of Turn Cycle wins in the game (rounded up).

- ✓ Note: A Type 5 Fundamental Reality represents a pre-game alternate reality that leaks into the game, partially overwriting the present for the position's population. When a 'leak' event occurs, each of the preceding Ripples has a 50% chance of instantly affecting the position and the position's Native Population Type. Because of the chance, one or the other or both could occur in a turn. The population will not be aware of the changes, but the position players will.¹

Ramifications:

- Loss of population factors – this time likely the result of people never being born – is generally not viewed favorably. However, it might not be horrible if several colonies are at or near Maximum Habitability and loss of population due to overcrowding would be a Disruption Event at the colonies or bad for the Government Titles. Loss of population due to this Type 5 Fundamental Reality is not a Disruption Event because they never existed. It might also be a rude surprise for any conqueror when subjects suddenly disappears.
- Ripple 2 could cause or accelerate Kairotic Moments for this position and for any others who share the same Aspect. Fifty percent added to nothing is nothing, so it is possible that Ripple 2 will have no effect.
- Thus, this Type 5 Fundamental Reality is capable of affecting other positions directly and indirectly.
- Both Ripples are capable of being triggered multiple times during the game and must be checked each turn throughout the entire game whenever the Fundamental Reality is triggered. By operation of the percentages, they are more likely to occur in the mid- to late game where their effects will be more devastating in terms of numbers.

¹ For a fine example of ripple effects in time, I recommend watching the excellent mockumentary *The History of Time Travel* (2014). The viewer is in the same position as the position players; a reasonably astute viewer will notice the little changes caused by the time travelers, but the people in the film know no different world. Thus, there should be no News Events or other interpretations in reaction to a leak event.

Neurotic Paradox

Ripple 1: One to three population factors (amount randomly determined) times the current Era are lost from each colony of the position's Native Population Type each Regular Turn regardless of sovereignty.

Ripple 2: Five to ten RPs per turn (amount randomly determined) times the current Era are subtracted from the Treasury *before* the processing of each Regular Turn.

- ✓ Note: A Type 5 Fundamental Reality represents a pre-game alternate reality that leaks into the game, partially overwriting the present for the position's population. When a 'leak' event occurs, each of the preceding Ripples has a 50% chance of instantly affecting the position and the position's Native Population Type. Because of the chance, one or the other or both could occur in a turn. The population will not be aware of the changes, but the position players will.¹

Ramifications:

- Ripple 1 perhaps represents some ritual human religious sacrifice or ritualistic local warfare; it is by definition neurotic because despite being deplorable and damaging the civilization, it must continue and is perpetrated through generations. This is not considered a Disruption Event at each colony affected. Alien overlords whose culture and psychology does not fully embrace the practice may find ways to suppress it after understanding (as part of Naturalization).
- Ripple 1 has an interesting double edge. Absent Census Power activations, some native colonies may destroy themselves, it also makes small colonies problematic. On the other thumb, it might sometimes postpone loss of population growth due to Maximum Habitability and avoid that Disruption Event. Aliens who share a Balkanized Planet might also be pleased to have more room to expand...
- Ripple 2 easily represents the socio-economic cost of neurotic social behaviors on the civilization. In our current world, it should not be too difficult to imagine what this might represent – it is whatever crisis, habit, addiction, or activity is in the news with an annual monetary cost estimate in lost man-hours, taxes, social medical costs, etc. yet is a problem that is not going away or if it does, is replaced by something seemingly worse.
- The key to this Type 5 Fundamental Reality is the current Era multiplier, which suggests that the problem is inherent and will never be solved short of rewriting the universe (this is a Fundamental Reality that did 'rewrite' the universe!). It would be like uninventing the atomic bomb by rewriting the universe – we wouldn't be here.
- The effects of both Ripples are permanent once it occurs, however, checks need to be made each time for any un-triggered Ripple until both have been triggered.

¹ For a fine example of ripple effects in time, I recommend watching the excellent mockumentary *The History of Time Travel* (2014). The viewer is in the same position as the position players; a reasonably astute viewer will notice the little changes caused by the time travelers, but the people in the film know no different world. Thus, there should be no News Events or other interpretations in reaction to a leak event.

Night Capps

Ripple 1: The position's total native population is reduced to and capped at 300 factors on sovereign colonies.

Ripple 2: All expiring Corporations are automatically renewed for the next three turns, regardless of the position's wishes, but without need for power activations, but one random currently passing Conflict Check fails each of those Regular Turns.

- ✓ Note: A Type 5 Fundamental Reality represents a pre-game alternate reality that leaks into the game, partially overwriting the present for the position's population. When a 'leak' event occurs, each of the preceding Ripples has a 50% chance of instantly affecting the position and the position's Native Population Type. Because of the chance, one or the other or both could occur in a turn. The population will not be aware of the changes, but the position players will.¹

Ramifications:

- Ripple 1 creates a 'maximum habitability' in Galactic Space for the species when it happens. The inability to grow beyond 300 populations on sovereign colonies in the Galactic Space is not a Disruption Event, and does not affect the Maximum Habitability of any sovereign Friendly Colonies.
- The key term for Ripple 1 is 'sovereign' – population can grow, if allowed, on non-sovereign colonies, thus the survival of the species may depend on non-sovereign population. Ripple 1 may also cause the position to become militant and aggressive, conquering **alien colonies** in order to grow once the limit has been reached.
- The cosmic reason for Ripple 1's effects are unknown. As are the alternate historical connection, if any, between Ripples 1 and 2.
- Ripple 2 perhaps represents a period where the Corporations control the government. It may be good or bad, depending on timing, saving Fuzzy Groups and related Power Activations but also making the position unable to change, sort of rigid, perhaps being forced to continue a process that is currently extraneous. In some cases, it may have no effect at all.
- The effect of Ripple 1 is permanent once triggered, however, Ripple 2 is capable of being triggered multiple times in a game and must be checked each turn throughout the entire game whenever the Fundamental Reality is triggered, even after Ripple 1 is triggered. By operation of the percentages, they are more likely to occur in the mid- to late game where their effects will be more devastating in terms of numbers.

¹ For a fine example of ripple effects in time, I recommend watching the excellent mockumentary *The History of Time Travel* (2014). The viewer is in the same position as the position players; a reasonably astute viewer will notice the little changes caused by the time travelers, but the people in the film know no different world. Thus, there should be no News Events or other interpretations in reaction to a leak event.

Permutations

Ripple 1: Position gains 15 extra COMs (Counter Operations Missions) which must be assigned immediately at the position's largest sovereign native colony, however, 1-3 randomly determined, currently passing Conflict Checks fail this turn.

Ripple 2: Each planet with a native colony of the position (whether sovereign or not) gains or loses (50% chance) one habitability class in relation to that species (in other words, the species changed the planet did not).

- ✓ Note: A Type 5 Fundamental Reality represents a pre-game alternate reality that leaks into the game, partially overwriting the present for the position's population. When a 'leak' event occurs, each of the preceding Ripples has a 50% chance of instantly affecting the position and the position's Native Population Type. Because of the chance, one or the other or both could occur in a turn. The population will not be aware of the changes, but the position players will.¹

Ramifications:

- Ripple 1 represents some sort of increased diligence or paranoia as a result of something that happened in the alternate reality that leaked into this one. Increased diligence leads to discovery of government corruption altering the course of the species future history. Like all Ripples, there is story potential ...
- Ripple 2 represents a situation where the species changed physically and globally; imagine if humans suddenly needed higher oxygen levels to survive on Earth due to some biological mutation in the distant past? This is why Habitability Class for other Native Population Types is not affected, only Habitability Class as to the Native Population Type of this position changes. In borderline cases, this could be catastrophic if the change requires Controlled Environment Technology to survive the new Habitability Class.
- Because these are Ripple effects, no one will notice except the players; though in cases where a whole colony suddenly dies, it may be a mystery of how they got there, and why (unless you interpret it as they were never there because they would have never been there).
- How these two Ripples might be related to a single incident in the past is the stuff of science-fiction imagination. But no one has invented it yet in this reality.
- Both Ripples are capable of being triggered multiple times during the game and must be checked each turn throughout the entire game whenever the Fundamental Reality is triggered. By operation of the percentages, they are more likely to occur in the mid- to late game where their effects will be more devastating in terms of numbers.

¹ For a fine example of ripple effects in time, I recommend watching the excellent mockumentary *The History of Time Travel* (2014). The viewer is in the same position as the position players; a reasonably astute viewer will notice the little changes caused by the time travelers, but the people in the film know no different world. Thus, there should be no News Events or other interpretations in reaction to a leak event.

Ripple Reformation

Ripple 1: The Foresight (pool of potential Social and Estate Titles) is completely discarded and redrawn.

Ripple 2: The value assigned to all Thesis Statements lodged against the position is doubled.

- ✓ Note: A Type 5 Fundamental Reality represents a pre-game alternate reality that leaks into the game, partially overwriting the present for the position's population. When a 'leak' event occurs, each of the preceding Ripples has a 50% chance of instantly affecting the position and the position's Native Population Type. Because of the chance, one or the other or both could occur in a turn. The population will not be aware of the changes, but the position players will.¹

Ramifications:

- The Foresight is a group of ten randomly generated Social and Estate Titles from which the position chooses Government Titles during set-up and whenever needed during play. It may be replenished by the Concierge if necessary during play if it becomes exhausted, though this should not happen often. Thus, discarding the Foresight is essentially wiping the slate, some ripple effect from an alternate history changes the potential Social and Estate Titles of a future civilization (e.g., if Athens had never been a democracy or Rome a republic). This Ripple may or may not matter to the position depending on circumstances such as other Fundamental Realities requirements and/or the situation in the game. Like all such things, a good draw can make everything feel better.
- Thesis Statements are lodged against the position by other positions and represent internal dissent. The second Ripple creates a situation making the dissent in the present louder, more organized, more compelling. This Ripple might trigger an in-game Reformation of the position; whether this is good or bad or otherwise, is a matter of circumstances, views and how it comes out in the end. Some positions may welcome a Reformation.
- Both Ripples are capable of being triggered multiple times during the game and must be checked each turn throughout the entire game whenever the Fundamental Reality is triggered. By operation of the percentages, they are more likely to occur in the mid- to late game.

¹ For a fine example of ripple effects in time, I recommend watching the excellent mockumentary *The History of Time Travel* (2014). The viewer is in the same position as the position players; a reasonably astute viewer will notice the little changes caused by the time travelers, but the people in the film know no different world. Thus, there should be no News Events or other interpretations in reaction to a leak event.

Rock the Boat

Ripple 1: All sovereign Colony Defense Eras are upgraded to the current Era, however, all colony based Fighters and Ground Units *currently on colonies* vanish. Population in Ground Units is returned to the colony and resumes as if they never enlisted.

Ripple 2: All sovereign warships below the current Era are eliminated, vanishing as if they never existed (never mind the paradoxes).

- ✓ Note: A Type 5 Fundamental Reality represents a pre-game alternate reality that leaks into the game, partially overwriting the present for the position's population. When a 'leak' event occurs, each of the preceding Ripples has a 50% chance of instantly affecting the position and the position's Native Population Type. Because of the chance, one or the other or both could occur in a turn. The population will not be aware of the changes, but the position players will.¹

Ramifications:

- Overall, this Type 5 Fundamental Reality posits an extremist position with regard to defense and technology.
- Ripple 1 appears to stress a complete faith in defense bases such that no one thinks Fighters and Ground Units are necessary for defense (sort of like the post WWII argument for elimination of conventional forces to depend entirely on nuclear deterrence). The effects apply to *any* sovereign colony, which could be bad if the position has been out conquering aliens.
- Ripple 1 does not preclude building Fighters and Ground Units on colonies, only creates the risk they will be arbitrarily eliminated by the ripple.
- Ripple 2 is the most problematic, of course. Ships engaged in combat when the Regular Turn is processed and the 'leak' event triggers, will simply vanish as if they were never there (never mind the paradoxes – déjà vu), even if they have affected the combat before the 'leak' event caused them to vanish. The vanishing ships may also liberate Conquered Colonies and/or end an ongoing siege.
- Some 'greater intelligence' must be in operation to choose only warships, instead of all ships of a lower Era.
- First Era positions will be unaffected by this 'leak' event; there is no 'lower' Era. Like the people on the ground, they need never know it happened.
- Both Ripples are capable of being triggered multiple times during the game and must be checked each turn throughout the entire game whenever the Fundamental Reality is triggered. By operation of the percentages, they are more likely to occur in the mid- to late game where their effects will be more devastating in terms of numbers.

¹ For a fine example of ripple effects in time, I recommend watching the excellent mockumentary *The History of Time Travel* (2014). The viewer is in the same position as the position players; a reasonably astute viewer will notice the little changes caused by the time travelers, but the people in the film know no different world. Thus, there should be no News Events or other interpretations in reaction to a leak event.

6565

Ripple 1: Population no longer grows by Census Power activations, instead, population is constructed by activation of the Construction Power for the purpose of Colony Enhancement at 1 RP per population.

- ✓ Note: A Type 5 Fundamental Reality represents a pre-game alternate reality that leaks into the game, partially overwriting the present for the position's population. When a 'leak' event occurs, each of the preceding Ripples has a 50% chance of instantly affecting the position and the position's Native Population Type. Because of the chance, one or the other or both could occur. The population will not be aware of the changes, but the position players will.¹

Ramifications:

- Perfect population control, there will be no more Disruption Events due to exceeding Maximum Habitability! However, population growth now costs RPs and is subject to possible failures of the Construction Power activation.
- Population growth is now a consuming effort, gathering RPs and multiple Construction Power activations across the colonies.
- This Ripple is permanent once it occurs and there is no further need to check.

¹ For a fine example of ripple effects in time, I recommend watching the excellent mockumentary *The History of Time Travel* (2014). The viewer is in the same position as the position players; a reasonably astute viewer will notice the little changes caused by the time travelers, but the people in the film know no different world. Thus, there should be no News Events or other interpretations in reaction to a leak event.

Half-Life of Fruit Flies

Ripple 1: All native colonies, whether sovereign or not, experience a 5% loss of population at the end of each Regular Turn processed by this position. This also affects population on Orbital Cities, but not on Colony Ships. Fractions are rounded down.

- ✓ Note: A Type 5 Fundamental Reality represents a pre-game alternate reality that leaks into the game, partially overwriting the present for the position's population. When a 'leak' event occurs, each of the preceding Ripples has a 50% chance of instantly affecting the position and the position's Native Population Type. Because of the chance, one or the other or both could occur. The population will not be aware of the changes, but the position players will.¹

Ramifications:

- Solves the Maximum Habitability problem. However, because of the constant loss, without frequent Census Power activations, the species will disappear (mostly).
- Because fractions are rounded down, the last population factor of a colony will never be lost.
- As this affects all population, it will be seen by any aliens co-habiting with or controlling colonies of this position's Native Population Type.
- This Ripple is permanent once it occurs and there is no further need to check.

¹ For a fine example of ripple effects in time, I recommend watching the excellent mockumentary *The History of Time Travel* (2014). The viewer is in the same position as the position players; a reasonably astute viewer will notice the little changes caused by the time travelers, but the people in the film know no different world. Thus, there should be no News Events or other interpretations in reaction to a leak event.

News You Can Use

Ripple 1: Each time this ripple occurs, the position must publish an Expose' News Event on the next Regular Turn.

- ✓ Note: A Type 5 Fundamental Reality represents a pre-game alternate reality that leaks into the game, partially overwriting the present for the position's population. When a 'leak' event occurs, each of the preceding Ripples has a 50% chance of instantly affecting the position and the position's Native Population Type. Because of the chance, one or the other or both could occur. The population will not be aware of the changes, but the position players will.¹

Ramifications:

- Expose' News Events are intended to be mutually beneficial to the game as a whole. This may or may not cause an extra one or two during the game. This is only a 'problem' for positions whose players tend to be secretive. By taking this Fundamental Reality, position players are affirming that they do not disagree with publishing an Expose' News Event.
- This Ripple is capable of occurring multiple times in a game and will need to be checked each Regular Turn throughout the game; it could happen consecutively turn after turn (a 'leaky position' ☺). It is more likely to happen mid- to late-game than earlier in the game by operation of the percentages.

¹ For a fine example of ripple effects in time, I recommend watching the excellent mockumentary *The History of Time Travel* (2014). The viewer is in the same position as the position players; a reasonably astute viewer will notice the little changes caused by the time travelers, but the people in the film know no different world. Thus, there should be no News Events or other interpretations in reaction to a leak event.

The Big Crunch

Ripple: Your star never formed from the galactic dust, game over... just kidding! Any time that the position would gain Monads on the Public Space, instead one Monad is lost from the Public Space and all Diplomatic Spaces that have more than a First Space.

- ✓ Note: A Type 5 Fundamental Reality represents a pre-game alternate reality that leaks into the game, partially overwriting the present for the position's population. When a 'leak' event occurs, each of the preceding Ripples has a 50% chance of instantly affecting the position and the position's Native Population Type. Because of the chance, one or the other or both could occur. The population will not be aware of the changes, but the position players will.¹

Ramifications:

- When triggered, this removes any chance of gain of Monads on the Public Space and may affect other positions by removing a Monad from each Diplomatic Space. Loss in each Diplomatic Space as well negates any attempt to overcome this effect on the Public Space.
- The position doesn't have to worry about things getting farther apart on the Public Space...
- This Ripple is permanent once it occurs and there is no further need to check.

¹ For a fine example of ripple effects in time, I recommend watching the excellent mockumentary *The History of Time Travel* (2014). The viewer is in the same position as the position players; a reasonably astute viewer will notice the little changes caused by the time travelers, but the people in the film know no different world. Thus, there should be no News Events or other interpretations in reaction to a leak event.

Uber Check

Ripple 1: The following Conflict Check is added to each of the position's Social and Estate Government Titles, including those in the Foresight and those which may be generated later. The Title fails if and only if this Conflict Check and at least one other Conflict Check are failing.

Estate Titles (F): The position has not Conquered, Looted, or Converted an **alien colony** or Landed a new colony in the last Regular Turn.

Social Titles: (T): Position owns no Friendly colonies on Balkanized planets with unconquered (i.e. non-sovereign) **alien colonies**, **and** has Landed a new colony in the last two turns **or** has Converted or Naturalized a colony in the last two turns (the first and one of the last two must be true for this Conflict Check to pass).

- ✓ Note: A Type 5 Fundamental Reality represents a pre-game alternate reality that leaks into the game, partially overwriting the present for the position's population. When a 'leak' event occurs, each of the preceding Ripples has a 50% chance of instantly affecting the position and the position's Native Population Type. Because of the chance, one or the other or both could occur. The population will not be aware of the changes, but the position players will.¹

Ramifications:

- The new Conflict Checks require aggressive expansion every Regular Turn, the Landing option is only available because there may not be conquerable **alien colonies** within reach (especially very early in the game).
- The new Conflict Check is uber because it is outsized in importance, the Government Title cannot fail, no matter what, as long as it is passing. Keeping up this effort however, is arduous in terms of Power Activations and RPs constantly required, it is a singular focus of the position above all else.
- If this Conflict Check is failing however, all other Conflict Checks must be passing in order to keep a Title from becoming Disrupted. And that is difficult too.
- Whatever happened in the alternate reality that leaked into the position's game reality has caused the position to become hyper-expansive, this is the classic aggressive position.
- This Ripple is permanent once it occurs and there is no further need to check.

¹ For a fine example of ripple effects in time, I recommend watching the excellent mockumentary *The History of Time Travel* (2014). The viewer is in the same position as the position players; a reasonably astute viewer will notice the little changes caused by the time travelers, but the people in the film know no different world. Thus, there should be no News Events or other interpretations in reaction to a leak event.

Falling Away

Ripple 1: All Shared Meanings in which this position participates cease to exist with loss of associated Monads gained on the Diplomatic Space.

Ripple 2: Kairotic Moments are triggered keyed to the two Aspects with the highest number of Turn Cycle wins currently.

Ripple 3: Aging of resources in the Treasuries of *all positions* is suspended on their next Regular Turn.

- ✓ Note: A Type 5 Fundamental Reality represents a pre-game alternate reality that leaks into the game, partially overwriting the present for the position's population. When a 'leak' event occurs, each of the preceding Ripples has a 50% chance of instantly affecting the position and the position's Native Population Type. Because of the chance, one two, or all could occur in a turn. The population will not be aware of the changes, but the position players will.¹

Ramifications:

- Of all the Type 5 Fundamental Realities, this one will have the widest effect on other positions in the game, it will be hard to ignore.
- The loss of Diplomatic Spaces on both sides in Ripple 1 may be significant, depending on how the game has developed. Only Shared Meanings in which this position is a partner are affected, so all others are safe. The Diplomatic Spaces vanish as if they never existed; this may necessitate the Concierge moving things back to each position's Public Spaces.
- Ripple 2 does not necessarily imply that this position will be affected by a Kairotic Moment, it causes the premature triggering of Kairotic Moments across the Galactic Space. This position is only affected if it has one of those two Aspects on the Aspect List.
- No one is going to complain about Ripple 3, and may simply wonder how it happened, if Ripple 2 is not also triggered.
- All three Ripples are capable of being triggered multiple times during the game and must be checked each turn throughout the entire game whenever the Fundamental Reality is triggered. By operation of the percentages, they are more likely to occur in the mid- to late game.

¹ For a fine example of ripple effects in time, I recommend watching the excellent mockumentary *The History of Time Travel* (2014). The viewer is in the same position as the position players; a reasonably astute viewer will notice the little changes caused by the time travelers, but the people in the film know no different world. Thus, there should be no News Events or other interpretations in reaction to a leak event.

Kodachrome

Ripple 1: All Research Pieces currently on the Public Space are removed.

Ripple 2: All ‘aging’ – Aspects, RPs in the Treasury, Faculties, Special Operations Missions and Counter Operations Missions is suspended for the next Regular Turn.

Ripple 3: The Taxation Power may not be activated for two Regular Turns.

- ✓ Note: A Type 5 Fundamental Reality represents a pre-game alternate reality that leaks into the game, partially overwriting the present for the position’s population. When a ‘leak’ event occurs, each of the preceding Ripples has a 50% chance of instantly affecting the position and the position’s Native Population Type. Because of the chance, one, two or all could occur in a turn. The population will not be aware of the changes, but the position players will.¹

Ramifications:

- Ripple 1, research undone, never happened. It likely will hurt, it’s just a matter of luck and timing in how much it hurts. The strategy would be to turnover Research Groups as quickly as possible (which is the strategy anyway). On the bright side, there will be some newly opened Monads on the Public Space...
- Ripple 2 represents a sort of stasis effect, a living memory loop; the world keeps moving forward, but the position is dragging its claws in the spinning hypersphere for a turn, being pulled sideways by some alternate history. The effect could be quite impressive overall on the following Regular Turn.
- The third Ripple may be related or unrelated, no explanation is provided. If the position just taxed, three turns is not too much to wait, but if the Treasury is getting down to gold dust on the floor, it may be a problem.
- All three Ripples are capable of being triggered multiple times during the game and must be checked each turn throughout the entire game whenever the Fundamental Reality is triggered. By operation of the percentages, they are more likely to occur in the mid- to late game.

¹ For a fine example of ripple effects in time, I recommend watching the excellent mockumentary *The History of Time Travel* (2014). The viewer is in the same position as the position players; a reasonably astute viewer will notice the little changes caused by the time travelers, but the people in the film know no different world. Thus, there should be no News Events or other interpretations in reaction to a leak event.

The Great Vowel Shift

Ripple 1: All Government Titles, excluding those in the Foresight, lose one random association (if being used) or one random current undisrupted Government Title immediately fails one Conflict Check they are currently passing (regardless of circumstances).

Ripple 2: The current endowment **and** class of the oldest College is moved to the next oldest College.

Ripple 3: The position cannot be affected by adverse News Events for the next three turns but cannot activate the Combat Power in the next turn.

- ✓ Note: A Type 5 Fundamental Reality represents a pre-game alternate reality that leaks into the game, partially overwriting the present for the position's population. When a 'leak' event occurs, each of the preceding Ripples has a 50% chance of instantly affecting the position and the position's Native Population Type. Because of the chance, one or the other or both could occur. The population will not be aware of the changes, but the position players will.¹

Ramifications:

- It is more likely that two of the three Ripples will happen.
- Vital Power Associations to Government Titles are optional, but if in play, they may make some Power Activations more expensive, changing the sequence of processing and cost dynamics. The other option of Ripple 1 could cause a Government Title to become Disrupted regardless of whether the optional associations are in play and rarely would that be considered good (unless change is needed).
- Ripple 2 causes the first ('oldest') College to become sort of 'unfounded' though it will still exist if not re-endowed for a few turns and can be re-endowed. Endowments and Faculties are preserved by moving them to the second College. This is just weirdness, it may or may not matter, other than the re-endowment emergency.
- If Ripple 3 is in effect, Maintenance Shields will still age out. The other positions will not be informed of the immunity to adverse News Events. Being unable to activate the Combat Power (a media magnet) may or may not be important.
- Nothing in this Type 5 Fundamental Reality will likely be noticed or seen by other positions.
- All three Ripples are capable of being triggered multiple times during the game and must be checked each turn throughout the entire game whenever the Fundamental Reality is triggered. By operation of the percentages, they are more likely to occur in the mid- to late game.

¹ For a fine example of ripple effects in time, I recommend watching the excellent mockumentary *The History of Time Travel* (2014). The viewer is in the same position as the position players; a reasonably astute viewer will notice the little changes caused by the time travelers, but the people in the film know no different world. Thus, there should be no News Events or other interpretations in reaction to a leak event.

Three Witches

Ripple 1: The chance of Power Activation failures in the next two Regular Turns is increased by 10%.

Ripple 2: All inactive Epistemological Constructural Elements (including those in *apostasy*) become active and an equal number of randomly determined other Constructural Elements become inactive. This affects Constructural Elements that are currently in *apostasy*; it affects Constructural Elements whether on ships and colonies.

Ripple 3: The Order Power cannot be activated for three Regular Turns.

- ✓ Note: A Type 5 Fundamental Reality represents a pre-game alternate reality that leaks into the game, partially overwriting the present for the position's population. When a 'leak' event occurs, each of the preceding Ripples has a 50% chance of instantly affecting the position and the position's Native Population Type. Because of the chance, one, two or all could occur in a turn. The population will not be aware of the changes, but the position players will.¹

Ramifications:

- Resistance, Clarity, Confusion. Which two are you? Or is it all a bigger cycle?
- Ripple 1 and Ripple 2 will have variable effect depending on the current state of inactive Constructural Elements across the position.
- Ripple 3, 'land of confusion,' is another sort of stasis of the position, possibly caused by competing multi-world timelines pulling. It could be devastating, it could cause the collapse of the position, or a Capital emergency, or it could be a nothing.
- All three Ripples are capable of being triggered multiple times during the game and must be checked each turn throughout the entire game whenever the Fundamental Reality is triggered. By operation of the percentages, they are more likely to occur in the mid- to late game.

¹ For a fine example of ripple effects in time, I recommend watching the excellent mockumentary *The History of Time Travel* (2014). The viewer is in the same position as the position players; a reasonably astute viewer will notice the little changes caused by the time travelers, but the people in the film know no different world. Thus, there should be no News Events or other interpretations in reaction to a leak event.

Crack Up

“Someone in your shape shouldn’t be driving, Someone in your shape shouldn't be doing anything at all!”

– Huey Lewis & The News, “You Crack Me Up” (1983)

You are a mess, the transition of dimensions has left your species psyche in tatters. An Aspect List is not generated for this Truly Alien position at the beginning of the game, rather, when Exposing Aspects, the Aspects received are randomly generated from other position’s Aspect Lists. There is a good chance that each Aspect received will be added to an Aspect List for the Truly Alien position until the list is filled. However, your people are attracted to sacred places, and the Truly Alien position will know the location of every Terra Sancta in the Galactic Space as soon as the Kairotic Moment process is triggered. The Truly Alien position wins a special, exclusive objective victory condition during game Resolution if they have native colonies on the majority of known Terra Sancta planets; sovereignty is not required.

- ✓ Note: All Truly Alien Fundamental Realities are treated as Major. Of necessity, the Truly Alien Fundamental Realities will need to create and act as mini-rules or special rules in the game. Truly Alien FRs break the rules of the game, rather than simply acting as operational guidelines and liabilities. However, the ‘no advantage gained’ rule remains generally true as each introduces possible advantages and disadvantages of being in this universe from somewhere else.

Possible Ramifications:

- Because of the link between Aspects Exposed and Kairotic Moments, this Truly Alien position may inadvertently contribute to triggering Kairotic Moments in the game for both the Truly Alien position and other positions.
- The special exclusive objective victory criterion is not known to the other positions in the game and may result in winning the Objective Victory Criteria without resorting to either a tiebreaker or a shared victory. It may not be easy however, to have a native colony on the majority of Terra Sancta planets – sort of a Zeno’s Paradox-like situation.
- Not having an initial Aspect List may hamper the position in other areas, such as Writs, in the early game, may cause the position to overexpose Aspects early in the game to quickly generate the Aspect List, if it is important to do so. This also may link to rapid colonization since Aspects must be placed adjacent to Friendly and Naturalized Colonies (and at least one adjacency is already taken by the required Pathways for Government Titles).
- This position may have Aspects Exposed early in the game that are never added to their Aspect List, which is an unusual situation, like being a genius for five minutes and then suddenly forgetting it (did you take your smart pills today?).¹

¹ This phrase, like “eat your Wheaties,” I heard much in my youth. It was thus popular at least in the last third of the 20th Century and refers to nootropic substances and not to digital pills or capsule endoscopy.

Frequency

“Another hypothesis ... is that wind going around Kholat Syakal created a Kármán vortex street, which can produce infrasound capable of inducing panic attacks in humans. According to Eichar’s theory, the infrasound generated by the wind as it passed over the top of the Holatchahl mountain was responsible for causing physical discomfort and mental distress in the hikers. Eichar claims that, because of their panic, the hikers were driven to leave the tent by whatever means necessary, and fled down the slope.”

– from Wikipedia article, “Dyatlov Pass Incident,” captured December 17, 2019

Conquered Colonies populated by your Native Population Type may never be Converted, but may only be Naturalized (thus, the path is directly from Conquered Colony to Naturalized Colony). Conquerors will not be informed of this initially, and may waste multiple attempts to Convert (including Pacification Combats); may even conclude that the Truly Alien Conquered Colony can never be converted. Conversely, your species can never Convert or Naturalize a Conquered Colony in this universe.

- ✓ Note: All Truly Alien Fundamental Realities are treated as Major. Of necessity, the Truly Alien Fundamental Realities will need to create and act as mini-rules or special rules in the game. Truly Alien FRs break the rules of the game, rather than simply acting as operational guidelines and liabilities. However, the ‘no advantage gained’ rule remains generally true as each introduces possible advantages and disadvantages of being in this universe from somewhere else.

Possible Ramifications:

- In a game where there is little or no conflict or colony conquests, this Truly Alien Fundamental Reality will have little effect. If so, it’s (almost) free Inheritance Points.
- Regardless of force, bribes, die roll modifiers, the Concierge knows that this Truly Alien Native Population Type can never be converted; this is a case of acute alterity.
- Repeated failure to convert may lead to Looting and Orbital Bombardment.
- Naturalization of this Truly Alien Native Population Type is the process of finding and understanding the correct receptive frequencies. As discussed in the rules, understanding and acceptance are keys to Naturalization and it is a judgment of the Concierge whether the position has met this burden and if the target colony is ready to accept Naturalization. However, it is also possible that the frequencies may change suddenly and be lost to the alien sovereigns.
- On the flip side, the inability to convert Conquered Colonies of other races in this universe means that this Truly Alien position will likely either be non-militant or genocidal, either of which may leave it diplomatically isolated in some games.

One Channel

“...there are some distinct advantages to mono sound in certain situations. For example, musicians such as the Beatles would focus on the mono mixes of their songs rather than the stereo mixes, as AM radio stations preferred the sound of mono for hit singles. Stereo was considered a new technology and was thus generally ignored by many great early rock musicians. Since performers intended for their music to be heard in mono, earlier recordings can sound more powerful and dynamic in mono. Additionally, mono is a better format for public speeches, where the clarity of a single amplified voice is the focus of the sound mix.”

– Ben Firke, “Mono Vs. Stereo Audio,” TechWalla, undated article

The home stereo has become mono on the AM car radio. This Truly Alien position may activate only one Vital Power per Regular Turn but may do so as many times as it has Power Activation and Acts, Scenes and RPs to pay for it. Each Power Activation costs one less Act, but never less than one Act. Power Activation checks are still made for each instance where normally necessary.

- ✓ Note: All Truly Alien Fundamental Realities are treated as Major. Of necessity, the Truly Alien Fundamental Realities will need to create and act as mini-rules or special rules in the game. Truly Alien FRs break the rules of the game, rather than simply acting as operational guidelines and liabilities. However, the ‘no advantage gained’ rule remains generally true as each introduces possible advantages and disadvantages of being in this universe from somewhere else.

Possible Ramifications:

- This one Vital Power activation per Regular Turn activation restriction applies only to Vital Powers; the single Vital Power may be activated for different purposes in the same Regular Turn.
- This does not abrogate the limit of one Taxation and one Census Power Activation per Regular Turn. Planning and allocating are key to managing this.
- The shifting of Power Activation costs by one Act can have a significant effect on the sequence in which Power Activations are resolved during the Regular Turn.
- If Government Titles are associated with Power Activations (see Associates & Acquaintances, 1 Government Titles, p. 580, an optional rule), the subtraction of one Act from activation cost would offset the addition of one act for Vital Powers not associated with a currently undisrupted Government Title of the Truly Alien position.
- Being able to activate only one Vital Power per Regular Turn will certainly change the feel of the position; it will be an all or nothing type position, less responsive in an emergency perhaps, but can rocket off in one direction or another making huge progress in a single area in a Regular Turn.

Ripples

“A kind of a redneck lookin' joint called the Dew Drop Inn...”

– Charlie Daniels Band, “Uneasy Rider” (1983)

A ripple, whether or not it is a collapsing wave function, is entropic to something in the pond or mud puddle. Your species’ drop into the Galactic Space is a ripple in the cosmic ocean. One Intervention Potential Plus or two Intervention Potentials (randomly determined) are generated each time your position’s Regular Turn is processed; additionally, strange things, bad and good, tend to happen when your ships and colonies are present. Other positions may eventually detect the ‘waves of entropy’ emanating from wherever the Truly Alien position exists, however, these same waves act as one Maintenance Shield for each adverse News Event directed at the Truly Alien position. This is an inexhaustible supply of Maintenance Shields at one per adverse News Event.

- ✓ Note: All Truly Alien Fundamental Realities are treated as Major. Of necessity, the Truly Alien Fundamental Realities will need to create and act as mini-rules or special rules in the game. Truly Alien FRs break the rules of the game, rather than simply acting as operational guidelines and liabilities. However, the ‘no advantage gained’ rule remains generally true as each introduces possible advantages and disadvantages of being in this universe from somewhere else.

Possible Ramifications:

- As these Maintenance Shields only exist when an adverse News Event is directed at the Truly Alien position, they do not age out, and therefore cannot eliminate or reduce Intervention Potentials and Intervention Potential Pluses. To do this, the position will need to create its own Maintenance Shields in the normal way.
- The extra Interventions or Intervention Potential Plus generated, plus the very strangely good and bad things that happen in this position’s presence gives extra license to the Concierge for creative Interventions in the game. As discussed in the rules, this is not for evening up or leveling up or leveling the playing field...

Truly Generic

“Ripley, she doesn’t have bad dreams because she’s a doll.”

– Newt, *Aliens* (1986)

Generic Stardrive is the only type of Stardrive that your species can use in this universe. When your species reaches the end of the 1st Era (i.e., the 1st Era Matrix is filled), a wait time of 1-3 Regular Turns is required before the Current Era becomes the 2nd Era. On the other paw, ships of your species are never affected by Disturbance Modifiers during interstellar movement.

- ✓ Note: All Truly Alien Fundamental Realities are treated as Major. Of necessity, the Truly Alien Fundamental Realities will need to create and act as mini-rules or special rules in the game. Truly Alien FRs break the rules of the game, rather than simply acting as operational guidelines and liabilities. However, the ‘no advantage gained’ rule remains generally true as each introduces possible advantages and disadvantages of being in this universe from somewhere else.

Possible Ramifications:

- Transport of your population by any other stardrive results in death of the population. This will likely be quite a surprise to other positions when attempting forced emigration from Conquered, Converted, or Naturalized Colonies of Truly Alien Native Population Type.
- This will also be true in situations where alien sovereigns who are not using GSD and obtain crew and Carrier Fighter RPs from Conquered, Converted, or Naturalized Colonies of your Native Population Type.
- In a game where other positions continue to use GSD, this effect may never be noticed.
- The lack of Disturbance Modifiers on the Truly Alien position’s ships may or may not be noticed by others. But it sure will save a lot of time and distance over the course of the game.
- Depending on the situation, the wait time to progress at the end of an Era could be a real problem (e.g., an arms race, colony defense Era upgrades), or a nothingness. Advanced research, at great expense, and still be conducted during the ‘stagnation’ period. Further, the Concierge may not tell the position players how long the stagnation period will last, but should inform them when it ends.

Appendix GT – The Emergent Government Titles

Estate Title Themes			
EGT1 – First Estate – Legitimizers	CCCLIX	EGT11 – Intellectual Elite	CCCLXIX
EGT2 – Second Estate – Rulers	CCCLX	EGT12 – Oligarchic Drift	CCCLXX
EGT3 – Third Estate – Commoners	CCCLXI	EGT13 – Planetary Governments	CCCLXXI
EGT4 – Fourth Estate – Press	CCCLXII	EGT14 – Down Below	CCCLXXII
EGT5 – Producers – The Industrialists	CCCLXIII	EGT15 – Sovereign Aliens	CCCLXXIII
EGT6 – Producers – The Workers	CCCLXIV	EGT16 – The Great Migration	CCCLXXIV
EGT7 – The Reproducers	CCCLXV	EGT17 – Cabals, Cartels & Syndicates	CCCLXXV
EGT 8 – The Military	CCCLXVI	EGT18 – Great Builders	CCCLXXVI
EGT9 – Military Industrial Complex	CCCLXVII	EGT19 – Youth Bulge	CCCLXXVII
EGT10 – Starship Captains	CCCLXVIII	EGT20 – Big Business	CCCLXXVIII
Interstellar Civilization Themes			
ICT1 – Population	CCCLXXIX	ICT11 – Ships	CCCLXXXIX
ICT2 – Power Activations	CCCLXXX	ICT12 – Exploration & Expansion	CCCXC
ICT3 – Constructural Elements & Disruptions	CCCLXXXI	ICT13 – Combat & Conquest	CCCXCI
ICT4 – Culture	CCCLXXXII	ICT14 – Colony Defenses	CCCXCII
ICT5 – Colleges	CCCLXXXIII	ICT15 – Security & Survival	CCCXCIII
ICT6 – Order & Other Government Titles	CCCLXXXIV	ICT16 – Progress	CCCXCIV
ICT7 – Colonies	CCCLXXXV	ICT17- Diplomatic Spaces	CCCXCV
ICT8 – Homeworld & Capital Colony	CCCLXXXVI	ICT18 – Commerce	CCCXCVI
ICT9 – Conversion & Naturalization	CCCLXXXVII	ICT19 – Corporations & MegaCorporations	CCCXCVII

ICT10 – Technology	CCCLXXXVIII	ICT20 – Little Secrets & Special Operations	CCCXCVIII
Social Title Themes			
SGT1 – Liberty, Equality, Fraternity	CCCXCIX	SGT11 – Modernity – Nationalism	CDIX
SGT2 – Conservative & Reactionary Forces	CD	SGT12 – Modernity – Remote Authority	CDX
SGT3 – Temperance	CDI	SGT13 – History	CDXI
SGT4 – Militarism	CDII	SGT14 – Music	CDXII
SGT5 – Imperialism & Colonization	CDIII	SGT15 – Social Complexity	CDXIII
SGT6 – Mysticism	CDIV	SGT16 – Urbanization	CDXIV
SGT7 – Isolationism	CDV	SGT17 – Remorse	CDXV
SGT8 – Proselytism	CDVI	SGT18 – Cultural Narcissism	CDXVI
SGT9 – Modernity – Prosperity	CDVII	SGT19 – Conformity	CDXVII
SGT10 – Modernity – Technology	CDVIII	SGT20 – Radicals, Revolution, Reformation	CDXVIII

Emergent Government Titles
Estate Government Title Themes 1 – First Estate – The Legitimizers

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) An Estate Title has been replaced by a Social Title while this Title has been active (note, this is a permanent failure once breached).
2. (F) A Title has become disrupted while this Title has been active (note, this is a permanent failure once breached).
3. (F) The position does not have an active, endowed Legitimacy College.
4. (F) One or more other Social or Estate Titles have at least one failed Conflict Check.
5. (F) Friendly population factors (including related Lost Colonist population) are under the control of alien sovereigns (i.e. other Major Positions).
6. (F) The position has suffered effects from adverse News Events in the last two turns (note, loss of Maintenance Shields is not an adverse effect for this purpose).
7. (F) The position lost Maintenance Shields to causes other than aging last turn *and* has not added new Maintenance Shields in the last turn.
8. (F) The position currently has an undisrupted Social Title.
9. (F) The position has lost a colony to alien conquest within the last three turns.
10. (F) The position has no Naturalized Colonies *and* a Reformation has occurred while this Title has been active (note that the latter fails permanently once breached).

(Themes: absolute stability, tyranny in the nursery, being true to purpose, sovereignty over all Friendly populations [great defender, the one and only true leadership, etc.], Naturalized Colonies as a form or reinforcement of legitimacy, no Reformations)

Emergent Government Titles
Estate Government Title Themes 2 – Second Estate – The Rulers

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (F) Position has more than one Social Government Title whether disrupted or undisrupted.
2. (F) Position has more than three undisrupted Government Titles and either a undisrupted Confederation or Dualistic Structural Title.
3. (F) Position has a Confederation or Dualistic Structural Title and less than half of the Cultural Proficiencies are either Police or Security Proficiency pieces.
4. (F) There are sovereign colonies without a Ground Unit and at least 10 RPs of Fighters.
5. (F) Position has more Friendly Colonies than Conquered or Converted Colonies.
6. (F) Position has no Titles with a Conflict Check from EGT1 that is currently passing *and* has not failed for the last three turns.
7. (F) Position has more than one Fuzzy Group on the Public Space.
8. (F) Position does not have more than the First Space in more than half of the Diplomatic Spaces with other species with which it has had First Contact.
9. (F) Position has at least two other Friendly Colonies which have the same or more population than the Capital Colony.
10. (F) Position has not activated the Order Power within the last two turns and has not activated the Combat Power within the last three turns.

(Themes: isolationism, conquest of aliens insures loyalty of friendlies, imperialism, gain of wealth through power, no competing friendly power centers, police state, security, stagnation/no change/no social movements that can upset the balance, support of legitimizers)

Emergent Government Titles
Estate Government Title Themes 3 – Third Estate – The Commoners

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) A Friendly or Naturalized Colony has not been Orbital Bombarded while this Title has been active (note, this is a permanent fail once breached).
2. (F) A colony with Friendly Population, whether sovereign or non-sovereign, has not been Orbital Bombarded while this Title has been active (note, this is a permanent fail once breached)
3. (F) A Friendly or Naturalized Colony has not been involved in a Ground Combat while this Title has been active (note, this is a permanent fail once breached).
4. (F) A Friendly or Naturalized Colony has not been reduced in either Maximum Habitability or Habitability Class in the last eight turns.
5. (F) A Friendly or Naturalized Colony has not been the target of a Raid in the last eight turns.
6. (F) The Taxation Power has been activated within the last three Turns.
7. (F) The Taxation Power has been activated twice since the last activation of the Census Power.
8. (F) No Friendly Population factors on Colony Ships or Orbital Cities have been destroyed while this Title has been active (note, this is a permanent fail once breached).
9. (F) Less than seventy-five percent of the combined Epistemological, Symbolic and Ideological Constructural Elements on Friendly and Naturalized colonies are active (note, the percentage is not per type of Constructural Elements, but in total).
10. (F) A Friendly or Naturalized Colony has suffered a Disruption Event in the last turn.

(Themes: the base of the structure, the mass of humanity, without whom there would be no civilizations and nothing to rule; security, peace, prosperity, propagation, meaning, the makers and the consumers, note that there an unusual number of permanent fails in this Theme)

Emergent Government Titles
Estate Government Title Themes 4 – Forth Estate – The Press

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) Position does not have any Conflict Checks on any other Social or Estate Titles that are currently failing.
2. (F) Position currently does not have any disrupted Social or Estate Titles.
3. (F) Position has not added or restored a Government Title in the last three turns.
4. (F) Position does not currently have a Communication Cultural Proficiency adjacent to every sovereign colony on the Public Space.
5. (F) Total of Intelligentsia, Nationhood, and Powers Proficiency pieces is not more than 50% of the Cultural Proficiency pieces on the Public Space.
6. (F) Position has not successfully prosecuted a Patent in the last three turns that required multiple Information Applications.
7. (F) Position has not issued a Thesis Statement (see Reformatations) in the last three turns (note, not required to be issued against another position but will still cost a Power Activation).
8. (F) Position has not issued an Expose’ News Event within the last five turns.
9. (F) Position has not issued any adverse News Events in the last turn.
10. (F) A Diplomatic Protest has been lodged against the position in the last two turns.

(Themes: knowledge economy, information age, social and political criticism, news, public intellectuals)

Emergent Government Titles
Estate Government Title Themes 5 – The Producers – Industrialist

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) Population has been loaded to Colony Ships from a Friendly Colony that was at less than 90% Maximum Habitability in the last three turns.
2. (F) The Construction Power has not been activated for the purpose of Colony Enhancement on three different Friendly or Naturalized Colonies in the last three turns.
3. (F) An Estate Title, other than this one, has been disrupted in the last five turns.
4. (F) Position has more undisrupted Social Titles than undisrupted Estate Titles.
5. (F) A Writ requiring a Fuzzy Group containing either a Police or Security Proficiency piece has not been activated in the last three turns.
6. (F) A sovereign colony has doubled in size due to Unloading Population from Colony Ships in the last five turns (this can occur over multiple turns, not just in one turn).
7. (F) Position has not established a new Corporation within the last three turns.
8. (F) Position has not unloaded RPs from more than one Cargo Ship *and* has not Loaded RPs to more than one Cargo Ship in the last turn (note, both must be false to pass).
9. (F) Position has not spent 20% of RPs in each of the last two turns building Industry at Friendly colonies.
10. (F) Position has not successfully prosecuted a Patent requiring both Industry and Matter or Energy Applications in the last three turns.

(Themes: Urbanized industrialization, consumer economy, big government spending, energetic commerce, demand for goods, profit profit profit, influence over government regulation, spending, economic measures, suppression of worker power, protection of wealth and property accumulation, industrial technology)

Emergent Government Titles
Estate Government Title Themes 6 – The Producers – Workers

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) Position does not have the Planetary Government Estate Title as a current undisrupted Government Title.
2. (F) Position has an undisrupted Unitarian Structural Title.
3. (F) Position does not have an active, endowed Medical College *and* does not have Institutions connected to the Medical College on all Friendly Colonies (note, both must be true or this statement is false).
4. (F) Position has a Police or Security Proficiency piece adjacent to any Friendly Colony on the Public Space.
5. (F) All Friendly and Naturalized Colonies obeyed the last Taxation Power activation.
6. (F) No other Estate Titles have been disrupted in the last five turns.
7. (F) Position does not have a Spirit Proficiency piece adjacent to each Friendly Colony on the Public Space *or* has not activated a Writ requiring the Spirit Proficiency in the last three turns (note, if either is true, the statement is not false).
8. (F) Position has had a Social Title disrupted in the last five turns.
9. (F) A Friendly or Naturalized Colony has suffered a disruption event in the last three turns.
10. (F) RPs from alien Cargo Ships have been unloaded at any Friendly or Naturalized Colony while this title has been active (note, this is a permanent fail once breached).

(Themes: *Secessio plebis*, conflict of the orders, collective power of workers focused through representative organizations as a form of estate, trade protectionism, government that embraces dualistic powers, provision of social welfare, safety net, no bondage)

Emergent Government Titles
Estate Government Title Themes 7 – The Reproducers

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) Position has not activated the Census Power in the last three turns.
2. (F) Position does not have one Customs and one Regeneration Proficiency adjacent to each Friendly Colony on the Public Space.
3. (F) One or more colonies, whether sovereign or non-sovereign, with Friendly Population Factors on the planet surface has been subjected to either Orbital Bombardment or attacked in Ground Combat while this Title has been active (note, this is a permanent fail if it is ever true).
4. (F) Friendly Population Factors in Orbital Cities at sovereign colonies have been destroyed while this Title has been active (note, this is a permanent fail if it is ever true)
5. (F) A Friendly Colony with 20 or less population factors was either Conquered or destroyed by aliens in the last two turns.
6. (F) More than 10 Friendly population factors were on Colony Ships when the Census Power was activated in the last five turns (note, this can only be true if the Census Power was activated in the last five turns).
7. (F) The position does not have five active, endowed Colleges.
8. (F) The position has an active, endowed Combat College.
9. (F) The position does not have an active, endowed Medical College *and* at least two other active, endowed Colleges, neither of which is a Combat College (note, all elements of this must be false to pass).
10. (F) At least one other Social or Estate Title is either disrupted *or* failing two or more Conflict Checks (i.e. failure of other Social or Estate Titles will cause this to fail).

(Themes: the power of parents, social power, parental government, regeneration of the species, parental protectionism, legitimacy of the civilization)

Emergent Government Titles
Estate Government Title Themes 8 – The Military

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) Position has more than one undisrupted Estate Title.
2. (F) This Title did not replace another Title *and* the position does not have an active, endowed Combat College.
3. (F) Position does not have a Warship, Ground Unit (on the colony) and Fighters (on the colony or on a ship) and Ground and Orbital Defense Base at every Friendly or Converted Colony.
4. (F) Position has Naturalized population *and* 70% or more of Cultural Proficiencies are not Police or Security Proficiencies (note, having Naturalized Population is auto-fail)
5. (F) Position has two or more active endowed Colleges.
6. (F) Position has Equity, Expression, Integrity, or Intelligentsia Proficiencies on the Public Space (note, one piece of any of these Proficiencies is sufficient to fail) *or* any other Title has failed two or more Conflict Checks currently (note, if either is true, the Conflict Check fails).
7. (F) Position has not successfully prosecuted a Patent that includes a Weapons or Defenses Application within the last two turns.
8. (F) Position does not have the current Era Warship Patent, all three Defense Base Patents, and half of the position’s warships are not of the current Era.
9. (F) Position has fought a combat against a Warship or Defense Bases of a higher Era during the time this Title has been active (note, this is a permanent failure once breached)
10. (F) Position has not initiated interstellar movement with any Warships in the last two turns *or* has not initiated any Combat or Seized the Initiative within the last three turns (note, if either is true, the Conflict Check fails).

(Themes: dictatorship, martial glory, military ownership of society and the economy, security, police state, politics of the gun, arms race)

Emergent Government Titles
Estate Government Title Themes 9 – Military Industrial Complex

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) Position has spent less than 35% of total RPs on construction of Warships, Carriers, Fighters, Defense Bases, or Ground Units in the last two turns, not counting upgrades or other enhancement technologies.
2. (F) Position has not purchased Ship Missiles or Fighters at two or more Friendly Colonies in the last two turns.
3. (F) Position has not completed any Colony Defense Era upgrades in the last two turns.
4. (F) Position has not lost any Warships, Logistical Ships, Bases, or Fighters or fired any Ship Missiles in Combat in the last two turns (in order to lose something in combat, you have to be involved in a combat...).
5. (F) Position has not successfully prosecuted any Patents that contain Weapons, Defense or Industry Applications in the last three turns.
6. (F) Position has not been successful in Advanced Research or Development in Weapons, Development or Industry in the last three turns.
7. (F) Position has not improved its Orbital Bombardment capability in the last five turns.
8. (F) Position has not won a Combat in the last three turns.
9. (F) Position has not scrapped any Warships in the last three turns.
10. (F) Position has not built at least three new Warships or Logistical Ships in the last three turns.

(Themes: arms race, defense spending, profit from military losses, profit from military expansion, obsolescence of military equipment...they want you to buy weapons and go to war)

Emergent Government Titles
Estate Government Title Themes 10 – Starship Captains

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) Any sovereign colony has a System or Orbital Defense Base or Fighters.
2. (F) Position has initiated no interstellar movements in the last turn *or* any sovereign colony has a System or Orbital Defense Base (note, if either of these is true, the statement is not false)
3. (F) Position does not have active, endowed Ship, Commerce and Stardrive Colleges.
4. (F) A sovereign starship has been destroyed or lost (by any means) in the last two turns *and* no sovereign colonies are currently under attack or siege (note, if either is true, the statement is not false).
5. (F) Position has not Landed any new colonies or transported population (activation of the Expansion Power for that purpose) in the last three turns.
6. (F) Position does not have a number of supporting colonies within Short Movement of another supporting colony, equal to half the turns elapsed in the game so far (note this is dependent on Ship Speed and number of supporting colonies)
7. (F) Position does not currently have either a number of starships equal to the number of undisrupted Government Titles or sovereign colonies (whichever is greater) cubed, *or* a number of Warships equal to the number of undisrupted Government Titles or sovereign colonies (whichever is greater) squared (note, cannot be false if either is true)
8. (F) Position has not either increased Ship Speed in at least one Stardrive Patent, or successfully prosecuted any Patent with either Stardrive or Ship Applications within the last two turns.
9. (F) Position currently has more than half of the Constructural Elements on ships inactive, *or* has one third or more of Ideological Constructural Elements on ships inactive (note, if either of these are true, the statement is not false).
10. (F) Position has not improved either Operational Flight Duration (OFL) or Operational Supply Limitations (OFL) in the last two turns.

(Themes: power of starship captains over connectedness of civilization, control of ships, inability of colonies to resist starship captains, expanding colony networks, ship technology)

Emergent Government Titles
Estate Government Title Themes 11 – Intellectual Elite

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) Position does not have a Fuzzy Group adjacent to each colony hosting a College, for each College hosted there.
2. (F) Position does not have at least one other Social or Estate Title that is not currently failing a conflict check.
3. (F) Position has not operated Institutions on every Friendly and Naturalized colony in the last turn.
4. (F) Position has not spent at least half of its Faculties operating Institutions in the last three turns *or* has not operated an Institution on a Converted Colony in the last turn, if the position has at least one Converted Colony currently (note, if either is true, the statement cannot be false).
5. (F) Position does not have five active, endowed Colleges *and* a total number of Communication and Rhetoric Proficiency pieces on the Public Space equal to either the number of undisrupted Government Titles or active Colleges, whichever is greater (note, both must be true for this statement to not be false).
6. (F) Intelligentsia Cultural Proficiencies do not currently amount to 25% of Cultural Proficiency pieces on the Public Space.
7. (F) Position has not activated the Technology Power for any purpose in the last two turns.
8. (F) Position has an active, endowed College hosted on the Capital Colony.
9. (F) Position has not founded a new College *or* issued a new Land Grant Writ in the last three turns (note, if either is true, the statement cannot be false).
10. (F) Position has more active Colleges than inactive or suspended Colleges.

(Themes: intelligentsia as either a force for social change or for legitimizing the current scheme, knowledge based economy, connectivity or lack of connectivity between society and intelligentsia (e.g., ancient Library of Alexandria), anti-intellectual forces, pretentiousness)

Emergent Government Titles
Estate Government Title Themes 12 – Oligarchic Drift

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) Position has not unloaded RPs from Cargo Ship(s) at the position’s largest Friendly Colony equal to at least half of that colony’s GDP in the last three turns.
2. (F) Position has loaded RPs to Cargo Ship(s) from a sovereign colony that is in the top one-third of colonies by GDP in the last two turns.
3. (F) Position has unloaded RPs from Cargo Ship(s) at a sovereign colony that is in the bottom one-third of colonies by GDP in the last three turns.
4. (F) Position has more sovereign colonies above the average GDP of sovereign colonies than colonies below the average GDP.
5. (F) Position has a College, Corporation or MegaCorporation hosted on a sovereign colony that is in the bottom three-quarters of GDPs of sovereign colonies.
6. (F) Position does not have three sovereign colonies of 20 or less population for each sovereign colony of population 60 or more (note that Census Power can affect this).
7. (F) Position has a Friendly or Naturalized Colony of 50 or greater population located on a planet that is neither Optimal nor Hospitable Habitability Class to any resident population (note that pollution and entropy can affect this).
8. (F) No alien Cargo Ships have Unloaded RPs at any sovereign colony in the top half of GDPs of sovereign colonies in the last five turns.
9. (F) More than half of the top half of sovereign colonies by GDP are at 80% or greater Maximum Habitability (note, fractions rounded down).
10. (F) The Commerce Power has not been activated for any reason in the last two turns *or* the position has at least one colony of 30 or less population that has a greater GDP than a sovereign colony of 60 or more population (note, if either is true, the statement is not false).

(Themes: Oligarchic drift in this instance is the tendency of big colonies to get bigger and wealthier by their power at the expense of smaller colonies, and is not in GGDM terms, individual wealth accumulation, but generational and locational wealth accumulation; it is inequality and wealth gap as an identifiable estate in civilization)

Emergent Government Titles
Estate Government Title Themes 13 – Planetary Governments

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) Position does not have a Confederation Structural Title.
2. (F) Position has a Confederation or Unitary Structural Title *and* the total Friendly and Naturalized Population on sovereign colonies, excluding the Capital Colony, do not outnumber the population of the Capital Colony 10 to 1 (note, both must be false to pass)
3. (F) The number of sovereign warships exceeds the number of sovereign Friendly or Naturalized Colonies in any one starsystem where these colonies exist.
4. (F) RPs exceeding half of a sovereign colony’s GDP were loaded or unloaded at any sovereign colony in the last turn.
5. (F) All Friendly and Naturalized Colonies do not have an Orbital Shipyard.
6. (F) All Friendly and Naturalized Colonies do not have both Orbital Defense and System Defense Bases and Fighters on the colony as well.
7. (F) All Friendly Colonies are not in a system with another Friendly or Naturalized Colony.
8. (F) The Taxation Power has been activated within the last five turns.
9. (F) During the last activation of the Taxation Power, all colonies obeyed (i.e. none failed to pay taxes due to inactive Constructural Elements).
10. (F) The position has used all available Power Activations on any turn within the last three turns.

(Themes: fierce local independence, suspicion of interstellar government, suspicion of warships, grudging acceptance of the minimum benefits of centralized civilization, planetary survival, local urbanization)

Emergent Government Titles
Estate Government Title Themes 14 – Down Below

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) Position has not generated an Intervention Potential Plus in the last three turns *or* currently has more than two Maintenance Shields (note, if either of these are true, the statement is not false).
2. (F) Position has no Medical or Spirit Cultural Proficiency Pieces on the Public Space.
3. (F) Position does not have a Confederation Structural Title *or* has Police or Security Proficiency pieces on the Public Space currently (note, if either of these are true, the statement is not false).
4. (F) Position has more Police, Security, and Integrity Proficiency Pieces on the Public Space, combined, than undisrupted Government Titles.
5. (F) Position has Police, Security or Integrity Proficiency Pieces adjacent to the Capital Colony on the Public Space (remember, all First Spaces in Diplomatic Space are adjacent to the Capital Colony on the Public Space).
6. (F) Position does not have any disrupted Government Titles.
7. (F) Position is currently unable to activate any Writs (due to either lack of Writs or matching Fuzzy Groups), or does not have any Writs established.
8. (F) Position has published an Expose’ News Event within the last 20 turns *or* has a Zeitrice currently on the Public Space (note that a Zeitrice can be formed inadvertently).
9. (F) Position has less than three Corporations currently *or* owns any colony with a Ground Unit present (even if on a ship or Orbital City) (note, if either of these are true, the statement is not false).
10. (F) At least half of the position’s colonies are not at 20 or less population factors and the position has no Conquered or Converted Colonies.

(Themes: *laissez faire*, permissiveness, non-conformity, weak central government, pro-business, low or weak policing and security presence, little regulatory oversight, expanding economy, vice and addiction, inconsistent enforcement, government corruption, illegitimate power, Cpt. Stern)

Emergent Government Titles
Estate Government Title Themes 15 – Sovereign Aliens

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) At least one Conquered or Naturalized **alien colony** did not obey the last activation of the Taxation Power (i.e. due to inactive Constructural Elements).
2. (F) At least one attempt to Convert or Pacify a conquered **alien colony** failed in the last three turns *or* no Conversion attempts have been made or Pacification Combats initiated in the last three turns (note, if either is true, this statement is not false).
3. (F) No sovereign alien population factors have been loaded to Colony Ships in the last three turns.
4. (F) One or more sovereign **alien colonies** have reverted while this Title has been active (note, if this ever true, this is a permanent fail).
5. (F) A sovereign **alien colony** exists on a planet that is Optimal Habitability Class for the Native Population Type of your position.
6. (F) A sovereign **alien colony** has been Orbital Bombarded but not destroyed in one Combat Round while this Title has been active (note, if this is ever true, this is a permanent fail).
7. (F) A College, Corporation or MegaCorporation of which the position is a shareholder is hosted on a sovereign **alien colony or** a sovereign **alien colony** is currently the Capital Colony (note, if any are true, this statement is not false).
8. (F) Sovereign alien population is located on the surface of a planet controlled by the position (being under the surface of the planet still counts as being on the surface for this purpose).
9. (F) Sovereign alien population are located on a colony planet that is not either Hostile or Unpleasant Habitability Class to their species.
10. (F) Naturalized alien population failed to obey any Power Activation in the last three turns (i.e. due to inactive Constructural Elements).

(Themes: what to do with captured aliens, impact of sovereign alien colonies on position’s government, failure to keep the aliens “in line,” militant occupation of alien colonies, terror)

Emergent Government Titles
Estate Government Title Themes 16 – The Great Migration (Diaspora)

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) The Homeworld has more than 10% of the Maximum Habitability in Friendly population factors (note, reroll if the position is not a Homeworld or Lost Colonist).
2. (F) The Homeworld has not been reduced to zero Maximum Habitability or Hostile Habitability Class for your species (note, reroll if the position is not a Homeworld or Lost Colonist).
3. (F) Position does not own more Colony Ships than any other type of ship *or* position has not Landed a colony within the last three turns (note, fails if either is true)
4. (F) Position owns more non-Colony and non-Scout Ships than Colony and Scout Ships combined.
5. (F) Position has neither Loaded at least five Friendly Population factors to Colony Ships *nor* Landed a colony in the last turn.
6. (F) A sovereign **alien colony** exists on a planet surface whose Habitability Class is optimal for the position’s Native Population Type (note, alien orbital cities will not cause this statement to be true).
7. (F) Sovereign Friendly Colonies that are not special colonies, exist on planets that are Unpleasant or Hostile Habitability Class for the position’s Native Population Type.
8. (F) Non-sovereign **alien colonies** co-exist with sovereign Friendly population colonies on planets (i.e. Balkanized Planets) that are Optimal Habitability Class for the position’s Native Population Type.
9. (F) Position has not activated the Expansion Power (for any purpose) and/or Census Power for the last eight consecutive turns.
10. (F) A friendly population colony in Galactic Space, whether sovereign or non-sovereign, that is not the Capital Colony of some other position, exceeds the Friendly population of the position’s current Capital Colony.

(Themes: leaving the nest, fearless & land-grab expansionism, spreading out colonies for species survival, outward population pressure, optimal colony planets, slight xenophobia)

Emergent Government Titles
Estate Government Title Themes 17 – Cabals, Cartels & Syndicates

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) Position is not currently passing Conflict Checks from both the Military and Military Industrial Complex Estate Themes.
2. (F) Position is not currently passing Conflict Checks from both the Military Industrial Complex and Producers: The Industrialist Estate Themes.
3. (F) Position is not currently passing Conflict Checks from both the First Estate: Legitimizers and Second Estate: Rulers Estate Themes.
4. (F) Position is not currently passing Conflict Checks from both The Great Migration and Youth Bulge Estate Themes.
5. (F) Position is not currently passing Conflict Checks from both Starship Captains and The Great Migration Estate Themes.
6. (F) Position is not currently passing Conflict Checks from both Third Estate: Commoners and Producers: The Workers Estate Themes.
7. (F) Position is not currently passing Conflict Checks from both Fourth Estate: The Press and Intellectual Elite Estate Themes.
8. (F) Position is not currently passing Conflict Checks from both Planetary Governments and Youth Bulge Estate Themes.
9. (F) Position is not currently passing Conflict Checks from both Producers: Industrialist and Starship Captains Estate Themes.
10. (F) Position is not currently passing Conflict Checks from both Oligarchic Drift and Down Below Estate Themes.

(Themes: Legitimacy through pairings of Conflict Checks from Estate Themes that share similar goals, interests; the Conflict Checks could appear together on one or on separate Estate Titles)

Emergent Government Titles
Estate Government Title Themes 18 – Great Builders

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) Construction Power has not been activated for the purpose of Colony Enhancement at the Capital Colony in the last turn.
2. (F) Construction Power has not been activated for the purpose of Colony Enhancement at any one Friendly or Naturalized colony for three consecutive turns.
3. (F) An Estate Title has become disrupted while this Title has been active (note, this is a permanent fail once breached).
4. (F) No alien ship has arrived in either the Capital Colony or the largest Friendly Colony system within the last three turns (note, the Capital Colony and largest Friendly Colony may or may not be the same and Census Power activation may affect this).
5. (F) No new Orbital Cities have been constructed at any sovereign colony in the last two turns (note, this can be done even if planet is not at or near Maximum Habitability).
6. (F) Alien population factors have not been Unloaded at any planet with a sovereign colony on the same turn the Construction Power was activated for the purpose of Colony Enhancement within the last two turns (note, the alien population factors are not required to be or become sovereign).
7. (F) Cargo Ships have not unloaded RPs at any planet with a sovereign colony on the same turn the Construction Power was activated for the purpose of Colony Enhancement within the last two turns (note, the Cargo Ship can be alien).
8. (F) Seventy-five percent of Ideological Constructural Elements were not active at sovereign colonies the last time the Construction Power was activated for the purpose of Colony Enhancement at any sovereign colony.
9. (F) There is not currently an Engineering and Urbanization Proficiency adjacent to each Friendly or Naturalized Colony on the Public Space.
10. (F) The position does not have an active, endowed Engineering College or Urbanization College *and* more Engineering and Urbanization Proficiencies combined than undisrupted Government Titles

(Themes: The architects, builders and planners of great works, considered as an estate when they have behind them the power of government and wealth, and the prestige of civilization and their era, e.g., the unknown planners of the Valley of Kings, the plans for rebuilding London after the Great Fire of 1666, Haussmann’s rebuilding of Paris during the Second French Empire, Speer in Berlin, the ancient Roman aqueduct system, Edison and Tesla’s power systems, etc.)

Emergent Government Titles
Estate Government Title Themes 19 – Youth Bulge

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) Position is currently not involved in any Ground Combats *or* has not fought a Pacification Combat within the last two turns.
2. (F) Position is not currently involved in more than one ongoing combat *and* has not fought combats at more than one system or planet within the last two turns.
3. (F) Position does not own three or more Friendly colonies with over 50 population factors.
4. (F) Position has not Raided or Looted any **alien colonies** within last two turns.
5. (F) Position has not activated the Census Power within the last two turns.
6. (F) Position currently does not have 50 Friendly population factors on Colony Ships.
7. (F) Position has not loaded 10 Friendly population factors to Colony Ships in the last turn.
8. (F) Position has not abandoned any disrupted Government Titles within the last three turns.
9. (F) Position does not have three or more Friendly Colonies currently at the planet’s Maximum Habitability
10. (F) Position does not have more Regeneration Proficiency pieces on the Public Space than undisrupted Government Titles.

(Themes: expansion, population pressure outward, conquest of aliens for elbow room, small colonies, population loading and population on colony ships, social revolution against the current regime)

Emergent Government Titles
Estate Government Title Themes 20 – Big Business

“What condition or circumstances must have existed in order for this group to become a ruling Estate, what needs do they serve, and what conditions or circumstances must continue in order for the Estate to continue ruling?”

Conflict Checks: True or false statements, *if true, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are true, the Conflict Check has failed:

1. (F) Position is not currently a member of eight MegaCorporations containing membership from at least five other positions, *and* at least six of which are not hosted on a sovereign colony (note, both must be false for this Conflict Check to pass).
2. (F) Position does not currently have one Cargo Ship for every 50 sovereign population factors before or on Turn 10 or for every 30 sovereign population after Turn 10 (note, a Census Power activation can ‘blow this up’).
3. (F) Position has not Loaded or Unloaded RPs from alien Cargo Ships at five sovereign colonies in the last three turns.
4. (F) Position has not Loaded or Unloaded RPs from five sovereign Cargo Ships in the last three turns.
5. (F) Position does not have access to a total number of Diplomatic Spaces, excluding First Spaces, equal to the number of Major Races with which it has had First Contact squared (note, Diplomatic Spaces with Minor Races count for this purpose) if more than three or cubed if three or less (note, a new First Contact can make this fail).
6. (F) New stars added to Galactic Space since the beginning of the game do not equal the number of turns elapsed plus the number of Corporations and MegaCorporate memberships of the position (note, this is something that may be beyond the control of the position, easily can become untenable in the long term).
7. (F) Position does not have sovereign colonies equal to the number of undisrupted Government Titles cubed (note, the math is brutal).
8. (F) RPs received from the most recent activation of the Taxation Power were not double what was received from the immediately previous activation of the Taxation Power.
9. (F) Sovereign population has not doubled in the last five turns or tripled in the last eight turns.
10. (F) Position’s ship speed has not doubled in the last three turns.

(Themes: think big business, too big to fail, economy of scale, proto-galactic consumerism as the backbone of a growing pan-stellar culture, brutal math, exponential potential)

Emergent Government Titles Tables
Interstellar Civilization Themes 1 – Population

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) Friendly colony population located on all Balkanized planets outnumber the total alien population present (applies to both sovereign and non-sovereign planets).
2. (T) Census Power has been activated in the last two turns.
3. (T) Census and Taxation Powers have both been activated in the last four turns.
4. (T) Friendly population has not been destroyed or lost in the last three turns, including loss due to Maximum Habitability, but excluding adverse News Events.
5. (T) Average friendly population per sovereign colony is 50 population factors.
6. (T) Average friendly population per sovereign colony is 80 population factors.
7. (T) Friendly population factors are not located on any planet with alien populations (Major or minor).
8. (T) Position controls all Friendly population factors in the game, excluding those of related Lost Colonist positions.
9. (T) Friendly population is not located on any Hostile or Unpleasant Class planets.
10. (T) Position has no Specialized or Low-Population colonies.

Emergent Government Titles Tables
Interstellar Civilization Themes 2 – Power Activations

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) All ten Vital Powers have been activated within the last five turns.
2. (T) Ten Powers have been activated in the last three turns.
3. (T) A Government Title is associated with each Vital Power and at least 35% of Cultural Proficiencies on the Public Space are Power Proficiencies.
4. (T) At least five Scenes are on the Public Space currently.
5. (T) At least eight Acts are on the Power Strip currently.
6. (T) No Power is without at least one Act on the Powerstrip currently.
7. (T) Taxation Power has been activated within the last three turns.
8. (T) On one turn within the last three turns, all Power Activations have been used.
9. (T) No Power Activation has failed due to inactive Constructural Elements in the last two turns (failures due to lack of RPs, Acts or Scenes or legality do not count).
10. (T) No colony has failed Taxation in the last four turns.

Emergent Government Titles Tables
Interstellar Civilization Themes 3 – Constructural Elements & Disruption

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) All Constructural Elements of one type (excluding Temporal) are active currently.
2. (T) Three-quarters or more of Epistemological Constructural Elements are currently active (incl. both colonies and ships).
3. (T) Three-quarters or more of Symbolic Constructural Elements are currently active (incl. both colonies and ships).
4. (T) Three-quarters or more of Ideological Constructural Elements are currently active (incl. both colonies and ships).
5. (T) The Culture Power has been activated for the purpose of Cohering within the last two turns.
6. (T) No Government Title has been Disrupted within the last five turns.
7. (T) No Friendly or Naturalized Colony has suffered a Disruption Event in the last three turns.
8. (T) The Capital Colony of the position has not suffered a Disruption Event in the last ten turns (even if this Government Title was not active at the time).
9. (T) All current Social or Estate Titles have never been Disrupted while this Title has been active.
10. (T) No College is currently inactive due to inactive Constructural Elements on the Host Colony.

Emergent Government Titles Tables
Interstellar Civilization Themes 4 – Culture (incl. Writs)

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) The Culture Power has been activated for any purpose in the last two turns.
2. (T) The Culture Power has been activated for at least four different purposes in the last four turns.
3. (T) The position currently has at least one piece of 12 different Proficiencies on the Public Space.
4. (T) The position currently has at least 12 Aspect pieces on the Public Space.
5. (T) The position currently has more Proficiencies than Aspects on the Public Space.
6. (T) The position currently has more Aspects than Proficiencies on the Public Space.
7. (T) The position has at least two Fuzzy Groups on the Public Space currently.
8. (T) The position has actualized at least one Fuzzy Group in the last two turns.
9. (T) The position has had a successful Writ of Naturalization in the last six turns.
10. (T) The position currently has at least one other undisrupted Social Government Title.

Emergent Government Titles Tables
Interstellar Civilization Themes 5 – Colleges

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) Position has at least one Endowed College currently and has no unendowed or suspended Colleges currently.
2. (T) Position has at least three Endowed Colleges currently.
3. (T) Position has founded a new College within the last five turns.
4. (T) Position has at least two colonies hosting Colleges not including the Capital Colony, and all Colleges are active currently.
5. (T) Position has constructed an Institution within the last two turns.
6. (T) Position has not failed to operate any Institution in the last two turns.
7. (T) All Friendly Colonies with 30 or more population factors currently have at least one Institution.
8. (T) Position currently has no Colleges or Institute on colonies captured by or reverted to other positions.
9. (T) The Culture Power has been activated for a purpose relating to Colleges within the last three turns.
10. (T) No Faculties have been committed to Combat in the last two turns.

Emergent Government Titles Tables
Interstellar Civilization Themes 6 – Order & Other Government Titles

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) The Order Power has been activated for any purpose in the last two turns.
2. (T) The Order Power has not been activated to Declare/Move Capital Colony in the last five turns.
3. (T) The position has successfully converted a colony (by any means) in the last three turns.
4. (T) The position has no Naturalized Colonies but has at least three Converted Colonies.
5. (T) The position has not activated the Order Power for the purpose of Government Formation in the last five turns.
6. (T) The position currently has an equal number of undisrupted Social and Estate Titles.
7. (T) The position currently has had no disrupted Government Titles in the last five turns.
8. (T) The position’s Structural Government Title has not been either Disrupted or changed in the last ten turns.
9. (T) All Friendly and Naturalized Colonies have Ground Units located at the colony.
10. (T) At least half of the Cultural Proficiencies on the Public Space are either Police or Security Proficiencies *or* the Order Power has been activated for the purpose of Maintenance in the last turn.

Emergent Government Titles Tables Interstellar Civilization Themes 7 – Colonies

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) Average Friendly Colony population is 20 or less factors currently.
2. (T) Average Friendly Colony population is 60 or greater factors currently.
3. (T) No colony has failed to grow during a Census in the last three turns (i.e. Maximum Habitability).
4. (T) All colonies have industry currently *and* all colonies over 30 population factors have a Shipyard currently.
5. (T) No sovereign Friendly or Naturalized Colony has lost either Maximum Habitability or Habitability Class in the last three turns.
6. (T) The position currently owns no Conquered or Converted colonies.
7. (T) All Friendly Colonies at 50% or greater Maximum Habitability currently have Orbital Cities.
8. (T) The Taxation Power has not been activated in the last five turns.
9. (T) All sovereign colonies are currently within Short Movement of another sovereign colony in Galactic Space.
10. (T) All Friendly and Naturalized Colonies are in a starsystem with at least one other colonized world currently (i.e. on another planet, can be **alien colony**).

Emergent Government Titles Tables
Interstellar Civilization Themes 8 – Homeworld & Capital Colony

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) Capital Colony is at least twice as large as any other sovereign colony in Friendly Population Factors.
2. (T) Capital Colony is at least three times as large as any other sovereign colony in total population.
3. (T) Capital Colony has constructed a ship in the last turn turns (laying keel does not count).
4. (T) The starsystem where the Capital Colony is located has not been entered by any alien ship, of any type, while this Government Title has been active (note this is a permanent fail once breached).
5. (T) Cargo Ships have unloaded at least 10 RPs at the Capital Colony in the last two turns.
6. (T) All sovereign colonies are within two turns movement of the Capital Colony.
7. (T) Diplomatic Spaces are connected to the Public Space (fails if position does not currently have a Capital Colony or if the Capital Status is disrupted due to inactive Symbolic Constructural Elements)
8. (T) The Homeworld is in Galactic Space but has not been owned by the position for less than five turns (reroll on this table if position is not either Homeworld or Lost Colonist).
9. (T) The Homeworld is in Galactic Space and has suffered reduction in Habitability Class or Maximum Habitability within the last five turns (reroll on this table if position is not either Homeworld or Lost Colonist).
10. (T) The Homeworld has not been the Capital Colony for less than eight turns (reroll on this table if position is not either Homeworld or Lost Colonist).

Emergent Government Titles Tables
Interstellar Civilization Themes 9 – Conversion & Naturalization

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) Position has Naturalized a Converted Colony within the last five turns.
2. (T) Total Naturalized Population exceeds the total Friendly Population.
3. (T) Total Conquered or Converted population exceeds total Friendly population controlled by the position.
4. (T) Position currently holds no Conquered Colonies (i.e. Converted or Naturalized Colonies do not count).
5. (T) No Friendly Population Factors have been Converted or Naturalized by another position while this title has been active (note this is a permanent fail once breached).
6. (T) No Naturalized Colony has been lost or reverted to another position while this title has been active (note this is a permanent fail once breached).
7. (T) Position has never conquered or looted an **alien colony**.
8. (T) Position has never initiated Orbital Bombardment or Pacification Combat.
9. (T) A Naturalized or Converted Colony is currently the Capital Colony.
10. (T) No Naturalized, Converted or Conquered Colonies owned by the position are within Short Movement of the Capital Colony at the current best ship movement speed.

Emergent Government Titles Tables
Interstellar Civilization Themes 10 – Technology

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) The Technology Power has been activated for any purpose in the last two turns.
2. (T) The position has successfully prosecuted a new, non-existential Patent in the last four turns.
3. (T) Thirty-five percent or more of RPs spent during Power Activations in the last three turns have been spent on Technology Power activations.
4. (T) The position has an equal or greater number of undisrupted Research Groups on the Public Space than undisrupted Government Titles currently.
5. (T) The position has completed only Existential Patents.
6. (T) The position has an active, endowed Technology College on the Capital Colony.
7. (T) An Institution associated with an active Technology College operated last turn.
8. (T) The current Era Matrix has more than 50% of Applications completed (note this can fail due to Era Progression).
9. (T) More than half of the Cultural Proficiencies on the Public Space are either Engineering or Medical Proficiencies.
10. (T) The position had either a successful Research Attempt or Development Attempt last turn.

Emergent Government Titles Tables
Interstellar Civilization Themes 11 – Ships (incl. Stardrive)

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) Position has attempted Prosecution of a new Stardrive Patent in the last three turns (note that successful prosecution might eventually cause this Conflict Check to fail).
2. (T) Position has either laid keel or constructed a new Ship in the last two turns.
3. (T) Position has constructed a new Shipyard in the last three turns.
4. (T) Position has successfully increased maximum Ship Speed of any Stardrive in the last three turns.
5. (T) Position has increased either Operational Flight Limitations (OFL) or Operational Supply Limitations (OSL) in the last three turns.
6. (T) Position has more warships than non-warships currently (individual ships, not RP value).
7. (T) Position has more non-warships than warships currently (individual ships, not RP value).
8. (T) Position currently has any combination of three Ship or Stardrive Research Groups on the Public Space.
9. (T) Position has initiated interstellar movement in the last turn.
10. (T) No ship owned by the position, including Scouts, has been destroyed in the last three turns.

Emergent Government Titles Tables
Interstellar Civilization Themes 12 – Exploration & Expansion

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) Expansion Power has been activated for any purpose in the last two turns.
2. (T) Position has activated the Expansion Power for the purpose of Looking within the last three turns.
3. (T) Position has activated the Expansion Power for the purpose of Scouting within the last three turns.
4. (T) No Scout Ships owned by the position have been destroyed in the last three turns.
5. (T) Five factors of Friendly Population have either been Loaded to or Unloaded from Colony Ships owned by the position within the last two turns.
6. (T) Position has activated the Expansion Power for the purpose of Transporting Population within the last three turns.
7. (T) Position has Landed a new colony within the last three turns.
8. (T) Position has Landed a colony on a Hostile or Unpleasant Class Planet in the last three turns.
9. (T) Position does not have two Friendly colonies in the same starsystem.
10. (T) Position has more Low-Population colonies than non-Low Population colonies (see 4 Taxation & Census, p. 326).

Emergent Government Titles Tables
Interstellar Civilization Themes 13 – Combat & Conquest

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) The Combat Power has been activated to Initiate Combat within the last three turns.
2. (T) The Combat Power has been activated for either Combat Alert at a Friendly Colony or to Seize the Initiative in an ongoing combat in the last two turns.
3. (T) The position is currently engaged in at least one ongoing combat (i.e. engaged in a combat that carries over the Regular Turn) where at least one Combat Round was processed between the last Regular Turn and the current Regular Turn (i.e. not Sieges).
4. (T) The position has either won a combat (all enemy units destroyed or retreated) in the last two turns *or* has not lost a combat (all friendly units destroyed or retreated) in the last three turns (ongoing combats do not count, as they are neither won or lost).
5. (T) The position has either conquered an **alien colony** *or* destroyed an **alien colony** by Orbital Bombardment in the last three turns.
6. (T) Position has successfully Converted a colony by Pacification Combat in the last five turns.
7. (T) Position has not lost a Ship Combat while this title is active (note that this is a permanent fail upon being breached).
8. (T) Position has not lost a Colony Combat while this title is active (note that this is a permanent fail upon being breached).
9. (T) Position has built a new Warship in the last turn.
10. (T) Position has transferred Ship Missiles or Fighters to a Warship (incl. Carriers, see 1 Combat) in the last two turns (can be from either a colony or Logistical Ship).

Emergent Government Titles Tables
Interstellar Civilization Themes 14 – Colony Defenses

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) All Friendly, Naturalized and Converted Colonies have at least one Defense Base (of any type) *and* have defenses at the current Era of the position (new colonies, Era Progression can cause this to fail).
2. (T) Thirty-five percent of RPs spent in the last three turns were spent for Defense Bases, Ground Units, and Colony Defense Era Upgrades at Friendly or Naturalized Colonies.
3. (T) The position has not lost a Colony Combat at a sovereign colony while this title has been active (note this is a permanent fail upon being breached).
4. (T) The position has not lost a Ground Combat at a sovereign colony while this title has been active (note this is a permanent fail upon being breached).
5. (T) All sovereign colonies that have either a Shipyard or Orbital Cities also have at least three Orbital Defense Bases and one System Defense Base.
6. (T) All Friendly and Naturalized colonies have the maximum number of Fighters allowed.
7. (T) All sovereign colonies have a Ground Unit and at least three Ground Bases.
8. (T) All **alien colonies** on Balkanized Planets are owned by the position.
9. (T) At least one Warship is in each system with a sovereign colony.
10. (T) At least one friendly Warship is located in any starsystem that has a Cargo Ship or Logistical Ship at the end of the turn (Ships in interstellar flight at the time of the Regular Turn do not require a Warship).

Emergent Government Titles Tables
Interstellar Civilization Themes 15 – Population

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) No other **alien colonies** exist in systems where a Friendly Colony is located *or* all **alien colonies** in a starsystem with a Friendly Colony are owned by the position.
2. (T) Colonies containing the position’s Native Population Type (not counting those descended from related Lost Colonist positions) in the Galactic Space are equal to the number of turns elapsed in the game minus 25% (i.e. on Turn 20, there must be at least 15 colonies in Galactic Space of your Native Population Type), regardless of current ownership (i.e. they do not have to be Friendly Colonies).
3. (T) Position has eliminated a minor race within the last 20 turns.
4. (T) Position has at least one Friendly Colony at least three turns movement at best ship speed from the current Capital Colony.
5. (T) Position has at least 50 Friendly Population factors loaded on Colony Ships currently.
6. (T) No Friendly Populations (i.e. factors of the position’s Native Population Type) are located on Orbital Cities currently, regardless of sovereign ownership or political status.
7. (T) At least half of the Cultural Proficiencies pieces on the Public Space currently are either Security or Nationhood Proficiencies.
8. (T) The position currently has an active, endowed Census College and at least one Institution associated with the Census College operated last turn.
9. (T) At least 42% of Cultural Proficiencies on the Public Space currently are Regeneration Proficiency pieces.
10. (T) Position has at least two Life Research Groups currently on the Public Space.

Emergent Government Titles Tables
Interstellar Civilization Themes 16 – Progress

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) Position has at least one other undisrupted Social Title *and* no other active Social Title has any failed Conflict Checks.
2. (T) Position has more active, Endowed Colleges than undisrupted Government Titles.
3. (T) At least 75% of each Constructural Element is active.
4. (T) At least 50% of current Cultural Proficiencies on the Public Space are either Urbanization or Spirit Proficiencies.
5. (T) Construction Power has been activated for at least two Friendly or Naturalized Colonies in the last three turns, and Industry was built in the last three turns.
6. (T) All Friendly and Naturalized Colonies, except Low Population and Specialized Colonies, have at least 60% of the maximum allowed industry.
7. (T) Both the Technology and Construction Powers have been activated for any purposes in the last two turns.
8. (T) Position has at least three Fuzzy Groups and/or Zeitrice currently on the Public Space.
9. (T) Position has more active Corporations and/or membership in Megacorporations than undisrupted Government Titles.
10. (T) Position owns no Warships.

Emergent Government Titles Tables
Interstellar Civilization Themes 17 – Diplomatic Spaces (incl. Meanings)

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

Note: Conflict Checks based on Diplomacy naturally depend more than usual on the actions of other positions

1. (T) Position has had First Contact with a Major or minor race in the last 5 turns (note, at some point this will fail).
2. (T) Position has at least one Friendly or Naturalized Colony located on each Diplomatic Space.
3. (T) Position has unloaded RPs from a Cargo Ship onto a non-sovereign **Alien Colony** in the last three turns.
4. (T) Over half of the Friendly population factors controlled by the position are located on Balkanized planets.
5. (T) Position currently has at least three Meanings *and* no Meanings have been destroyed in the last two turns.
6. (T) Total Diplomatic Spaces equal 40% of the Public Space.
7. (T) All Diplomatic Spaces are accessible by both parties (i.e. both parties currently have a Capital Colony).
8. (T) Position has at least two Shared Meanings with two different positions.
9. (T) Position owns the Host Worlds of three MegaCorporations; must be different worlds, but position does not need to have membership in the MegaCorporations it hosts.
10. (T) Position has not initiated any Combats while this Title has been active (note, permanent fail upon being breached).

Emergent Government Titles Tables
Interstellar Civilization Themes 18 – Commerce

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) The Commerce Power has been activated for any purpose in the last two turns.
2. (T) Position owns more Cargo Ships (including any that might be assigned to Corporations or MegaCorporations) than any other type of ship.
3. (T) Position has Loaded or Unloaded Resources at a non-sovereign **Alien Colony** in the last two turns.
4. (T) Position has Loaded and Unloaded Cargo Ships at a sovereign colony in the last turn (note, to do this, the position must own at least two Cargo Ships).
5. (T) No Cargo Ships have been destroyed in the last three turns.
6. (T) All Cargo Ships not currently in interstellar flight are located in systems with a friendly warship.
7. (T) No Cargo Ship has been located in the same system for more than two turns.
8. (T) No Cargo Ship has retreated from a Combat in the last five turns.
9. (T) No Cargo Ship has been attacked while this Title has been active (note, this is a permanent fail once breached).
10. (T) Position has more active Corporations than undisrupted Government Titles, each Corporation is hosted on a different world, *and* a new Corporation or MegaCorporation has been added to the position in the last three turns (all must be simultaneously true to pass the Conflict Check).

Emergent Government Titles Tables
Interstellar Civilization Themes 19 – Corporations & MegaCorporations

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) Position has more active Corporations than memberships in MegaCorporations *and* owns the Host Colony of all MegaCorporations in which it is a member.
2. (T) Position has never established a Corporation or had membership in any MegaCorporation (note, this is a permanent fail once breached).
3. (T) Position has no Cargo Ships that are not committed to either a Corporation or MegaCorporation.
4. (T) More than half of the Cultural Proficiencies on the Public Space are either Finance or Resource Proficiency pieces.
5. (T) All other undisrupted Government Titles are either Structural or Estate Titles, which have not been disrupted while this Title has been active (note, this is a permanent fail if any of the Estate Titles or the Structural Title is disrupted).
6. (T) Position has Shared Meanings with all other members of MegaCorporations in which the position has membership (note this fails – is false – automatically if there are no Shared Meanings and/or the position is not a member of any MegaCorporations).
7. (T) Position is a member of at least one MegaCorporation *and* has never established a Corporation (note, this is a permanent fail if position has ever established a Corporation).
8. (T) Position has membership in more MegaCorporations than it has undisrupted Government Titles.
9. (T) All MegaCorporations in the game are hosted on colonies controlled by this position.
10. (T) Position is the clear majority shareholder in all MegaCorporations in the game.

Emergent Government Titles Tables
Interstellar Civilization Themes 20 – Little Secrets & Special Operations

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

1. (T) Roll 1d10 each turn, on a 1 result, an embarrassing tragic fatal secret has been exposed and this conflict check fails permanently, cannot be restored (it’s only a matter of time...). Do not make additional rolls after failure.
2. (T) Position has activated the Special Operations Power in the last three turns.
3. (T) Position has at least five Missions currently Lodged (note the aging of missions problem).
4. (T) Position has at least seven targets under protection *and* no more than half of targets under protection are on the Capital Colony.
5. (T) Position has activated the Special Operations Power for the purpose of Counter Operations in the last turn.
6. (T) Position has Counter-Operations Missions on all Friendly and Naturalized Colonies.
7. (T) Position has activated the Special Operations Power for either Special Operations or Counter Operations on a Host World or Capital Colony in the last two turns.
8. (T) Position has activated the Special Operations Power for the purpose of Information in the last two turns.
9. (T) Position has ships currently located in at least six starsystems with an **Alien Colony** and no sovereign colonies.
10. (T) Position has attempted a Probe of an **Alien Colony** within the last five turns.

Emergent Government Titles
Social Government Title Themes 1 – Liberty, Equality, Fraternity

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) Position has not conquered any colonies while this Title has been active *and* has allowed all previously Conquered and Converted Colonies (not Naturalized Colonies) to revert (note, the second part only applies if position had those colonies when Title became active; both parts must be true to pass).
2. (T) Position has had an undisrupted Confederation Structural Title *and* no undisrupted Estate Titles for less than eight consecutive turns (note, both must be true to pass).
3. (T) Position has had an undisrupted Dualistic Structural Title for less than ten turns *and* has never conquered a colony while this Title has been active (note, both must be true to pass, either condition is a permanent fail when breached).
4. (T) Position does not share Diplomatic Spaces, other than the First Space, with any position that controls colonies not of their Native Population Type.
5. (T) Position has had an equal number of undisrupted Social and Estate Titles for five or less turns without a change in Titles.
6. (T) Position has Naturalized all Converted Colonies, owns no Conquered Colonies, *and* the last successful Naturalization occurred within the last three turns (note, all parts must be true to pass, or else it is a false statement).
7. (T) Total population of non-sovereign colonies composed of the position’s Native Population Type (not counting related Lost Colonist population) is approximately equal (+/- 10%) to the total population of sovereign **alien colonies** (of any political status).
8. (T) Position has not damaged the population or installations of any **alien colony** planet *and* no alien power has damaged the population or industry of any sovereign colony while this Title has been active (note, both must be true to pass, permanent fail if breached).
9. (T) Position maintains sovereign colonies on at least three Balkanized Planets which are at 90% or more habitability *and* are equally occupied by all Native Population Types present (within +/- 5%) (note, both must be true to pass).
10. (T) Position has not Orbital Bombarded any colony and no Friendly or previously Naturalized colony (to this position) has been Orbital Bombarded while this title has been active (note, permanent fail once breached).

(Themes: late 18th and 19th Century revolutionary ideas often find their way into science-fiction literature, thus science-fiction genre has been called leftist, liberal; viva la République française!)

Emergent Government Titles
Social Government Title Themes 2 – Conservative & Reactionary Forces

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) Position currently has a disrupted Government Title that has been disrupted for three turns or less (note, this applies to any kind of Title).
2. (T) Position has Restored a disrupted Social or Estate Title in the last three turns.
3. (T) Position has not abandoned any disrupted Government Titles while this Title has been active (note, this is a permanent fail once breached).
4. (T) Position has not added two new Government Titles while this Title has been active (note, this is a permanent fail once breached).
5. (T) The last added Social or Estate Title has remained undisrupted for 3 or less consecutive turns.
6. (T) Position’s Capital Colony was moved within the last five turns.
7. (T) Position’s Capital Colony has been moved back to any previous location within the last five turns.
8. (T) Homeworld is the position’s Capital Colony (reroll if position is not either a Homeworld or Lost Colonist).
9. (T) Position does not currently have Stardrive Technology (i.e. a completed Stardrive Patent).
10. (T) Position has completed 80% or more of the Applications in the current Era have been completed (not counting connections) *and* the position has not either successfully developed any advanced Applications or prosecuted any Advanced Patents in the next Era, *and* has not developed any new Applications or Prosecuted any new Patents while this Title has been active (note, all three conditions must be true for this statement to be true, the last condition is permanently failed upon being breached).

(Themes: Restoration of previous government titles, return to past glories, back to the old ways, *status quo* preservation, Napoleon III of France, counter-revolution, majesty of the past, Londo Mollari, Avignon Papacy, Rassilon, execution of Mary I Queen of Scots, holding back change in times or worldviews)

Emergent Government Titles
Social Government Title Themes 3 – Temperance

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) This Title has been active for three or less turns (note, this is a permanent fail after the third turn).
2. (T) Position has one more Police Proficiency piece on the Public Space than last turn **and** this Title has been active for four or less turns (note, both must be true to pass).
3. (T) Position currently has less Aspects on the Public Space than undisrupted Government Titles.
4. (T) Position currently has less than half as many Aspects on the Public Space as Proficiency pieces on the Public Space.
5. (T) This Title replaced an Estate Title **and** has been active for three or less turns (note, this is a permanent fail after the third turn).
6. (T) A Social Title has not been replaced by an Estate Title while this Title has been active **and** this Title has been active for four or less turns.
7. (T) Position currently has twice as many Maintenance Shields as undisrupted Government Titles **and** no Government Title (of any kind) has become disrupted while this Title has been active (note, both must be true to pass, the latter is a permanent fail).
8. (T) Position has activated the Culture Power for the purpose of Cohering, the Order Power for the purpose of Maintenance **and** has not activated the Combat or Technology Power in the last turn (note, all must be true to pass).
9. (T) Position has not generated an Intervention Potential Plus and a Thesis has not be lodged against the position in the last two turns.
10. (T) Position has more Spirit Proficiency pieces and more Rhetoric Proficiency pieces (both individually) than Aspects or undisrupted Government Titles (whichever is greater) on the Public Space **and** the Combat Power has not been activated for any purpose in the last two turns.

(Themes: moderation in action, thought, indulgence and passions, note that Conflict Checks from this Social Title Theme imply that the position’s population is capable of excess and extremes, moderation can be an extremism, Mr. Spock)

Emergent Government Titles
Social Government Title Themes 4 – Militarism

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) Position has conquered a colony in the last turn *and* has not lost a Combat since while this title has been active (note, both must be true, the last is a permanent fail).
2. (T) All **alien colonies** within two turn’s movement of the Capital Colony at best ship speed have been Conquered, Converted, or Naturalized, *and* Ship Speed has increased in the last two turns (note, both must be true).
3. (T) Position has only Police, Rhetoric and Spirit Cultural Proficiency pieces on the Public Space, the Police Proficiencies outnumber the other two combined, and the Combat Power has been activated in the last turn (note, all three must be true to pass).
4. (T) Position has no other undisrupted Social Titles *and* has not lost a Combat while this title has been active (note, both must be true, the latter is a permanent fail if breached).
5. (T) Position has less Thesis statements lodged against it than undisrupted Government Titles *and* this title has not been active longer than any other undisrupted Social Title.
6. (T) Position is currently engaged in three or more ongoing combats, *and* has activated the Combat Power every turn this Title has been active.
7. (T) At least a third of the population of every Friendly colony is in Ground Units *and* no Native Population Factors of the position are under alien control.
8. (T) Position is engaged in Combat with three different positions currently *and* has activated a Writ related to the Combat Power in the last two turns.
9. (T) The Endowment of the Combat College is currently at least twice that of any other College.
10. (T) The Construction Power has been activated at a Friendly Colony for the purpose of Colony Defense Upgrade and the Census Power has been activated, both within the last turn.

(Themes: Sparta, Assyria, militant nationalism, Fascism, take instead of producing, aggressive society, ultra-nationalism, bootcamp at Parris Island, willingness to sacrifice, generational war, great crusade – but rather than an estate, it is a sociopolitical movement)

Emergent Government Titles

Social Government Title Themes 5 – Imperialism & Colonialism

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) Position has had an undisrupted Unitarian Structural Government Title *and* two or more undisrupted Estate Titles while this Title has been active (note, permanent failure if either of these conditions is breached).
2. (T) Position has fought either a Pacification Combat or loaded RPs to a Cargo Ship at a sovereign colony (either alien or friendly) every turn this Title has been active (note, permanent failure if breached)
3. (T) All RPs unloaded from Cargo Ships while this Title has been active have been unloaded at the Capital Colony or largest Friendly Colony (they may not be the same).
4. (T) All Symbolic and Ideological Constructural Elements are active at Friendly Colonies and on all Ships, *and* this Conflict Check has never failed (i.e. self-sealing).
5. (T) During the last activation of the Taxation Power, at least half of the RPs were collected from sovereign **alien colonies** or Friendly colonies of 20 population or less.
6. (T) Capital Colony is the largest Friendly Colony in population *and* no **alien colony**, whether sovereign or not, within two turns ship movement at best speed, is more than half as populous (note, both must be true to pass).
7. (T) No sovereign **alien colony** has reverted *and* no sovereign colony has been conquered or destroyed while this Title has been active (note, permanent failure once breached).
8. (T) All sovereign colonies have at least one Counter-Operations mission *and* one Police Cultural Proficiency adjacent on the Public Space (note, both must be true to pass).
9. (T) All sovereign **alien colonies** are Balkanized with a Friendly Colony that has a Ground Unit.
10. (T) No Social or Estate Titles have failed any Conflict Checks currently *or* this Title has been active for less than six turns (note, if either is false, the statement is not true).

(Themes: popular support for imperialism and colonialism,¹ pacification theory, material gain, emigration to colonies, conquest of colonies, right to survival and comfort above all others, extension of power, return to the stars, sphere of control, authoritarian government²)

¹ Commentary: Note that there are two types of “colonialism” depicted in science-fiction: 1) Seeding Space, which is primarily the colonization of unoccupied worlds for resources and living space and 2) Imperial Colonialism, which the world knows well as foundation of colonies in areas occupied by indigenous peoples (e.g., minor races in GGDM) and/or establishment of military and cultural hegemony over other peoples for commercial exploitation.

² Commentary & Citation: The term Imperialism is used mainly in the classic sense of governmental and military domination, less so the modern cultural-economic sense. See Merriam-Webster online dictionary at *imperialism*.

Emergent Government Titles
Social Government Title Themes 6 – Mysticism

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) Position has successfully prosecuted a new Stardrive Patent or increased Ship Speed in the last three turns, *but* has not yet obtained the fifth Stardrive Patent (note, both must be true to pass, the Generic Stardrive counts as a Stardrive).
2. (T) Position has successfully created a Research Group on the Public Space for Matter, Energy, Life, Information (in that order only, one per turn), each turn this Title has been active (note, this is a permanent fail once breached).
3. (T) Position has exactly as many Aspects on the Public Space as Proficiency pieces.
4. (T) Position has successfully reverse engineered an alien stardrive in the last ten turns.
5. (T) Position has activated the Expansion Power for the purpose of Scouting for five consecutive turns.
6. (T) Position has had a First Contact in the last three turns.
7. (T) Position *either* has exactly three undisrupted Government Titles (any kind) and no disrupted Titles *or* all Social and Estate Titles have exactly three Conflict Checks that are currently passing (note, if either is true, the Conflict Check passes).
8. (T) Position has suffered a Disruption Event each turn for the last six consecutive turns.
9. (T) Each Research Group on the Public Space is currently adjacent to a Spirit Proficiency piece *and* the position has five undisrupted Government Titles currently (note, both must be true to pass).
10. (T) Each Aspect on the Public Space is adjacent to a Spirit Proficiency.

(Themes: mysticism has been a frequent dinner guest at science-fiction tables in the form of exotic technologies, FTL travel, exploration of the universe, alien first contact, enlightened alien civilizations, but not generally as a Social Title (ideally, a union of the species or civilization with ultimate reality, divinity, “pilot of the storm that leaves no trace,” etc.), but rather as the historically continuous human thing that refuses to be banished by reason or lack of evidence)

Emergent Government Titles
Social Government Title Themes 7 – Isolationism

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) Position has had an undisrupted Unitarian Structural Title *and* no Thesis have been lodged against the position while this Title has been active (note, both must be true to pass, failure is permanent).
2. (T) All alien Cargo Ships have unloaded at a single Friendly Colony *and* the position has no membership in MegaCorporations while this Title has been active (note, both must be true to pass, failure is permanent).
3. (T) Position has not activated the Expansion Power for any purpose and has had no First Contacts in the last three turns.
4. (T) The number of Thesis lodged against the position is not more than twice the number of undisrupted Government Titles.
5. (T) No Reformation has occurred while this Title has been active (note, this is a permanent fail once breached).
6. (T) Position has no colonies on Balkanized Planets *and* owns no colonies of alien population (note, both must be true to pass).
7. (T) Position has had either one or no First Contact with other Major Races (note, this is a permanent fail once breached).
8. (T) Position has Landed 50 or less Native Population Factors (not counting subsequent Census activations) during the game (note, this is a permanent fail once breached).
9. (T) No ship owned by the position currently is in *apostasy* (i.e. inactive Constructural Elements) due to contact with an *alien colony* (see Aliency Apostasy, 3 Disruption, p. 283), and no ship or colony owned by the position has ever been in *apostasy* as a result of contact with an alien position experiencing a Kairotic Moment while this title has been active (note both must be true to pass, failure of the second is permanent once breached).
10. (T) No Aspects have been converted due to contact with an alien position experiencing a Kairotic Moment (Aspects eliminated as a result do not count), while this Title has been active (note, this is a permanent fail once breached).

(Themes: isolationism as a form of widespread sociopolitical- and cultural-xenophobia, extremism in self-determination, *Sakoku*, Closed Country Edict of 1635, Exclusion of the Portuguese Edict of 1639, hands-off, long-term stability, The Galaxy Being)

Emergent Government Titles
Social Government Title Themes 8 – Proselytism

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) Position currently has two or more conquered colonies *and* every colony conquered by this position while this Title has been active has been Naturalized within 5 turns or less of the conquest turn (note, both must be true to pass).
2. (T) The position has not failed a Naturalization attempt while this Title has been active *and* a Naturalization attempt has been made in the last turn (note, both must be true).
3. (T) Position has used faculties from either a Naturalization College or Conversion College in a Combat in the last two turns.
4. (T) Position has lost a sovereign colony *and* conquered an **alien colony** in the last three turns (both must be true to pass).
5. (T) An Institution has been either constructed or operated on every sovereign **alien colony** each turn this Title has been active (note, permanent fail once breached).
6. (T) A Colony Ship has Loaded, Unloaded, Transported or Landed alien population factors each turn this Title has been active (note, permanent fail once breached).
7. (T) A Cargo Ship has Loaded or Unloaded at an **alien colony** (whether sovereign or not) each turn this Title has been active (note, permanent fail once breached).
8. (T) One or more **alien ships** or **colonies** are currently in *apostasy* (i.e. inactive Constructural Elements) due to contact with colonies owned by this position (see 3 Disruption and 2 Kairotic Moments).
9. (T) No alien population colonies controlled by this position have failed to obey a Power Activation in the last three turns.
10. (T) Position has issued at least one Thesis Statement that has been accepted by the Concierge, in the last two turns against another position (that is, issuing against your own position does not count).

(Themes: militant interstellar proselytism, missionary position, stirring the pot, cultural hegemony, our culture is superior, we possess the one truth, smugness in dogma; proselytism frequently appears in science-fiction stories, usually to tragicomic effect and/or for criticism)

Emergent Government Titles
Social Government Title Themes 9 – Modernity – Prosperity

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) Position has RPs in the Treasury equal or greater than the number of passing Conflict Checks times the number of sovereign colonies.
2. (T) More than half of the position’s population (friendly and alien) live on colonies that have maximum possible industry.
3. (T) All sovereign colonies have obeyed the Taxation Power for the last five consecutive times it has been activated.
4. (T) During a Taxation Power activation in the last three turns, the position produced at least twice as many RPs from Industry as the position’s total population at that time (note, this has a time limit requiring regular activation of the Taxation Power).
5. (T) RPs received from Taxation were greater than those received from the previous Taxation for the last three consecutive activations of the Taxation Power (note, failure to obey Taxation Power activations can cause this to fail).
6. (T) During the last activation of the Taxation Power, every sovereign colony had more industry than it did during the previous activation of the Taxation Power *and* every Friendly Colony also had more population than during the previous activation of the Taxation Power (note, both must be true to pass).
7. (T) The Census Power has been activated in the last two turns.
8. (T) Position has Landed a new Friendly Colony in the last three turns.
9. (T) Position owns more ships (including those in Corporations or MegaCorporation) than any other position (e.g., the three car garage syndrome).¹
10. (T) Position owns a number of ships greater than the number of Government Titles (incl. disrupted) times the number of sovereign colonies doubled.

(Themes: four pillars of the modern Western state: *prosperity*, technology, nationalism and acceptance of remote authority)

¹ Admittedly, as long as this Conflict Check passes, it constitutes a bit of free – but marginal utility – intelligence. And it can be affected by other positions and can fail due to combat losses. It’s also a small risk in taking it initially because a position almost can never be sure the Conflict Check won’t fail instantly.

Emergent Government Titles
Social Government Title Themes 10 – Modernity – Technology

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) Position has activated the Technology Power for any purpose for five consecutive turns.
2. (T) Position has successfully prosecuted a number of Patents in the last ten turns equal to the current number of undisrupted Government Titles (note, oddly, having disrupted Titles can cause this Conflict Check to pass...maybe discouraging restoration).
3. (T) Position has not encountered a ship of a higher Era (than the position’s current Era) or has not had to defend a colony in combat while this Title has been active (note, permanent fail once breached).
4. (T) A sovereign colony has not been attacked by ships of a higher Era than the colony’s defenses while this Title has been active (note, permanent fail once breached).
5. (T) Position has not encountered **alien colony** defenses of a higher Era (than the position’s current Era) in the last three turns.
6. (T) Position has improved Ship Speed, Operational Flight Limitation and Operational Supply Limitation within the last five turns.
7. (T) Position has improved Industrial Technology within the last three turns.
8. (T) Position has constructed a Technological Device in the last five turns.
9. (T) Position has either improved the Maximum Habitability of a planet (e.g., terraforming) or constructed Orbital Cities at a Friendly Colony in the last three turns.
10. (T) Position has an active, endowed Technology College *and* has operated a related Institution in the last turn.

(Themes: four pillars of the modern Western state: prosperity, *technology*, nationalism and acceptance of remote authority, Dr. Who, “I just walked into the highest security office in the United States [Oval Office], parked a big blue box on the rug, you think you can just shoot me?”)

Emergent Government Titles
Social Government Title Themes 11 – Modernity – Nationalism

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) Position has Landed a new colony or Naturalized a Converted **alien colony** each turn for three consecutive turns.
2. (T) Position has added a Nationhood and Rhetoric or Urbanization Proficiency piece to the Public Space each turn for the last three consecutive turns.
3. (T) Position has not encountered a ship of a higher Era (than the position’s current Era) **or** has not had to defend a colony in combat while this Title has been active (note, permanent fail once breached).
4. (T) No Friendly population factors reside on Balkanized Planet surfaces **and** 75% of Symbolic and Ideological Constructural Elements are active on colonies and ships (note, both must be true to pass).
5. (T) At least 40% of the position’s Friendly Population Factors live on Optimal Habitability Class planets (watch out for pollution and entropy!).
6. (T) No Friendly Population Factors (except those belonging to related Lost Colony positions) are controlled by alien governments and no Friendly Colony has failed to obey a Power Activation in the last three turns (note, both must be true to pass).
7. (T) Total Friendly Population Factors owned by the position have grown for three or more consecutive Census Power activations **and** the Census Power has been activated within the last two turns (note, both must be true to pass).
8. (T) There are currently no failing Conflict Checks (note, if there are, this one fails too!).
9. (T) The Capital Colony has always been located on a Friendly Colony, and not on a Balkanized Planet, **and** the Capital Colony is the largest colony by population in the game (note, all must be true to pass, “Say, could you please remove some Vulcans from Vulcan?”).
10. (T) Position has more active, endowed Colleges than any other position in the game (note, this could be expensive, like an arms race, or maybe you just get lucky?).

(Themes: four pillars of the modern Western state: prosperity, technology, **nationalism** and acceptance of remote authority, nationalism vs. globalism, 19th and 20th Century history, identity, self-determination, solidarity)

Emergent Government Titles
Social Government Title Themes 12 – Modernity – Remote Authority

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) Position has had eight or more consecutive successful Power Activations requiring a Scene or Scenes; i.e. no failure due to Constructural Elements or any other purpose.
2. (T) All Ships have obeyed all actions issued during the last ten Regular Turns.
3. (T) All sovereign colonies have obeyed the Taxation Power for the last five consecutive times it has been activated.
4. (T) No warship has failed to obey an order to initiate combat (including Combat Movement) while this Title has been active (note, permanent failure once breached).
5. (T) The position’s current Structural Title has never been disrupted *and* has at least two undisrupted and no disrupted Estate Titles (note, all must be true to pass, the first can cause immediate, permanent failure).
6. (T) The position’s Structural Title has never been disrupted while this Title has been active *and* neither the Capital Colony nor any ships or units located at the Capital Colony have failed to obey any Power Activation in the last five turns (note, both must be true to pass, permanent failure once the first part breached).
7. (T) Position has activated the Expansion Power for the purpose of Loading Population in the last two turns, *and* has not failed before Loading at least one population in any such activation while this Title has been active (note, both must be true to pass, failure of the second is permanent).
8. (T) Position has activated the Expansion Power for the purpose of Unloading Population in the last two turns, *and* has not failed before Unloading at least one population or for any other reason, in any such activation while this Title has been active (note, both must be true to pass, failure of the second is permanent).
9. (T) The Capital Status of the Capital Colony has never been disrupted while this Title has been active *and* the position has used at least nine Power Activations in the last three turns (note, both must be true to pass, the first is a permanent fail if breached).
10. (T) Position has a Unitary Structural Title and no Social Titles, and everything is just peachy ... no, that’s not it ... *and* the position has activated a Writ in the last two turns (note, both must be true to pass).

(Themes: four pillars of the modern Western state: prosperity, technology, nationalism and *acceptance of remote authority*, Congo Crisis 1960-1965, herding cats, Treaty of Athis-sur-Orge)

Emergent Government Titles Social Government Title Themes 13 – History

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) This Conflict Check is part of a Title which has been restored, has more than one Conflict Check, **and** which is passing all other Conflict Checks currently (note, all must be true to pass, this could cause a chain reaction failure disruption).
2. (T) This Conflict Check is part of a Title which was previously *abandoned* **and** all other Conflict Checks on this Title and other Titles, are currently passing.
3. (T) Position has suffered three Disruption Events or is involved in two ongoing combats in the last turn (note, when nothing happens, there is no history).
4. (T) Position currently has Restored a disrupted Government Title in the last three turns.
5. (T) Position has an active, endowed History College and at least two non-suspended Writs associated with it, **and** have activated one of the associated Writs in the last three turns (note, all must be true to pass).
6. (T) Position has an active, endowed History College **and** has operated related Institutions on at least three Friendly Colonies with adjacent Customs Proficiency piece on the Public Space within the last three turns (note, both must be true to pass).
7. (T) Position has two unrestored (but not abandoned) Government Titles currently (note, this requires the position to have two disrupted Social or Estate Titles at the end of the turn...).
8. (T) Position has published an Expose’ **or** has posted modifications to *every adverse News Event* in the last three turns (including their own, which can only be done after some other position posts a modification).
9. (T) All Epistemological Constructural Elements on ships and Friendly or Naturalized Colonies are currently active **and** there is at least one Information Research Group currently on the Public Space (note, both must be true to pass).
10. (T) Position currently holds all of its original pre-game Government Titles, even if currently disrupted (i.e. no Titles have been replaced or abandoned during the game) **and** at least fifteen Regular Turns have been processed by the position in the game.

(Themes: all peoples have kept some history; history provides context, relationship, instruction; where there is no history there is Void; the Renaissance was driven by rediscovery of historical writings lost to the West; oral pre-empirical history was part of history and legitimacy of rulers; history has been embraced, rejected, rewritten, distorted; history is one of the ancient humanities)

Emergent Government Titles
Social Government Title Themes 14 – Music

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) Position has had a First Contact in the last two turns *and* it occurred while this Title has been active and undisrupted (note, both must be true to pass).
2. (T) Position has posted one poetic or lyrical (non-adversarial) News Event each turn this Title has been active *and* both Aspects and Expression Proficiencies on the Public Space outnumber currently undisrupted Government Titles (note, both must be true).
3. (T) Position has a Type 4 Fundamental Reality *and* Aspects outnumber Proficiency Pieces on the Public Space by at least two to one (note, both must be true to pass).
4. (T) Position has Exposed Aspects every turn this Title has been active (even if disrupted).
5. (T) Position has activated two Writs that require Expression Proficiencies in the last three turns.
6. (T) The Culture Power has been activated for the purpose of Exposing Aspects twice as many times as the Census Power has been activated while this Title has been active (note, no expiration, but does limit activation of the Census Power).
7. (T) Each activation of the Census Power has occurred on the same turn that Express and Regeneration Proficiencies (one or more of each) have been placed on the Public Space while this Title has been active.
8. (T) The position has experienced a Kairotic Moment in the last five turns whose Key Aspect was on the Public Space on the turn cycle when the Kairotic Moment was triggered (see 3 Kairotic Moments).
9. (T) Position has undergone a Reformation and experienced a Kairotic Moment within the last eight turns (note, both must be true to pass).
10. (T) “Hail to the Chief” plays every time you walk into a room with President Nixon (add one to your die roll, and move onto the next Conflict Check, you have 5 minutes).
11. (T) Position has repeated in exact order, the previous five Power Activations (for any purpose, Solfège scale hand gestures are optional).

(Themes: prehistoric humans made flutes; Close Encounters; music expresses emotion and meaning that sapient mind craves but of which our physical form is incapable; music is part of a creative and symbolic continuum; babies recognized music played to them while in the womb)

Emergent Government Titles
Social Government Title Themes 15 – Social Complexity

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) Position has activated five or more Writs in the last three turns.
2. (T) All endowed, active Colleges operated at least one Institution last turn *and* the position had at least five endowed, active Colleges (note, both must be true to pass).
3. (T) Position has used 90% of RPs in the Treasury over each of the last three turns *and* has not added any new colonies (i.e. the system is near peak efficiency).
4. (T) Total of all College per turn endowments equals or exceeds RPs in Treasury at the end of the turn.
5. (T) Position currently owns 30 or more colonies *and* initiated movement of 15 or more starships last turn.
6. (T) Position has owned 20 or more colonies *and* 50 or more starships for the last three turns.
7. (T) Position has initiated interstellar movement of starships to at least ten different destinations in the last turn (note that a single Power Activation can move multiple starships from one origin to a number of different destinations).
8. (T) Position has at least one Shared Meaning with every species with which it has had First Contact (note, Shared Meanings depend on both parties to act accordingly).
9. (T) Position currently has five undisrupted Government Titles with a total of more than 12 Conflict Checks (note, this fails if any of the titles becomes disrupted).
10. (T) Position currently owns colonies of six or more different Native Population Types *and* has at least three Naturalized colonies, each of a different Native Population Type *and* has added a new Native Population Type to the position’s population in the last ten turns (note, all must be true to pass).

(Themes: Joseph Tainter, societies add complexity and specializations to solve problems; collapse occurs due to diminishing returns on investment in complexity; interstellar civilization is a complexity added to solve Homeworld problems; all human civilizations have evolved toward complexity; complexity is life, evolution and civilization, “It’s ... um ... complicated”)

Emergent Government Titles
Social Government Title Themes 16 – Urbanization

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) Position has activated the Construction Power for the purpose of Colony Enhancement for three consecutive turns at sovereign colonies each representing less than 10% of the position’s total population.
2. (T) More than half of the position’s sovereign population lives on colonies of 50 or more population factors.
3. (T) All RPs Unloaded from Cargo Ships while this Title has been active, have been Unloaded at sovereign colonies with less than 30 population factors (note, this is a permanent fail once breached).
4. (T) Position’s current Capital Colony was Landed less than ten turns ago, or if the colony is pre-game, the game has processed less than 10 turns (note, at some point this statement cannot be true unless the Capital Colony is moved regularly).
5. (T) Position has Unloaded population of a different Native Population Type onto the surface of a planet that already has a colony within the last three turns (i.e. created or added new aliens to a Balkanized Planet).
6. (T) Position has Loaded or Unloaded, in any combination, 20 population factors of any Native Population Type from established colonies in the last two turns.
7. (T) Position has over half of its colony planets (by number, rounded down) with any Native Population Types (including Balkanized Planets) at 80% or greater Maximum Habitability *and* the position has lost no sovereign population growth to exceeding Maximum Habitability while this Title has been active (note, both must be true to pass, permanent fail if second condition is breached).
8. (T) Capital Colony planet is at 95% Maximum Habitability or more, *and* has not lost any population growth due to exceeding Maximum Habitability while this Title has been active (note, both must be true to pass, permanent fail if second condition is breached).
9. (T) At least one non-Capital Colony planet is at 90% Maximum Habitability or more, *and* has not lost any population growth due to exceeding Maximum Habitability in the last three turns (note, both must be true to pass).
10. (T) Industry installations have been added to colonies comprising of at least half of the position’s sovereign population in the last three turns.

(Themes: all post-hunter gatherer civilizations have tended toward urbanization; agriculture & population explosion propelled urbanization; urbanization produced complexity, specialization & emergence in ripples through history; to be urban is to be political, cultured & urbane)

Emergent Government Titles
Social Government Title Themes 17 – Remorse

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) Position initiated Orbital Bombardment Combat at any prior time in the game, *and* has not initiated Orbital Bombardment Combat while this Title has been active (note, both must be true to pass, permanent failure if breached, crocodile tears).
2. (T) Position has violated a Shared Meaning in the past, *and* has not violated a Shared Meaning in the last ten turns (note, both must be true to pass).
3. (T) Position has initiated Combat during a First Contact Situation in the past *and* has not done so again while this Title has been active (note, both must be true to pass, permanent failure if breached, crocodile tears).
4. (T) Position destroyed Colony Ships in Combat in the past *and* has not done so again while this Title has been active (note, both must be true to pass, permanent failure if breached, crocodile tears).
5. (T) A Conflict Check containing the word Combat is currently failing on another Government Title *and* its Title is not currently disrupted (note, both must be true to pass)
6. (T) An Estate Title has been replaced by a Social Title or a Social Title has been replaced by an Estate Title in the last three turns (note, this title can be counted in the Title change to make this statement true, but you only have three turns of passing).
7. (T) Position lost a Combat in the last two turns that lasted two or more Combat Rounds *and* did not use any Faculties during the Combat (note, both must be true to pass).
8. (T) A colony of the position’s Native Population Type was attacked by Orbital Bombardment in the last three turns (note, destruction of the colony is not required)
9. (T) The position holding this Title has been Politically Extinct for eight or less turns (note, this mandate will expire eventually...).
10. (T) A Major or Minor Race has become extinct within the last five turns (note, either political or total extinction will make this statement true).

(Themes: collective guilt or regrets as a social movement, generational remorse, post war apologies, memorials; Angela Merkel’s immigration decision; lingering suspicions of false remorse; literary people love remorse, but the dead are still dead; the main argument of pacifism is remorse; note: bad things happened to make this Theme and this is gonna be weird)

Emergent Government Titles**Social Government Title Themes 18 – Cultural Narcissism**

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) All of the position’s Colleges are Hosted on the Homeworld or Capital Colony *and* are active and endowed for five turns minimum (note, both must be true to pass).
2. (T) Position has an active, endowed College named after the position’s name (e.g., the Humanities), *and* it is the largest College in terms of current endowment and per turn endowment (note, both must be true to pass).
3. (T) No active, endowed alien College is located within two turns’ ship movement at maximum speed from the Capital Colony or Homeworld of the position (note, “I am going to have to ask you to move that College...”).
4. (T) Position’s Homeworld or Capital Colony is the largest colony (in terms of population factors, including Orbital Cities) within the original area of the Galactic Space (note, “I am going to have to ask you to move that colony...”).
5. (T) Position controls over half of the total population factors (friendly and alien) within the original area of the Galactic Space *or* has not either lost a Combat or had a colony revert within the last ten turns (note, one must be true to pass).
6. (T) Position has never had any Shared Meanings or memberships in MegaCorporations during the game, *and* no College has become inactive and no Government Title has become disrupted while this Title has been active (note, both must be true to pass, permanent failure upon breach of the second condition).
7. (T) Position has been the target of two or more Diplomatic Protests in the last three turns.
8. (T) Either no Thesis Statements are currently lodged against the position *or* one or more Thesis Statements were lodged against the position within the last turn (note that if either is true, the Conflict Check passes).
9. (T) No alien races have experienced a Kairotic Moment during this game (note, permanent fail if breached, it is not required that this position experience one).
10. (T) Position is currently undergoing a Reformation or experiencing a Kairotic Moment (if either is true, the Conflict Check passes).

(Themes: clinical diagnosis; all civilizations must love their own culture first and foremost or that culture must change; Existential Void; Caravaggio, dark triad, collective narcissism¹)

¹ Commentary: Note that there is a sense in which this Social Title Theme resembles a Type 4 Fundamental Reality.

Emergent Government Titles
Social Government Title Themes 19 – Conformity

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) Position has at least three Friendly and/or Naturalized Colonies and the smallest Friendly Colony is no more than 10% less population than the largest Friendly and/or Naturalized Colony.
2. (T) Position has 90% or more of the Ideological and Symbolic Constructural Elements active on colonies and ships.
3. (T) Position has 90% of Epistemological Constructural Elements active on colonies and ships, *and* less Thesis lodged against the position than it has active Colleges (note, both must be true to pass).
4. (T) Position has more Maintenance Shields than undisrupted Government Titles and Colleges combined *and* has activated the Order Power for the purpose of Maintenance in the last two turns (note, both must be true to pass).
5. (T) All Friendly and/or Naturalized Colonies have Defense Bases and all are of the same Era, *and* the position progressed to a new Era less than eight turns ago (note, all must be true to pass, the latter condition will eventually expire).
6. (T) Position has not activated the Technology Power for any purpose for three or more turns (note, standardization is easiest to achieve when the situation is static).
7. (T) Position has more Proficiency Pieces on the Public Space than Aspects and Government Titles combined *and* half or more of those Proficiencies are Customs Proficiency pieces (note, both must be true to pass).
8. (T) Position has had no changes in Government Titles in ten or more turns.
9. (T) Position owns three or more **alien colonies** *and* all are of the same political status (note, both must be true to pass).
10. (T) Position has lodged a Thesis against itself for every Thesis lodged against it by another position *and* has not been the target of any adverse News Events or issued any Expose´ News Events in the last turn (note, all must be true to pass).

(Themes: standardization, homogenization, “right thinking” peopl, fall into line, *Homo abnegus*, customs and social behavior, oppression, thought police, The Wall, self-censorship, greater good, don’t rock the boat, “Earth doesn’t have homeless people”)

Emergent Government Titles
Social Government Title Themes 20 – Radicals, Revolution, Reformation

“What ideals or concepts prevail in this society to which standards the government will be held in the test of legitimacy, and what sorts of conditions and circumstances would ideally represent the beliefs of the people?”

Conflict Checks: True or false statements, *if false, Conflict Check fails*. Conflict Checks generally relate to fluid in-game (not post game) legitimacy, sovereignty, security, survival, and forward expectations. For playability, any Conflict Check must be capable of failing; for example, “position has stardrive technology” is not capable of failing at any point after the position obtains stardrive technology and the GT could never be disrupted.

If the following statements are false, the Conflict Check has failed:

1. (T) Position has abandoned two Social or Estate Titles in the last four turns (note, this has a natural time limit unless the position is churning Titles).
2. (T) Position has more disrupted Government Titles than undisrupted Government Titles (ironically, this Conflict Check being true may prevent total loss of government power).
3. (T) Position has issued three Expose’ News Events in the last five turns.
4. (T) Position has more than twice as many Thesis lodged against it as undisrupted Government Titles plus sovereign colonies (note, a position may lodge Thesis against itself).
5. (T) Position has had a Reformation in the last five turns (note, this has a natural expiration unless the position is constantly Reforming).
6. (T) Position has had three colonies either revert to or from the position in the last five turns.
7. (T) Position has changed Structural Title from either Unitarian to Dualistic or Dualistic to Confederation within the last five turns.
8. (T) Position has experienced (triggered) a Kairotic Moment within the last three turns, or has a ship or colony currently in *apostasy* from contact with an alien Kairotic Moment (if either is true, the conflict check passes).
9. (T) Position has successfully Converted three Conquered Colonies by Orbital Bombardment in the last eight turns.
10. (T) All alien populations within two turns’ ship movement at best speed of the Capital Colony have been destroyed in the last eight turns (note, increases in Ship Speed can cause this to fail).

(Themes: crack in the Wall, factionalization, fragmentation, rapid change, We Won’t Get Fooled Again, note, these Conflict Checks are not sustainable unless you thrive on chaos)

Appendix IMT – Interstellar Movement Table

- There are four ways to initiate interstellar movement in GGDM: By activation of the Movement, Expansion, Combat, or Commerce Powers.¹
- All interstellar movement has conditions precedent which must be met at the moment that movement is initiated.

Moving Unit	Origin System	Destination System	Power Activation
REGULAR MOVEMENT ACTION			
Any ship not transporting population ²	Any star, <i>Scene</i> on origin star	To any system colonized ³ by ship’s owner where there is no intent to initiate combat upon arrival. ⁴	Movement
SPECIAL MOVEMENT ACTIONS			
Scout ⁵	Any star, no <i>Scene</i> required	To any system <i>not colonized</i> (does not have a Supporting Colony) by Scout’s owner.	Expansion (Scouting)
Colony Ship ⁶	Any star	To any system currently on the Public Space that currently has a <i>Scene</i> on the destination star; irrelevant whether the destination system is colonized or uncolonized.	Expansion (Transporting Population)
Warship ⁷	Any star, <i>Scene</i> on origin star	To any system without a Supporting colony ⁸ or to any system where the warship’s owner wants to initiate combat upon arrival.	Combat (Combat Movement)
Cargo Ship ⁹	Any star, <i>Scene</i> on origin star	To any system where there is a known alien colony ; Native Population Type is irrelevant.	Commerce (Trade Mission)

Interplanetary Movement: In-system movement is considered to instantaneous within the scale of GGDM Regular Turns (see Interplanetary Movement, 2 Movement, p. 844) and does not require a Power Activation. This occurs before any Regular Turn action.

Short Movement: Ships arriving at their destination star by ‘short movement’ arrive at the end of the same Regular Turn they left the origin star, which is frequently important for Power Activations. See Space Hop and Heroic Movement, 2 Movement, both p. 850.

¹ See Engage!, 1 Movement, p. 838.

² See Engage!, 1 Movement, p. 838.

³ In this context, “colonized” means having a colony in the system, regardless of colony political status (except Conquered Colonies) or native population type. See Supporting Colony, 1 Movement, p. 840.

⁴ Warships may use the Movement Power Activation to move between systems controlled by the warship’s owner but they will not be able to automatically initiate combat upon arrival. To do that requires movement by activation of the Combat Power. See Ad Astra, 1 Movement, p. 839.

⁵ See Through the Never, 3 Expansion, p. 907.

⁶ See Canned Food, 3 Expansion, p. 913.

⁷ See The Combat Power and Move Out!, 1 Combat, pp. 941-942.

⁸ This, of necessity, means that the Combat Power may/must be used in lieu of the Expansion Power where warships are being sent to an unexplored system. See Send the Enterprise!, 3 Expansion, p. 909.

⁹ See Green Goods, 1 Commerce, p. 1188.

Appendix IP – Interventions Reference Sheet

The Concierge ‘position’ in the game	<i>See 3 The Big Bang, p. 14</i>
An Intervention is the only explanation needed	<i>See 5 Combat, p. 1012</i>
Interventions are ‘official interpretations’ in the game	<i>See 1 Dreamtime, p. 130</i>
Generation of Intervention Potentials:	
<ul style="list-style-type: none"> Basic generation of Intervention Potentials each turn 	<i>See 1 Entropy, p. 228</i>
<ul style="list-style-type: none"> Reason why Intervention Potentials are generated each turn 	<i>See 1 Government Titles, p. 579</i>
<ul style="list-style-type: none"> Potentials generated from population [Disruption Events] 	<i>See 2 Disruption, pp. 270, 271-272, 276-277-278</i>
<ul style="list-style-type: none"> Potentials generated from violation of Fundamental Realities violations [Interpretation] 	<i>See 3 Beginnings, p. 42</i>
<ul style="list-style-type: none"> Potentials generated from violation of Reformation Collage [Interpretation] 	<i>See 3 Reformation, p. 1401</i>
<ul style="list-style-type: none"> Potentials generated from Diplomatic Protest to News Events [Interpretation] 	<i>See 2 Dreamtime, p. 148</i>
<ul style="list-style-type: none"> Potentials generated from destroyed Meaning Interpretations 	<i>See 3 Diplomacy, p. 1128</i>
<ul style="list-style-type: none"> Potentials generated from disruption of central authority [Capital Colony] 	<i>See 2 Order, pp. 532-533</i>
<ul style="list-style-type: none"> Potentials generation from Government Title change 	<i>See 5 Government Titles, p. 643</i>
<ul style="list-style-type: none"> Potentials generated/eliminated from Trucking Transactions [local alien commerce] 	<i>See 4 Commerce, pp. 1227-1228</i>
<ul style="list-style-type: none"> Player-generated entropy [Black-Ops & Counter Ops] [*attaches Potential to site of Black Op*] 	<i>See 1 Special Operations, p. 1271</i>
Forms of Interventions available to the Concierge	<i>See 2 Entropy, pp. 235-236</i>
Interventions are not always ‘bad’ or ‘negative’	<i>See 1 Entropy, p. 229</i>
Reason for the Interventions mechanics	<i>See 3 Entropy, p. 248</i>
Interventions do not need to make logical sense	<i>See 2 Government Titles, pp. 594-595</i>
Intervention Potentials Plus (IP+)	<i>See 1 Disruption, p. 259</i>
Intervention Potential attached to a planet instead of a position [Pollution Potentials]	<i>See 3 Taxation & Census, p. 320</i>
Automatic Processes:	
<ul style="list-style-type: none"> Automatic entropic game effects vs. Interventions 	<i>See 2 Taxation & Census, p. 304</i>
<ul style="list-style-type: none"> Automatic clearing of backlog of Intervention Potentials [Avalanche Effect] 	<i>See 1 Disruption, p. 261</i>
Game Functions of Interventions:	
<ul style="list-style-type: none"> Interventions use is a form of ‘looking’ in the game 	<i>See 4 Taxation & Census, p. 327</i>

<ul style="list-style-type: none"> • Interventions are used to guide and effectuate Fundamental Realities 	<i>See 1 Entropy, p. 230</i>
<ul style="list-style-type: none"> • Interventions are used to simulate intellectual flight and migration 	<i>See 1 Colleges, pp. 459-460</i>
<ul style="list-style-type: none"> • Interventions are used to simulate corruption and Corporate failure 	<i>See 4 Colleges, pp. 502-503, 1 Corporations, p. 1243,</i>
<ul style="list-style-type: none"> • Interventions are used in relation to Insurgencies 	<i>See 6 Combat, p. 1023</i>
<ul style="list-style-type: none"> • Interventions are used to hasten Reformations 	<i>See 2 Reformation, p. 1392</i>
<ul style="list-style-type: none"> • Interventions are used to resolve Reformations 	<i>See 3 Reformation, p. 1399</i>
<ul style="list-style-type: none"> • Interventions as ripple effects of history 	<i>See 3 Government Titles, pp. 615-616</i>
<ul style="list-style-type: none"> • Interventions as political chaos 	<i>See 6 Government Titles, p. 657</i>
Randomness, Fairness & Reward:	
<ul style="list-style-type: none"> • Interventions and die roll results 	<i>See 2 Technology, p. 703, also p. 709 et seq.</i>
<ul style="list-style-type: none"> • Interventions and random reward 	<i>See 4 The Streams of Time, p. 101</i>
<ul style="list-style-type: none"> • Interventions and ‘fairness,’ and resolving ‘gray’ situations 	<i>See 2 Patents, p. 736, 3 Expansion, p. 908</i>
<ul style="list-style-type: none"> • Intervention simulates the universe beyond our control (e.g., xenomicrobes) 	<i>See 4 Expansion, p. 924</i>
<ul style="list-style-type: none"> • Divine Intervention 	<i>See 3 Movement, p. 856</i>
Interventions vs. Maintenance Shields	<i>See 4 Order, pp. 566</i>

Appendix IPT1 – Inheritance & Primal State Tables

- IP = Inheritance Point, RP = Resource Point.
- For Flat Rate Costs of Existential Patents, see Appendix IPT2. The items on this table are not Patent costs, a position must have the patent to purchase most items on this table.
- See Appendix EPAT2 for basic, quick unit information from Existential Patents.

Inheritance Cost Table

Inheritance	Inheritance Cost
Population ¹	1 IP per pop. factor
Scout Ships ²	5 IPs each
Colony Transports ⁴	8 IPs each
<i>All Other Ships</i> ⁵	IPs = RPs cost
Acts & Scenes ⁶	3 IP first Act/Scene Cost increases by +3 IPs for each subsequent
Proficiency Pieces ⁸	5 IPs each
Aspect Pieces	2 IPs each
Treasury ¹⁰	1 IP per RP
Industry ¹²	3 IPs each

Inheritance	Inheritance Cost
Orbital Shipyard	30 IPs each
Orbital City	35 IPs each ³
Ground Def. Base	5 IPs each
Orbital Def. Base	15 IPs each
System Def. Base	45 IPs each
Ship Missiles ⁷	2 IPs per 3 RP
Fighters	2 IPs per 3 RP
Log Ship Supplies ⁹	2 IPs each
Research Pieces ¹¹	4 IPs per Res. Piece
Extra <i>unconnected</i> Applications ¹³	25 IPs per Application

¹ Population Factors may only be purchased during set up using IPs. A position may only ‘purchase’ population of their own Native Population Type. Population may not be purchased at any other time.

² A position must obtain the Scout Ship Existential Patent during set up to purchase Scouts during set-up. Scouts do not require the position to obtain an Orbital Shipyard or Ship Systems to build them during the set up.

³ Includes cost of starting the game with populations living on the Orbital City!

⁴ A position must obtain the Colony Transport Existential Patent during set up to purchase Colony Transports. If the position does not start on a planet, population must start on Colony Transports.

⁵ A position must obtain the proper ship Existential Patents during set up to purchase each kind of ship.

⁶ All Acts and Scenes purchased during set up must be properly placed before the game. A position receives Acts and Scenes from Government Titles *at the end of* each turn. You will need Acts/Scenes to do anything the first turn.

⁷ All Ship Missiles and Fighters purchased before the game must be properly placed on ships or colonies before the game begins. You must have the 1st Era Ship Missile and Fighter Existential Patents, respectively, to purchase.

⁸ All Cultural Traits Pieces must be properly placed on the Public Space before the game begins.

⁹ All Log Ship Supplies purchased during set up must be placed on Log Ships before the beginning of the game, which means that you must have a Log Ship to start, and must have the Logistical Ship Existential Patent as well.

¹⁰ All RPs purchased before the game either go into the Treasury or are placed on Cargo Ships if the position begins with Cargo Ships and wants the RPs placed there. Most Treasuries will be low or empty to start the game, and most positions will be forced to activate the Taxation Power early. Some positions, however, may prefer to have a large Treasury early. There is always a trade-off dynamic, as they will have less of some other things to start the game.

¹¹ All Research Pieces purchased during set up must be legally placed on the Public Spaces Mat before the game begins. They do not have to be placed in Research Groups however.

¹² To purchase Industry, Orbital Shipyard, Orbital City, Ground, Orbital and System Defense Bases, the position must first have a colony to put them on (i.e. Home Positions), and second, have obtained the necessary Existential Patents during set up. All of these items must be legally assigned to a colony before the game starts.

¹³ Extra Applications purchased during set-up are placed on the 1st Era Matrix. Additionally, the position will also receive some Applications and a few connections on the Matrix from Existential Patents purchased during set-up.

Appendix IPT2 – Inheritance & Primal States Tables

Flat Rate Existential Patent Cost Table

- These ‘flat rate costs’ are only for purchasing Existential Patents with Inheritance Points during the set-up. Afterward, they must be obtained through normal Research, Development and Patent Prosecution.
- When two Applications are received, they must be placed on the Matrix and are automatically connected.
- Generic Stardrive Existential Patent must be purchased prior to any ship Patents.
- Ship Systems Existential Patent must be purchased prior to purchasing or building any ships.

Existential Patents	IPs Cost	# Applications Received
Industry	45 IPs	1
Orbital Shipyard	60 IPs	1
Orbital City	75 IPs	2
Generic Star Drive (GSD)	100 IPs	None
Ship Systems	45 IPs	1
Logistical Support Ship	75 IPs	2
Scout Ship	75 IPs	2
Cargo Ship	60 IPs	1
Colony Transport	75 IPs	2
Controlled Environment Technology (CET)	45 IPs	1
Ground Defense Base	60 IPs	1
Orbital Defense Base	75 IPs	2
System Defense Base	90 IPs	2
1 st Era Warship	90 IPs	2
1 st Era Carrier	90 IPs	2
1 st Era Fighters	75 IPs	1
1 st Era Ship Missiles	60 IPs	1

Appendix IPT3 – Inheritance & Primal State Tables

Primal States Table

- Each position must begin with at least four Fundamental Realities
- Each position must have at least 3 Major Fundamental Realities (min. 350 IPs).
- All ‘invader positions’ require more than 400 IPs.

PRIMAL STATE	SET UP REQUIREMENTS
<p>Homeworld (Home Position)</p>	<ul style="list-style-type: none"> ➤ Begins on a Homeworld, Optimal Class Planet with 100 Maximum Habitability for the position’s Native Population Type. ➤ Concierge chooses starting location. ➤ Homeworld locations and Primal States are announced to all prior to game. ➤ Automatically exploration and colonization of the home starsystem. ➤ Must obtain Industry Existential Patent (45 IPs). ➤ Must begin with (‘buy’) at least 100 population (100 IPs). ➤ Must begin with (‘buy’) at least 20 industry (60 IPs). ➤ May distribute populations to any inhabitable planet in the home starsystem. ➤ <u>Minimum Requirement:</u> 205 IPs, 305 IPs with Generic Stardrive Existential Patent, plus 1 other Existential Patent and 1 Application on the 1st Era Matrix.
<p>Lost Colony (Home Position)</p>	<ul style="list-style-type: none"> ➤ Native Population Type of the Lost Colonist is “related” to another Native Population Type in the game. ➤ In all other respects, Lost Colonist position is the same as the Homeworld position. ➤ <u>Minimum Requirement:</u> 205 IPs, 305 IPs with Generic Stardrive Existential Patent, plus 1 other Existential Patent and 1 Application on the 1st Era Matrix.
<p>Outposter (Home Position)</p>	<ul style="list-style-type: none"> ➤ Must begin with colonies in five systems, each system will have at least one colonizable planet. ➤ Concierge chooses starting locations. ➤ All starting systems will be explored and inhabitable. ➤ Starting locations are secret but Primal State is announced. ➤ Must begin with at least 10 population factors on a colony in each of the five starting systems, 50 populations minimum (50 IPs). ➤ Must purchase the Generic Stardrive Existential Patent (100 IPs), Ship Systems (45 IPs), Scout Ship (75 IPs), and the Colony Transport (75 IPs) Existential Patents. ➤ May not purchase warships, but may purchase 1st Era Warship Existential Patent if desired during the set up. ➤ <u>Minimum Requirement:</u> 345 IPs, must begin with Generic Stardrive Existential Patent, plus 3 other Existential Patents and 5 Applications on the 1st Era Matrix.

PRIMAL STATE	SET UP REQUIREMENTS
<p>Expedition Leader (Invader Position)</p>	<ul style="list-style-type: none"> ➤ All population begins on colony ships, and all ships begin in one previously explored starting system. ➤ Concierge chooses starting location. ➤ Starting system must have at least one colonizable planet. ➤ Starting location and Primal State are not announced. ➤ Must purchase Generic Stardrive (100 IPs), Ship Systems (45 IPs), Colony Transport (75 IPs), Scout Ship (75 IPs), Industry (45 IPs), and Controlled Environment Technology (45 IPs) Existential Patents. ➤ Must begin with at least 24 population factors (24 IPs) and 8 Colony Transports (64 IPs). ➤ May purchase as many other ships as desired, with remaining IPs. ➤ May purchase Orbital Shipyard Patent, but cannot purchase an Orbital Shipyard prior to the game (no place to put it!). ➤ <u>Minimum Requirement</u>: 473 IPs, must begin with Generic Stardrive Existential Patent, plus 5 other Existential Patents and 7 Applications on the 1st Era Matrix.
<p>Nomadic Warfleet (Invader Position)</p>	<ul style="list-style-type: none"> ➤ Nomadic Warfleet position chooses its starting location, but starting location cannot contain a Homeworld or Lost Colonist position. ➤ Starting location and Primal State are not announced. ➤ All population begins on colony ships and all ships begin in starting system location. ➤ Starting system begins already explored. ➤ Must begin with the Generic Stardrive (100 IPs), Ship Systems (45 IPs), and Colony Transport (75 IPs) Existential Patents, and either 1st Era Warship (90 IPs) and Ship Missile (60 IPs) or 1st Era Carrier (90 IPs) and Fighter (75 IPs) Existential Patents. ➤ Must begin with at least 12 population factors (12 IPs) on 4 Colony Transports (32 IPs). ➤ Majority (>50%) of remaining inheritance must be spent on warships, Carriers, Fighters, and Missiles as applicable. Position must have enough remaining IPs to buy at least 1 Carrier or Warship (if not, must take a random Fundamental Reality until enough IPs are gained). ➤ May purchase Orbital Shipyard Patent, but cannot purchase an Orbital Shipyard prior to the game (no place to put it!). ➤ <u>Minimum Requirement</u>: 414 or 429 IPs, must begin with Generic Stardrive Existential Patent, plus 4 other Existential Patents and either 6 or 7 Applications on the 1st Era Matrix.
<p>Truly Alien (Invader Position)</p>	<ul style="list-style-type: none"> ➤ Galactic Space is completely explored prior to the game, but does not receive any information on colonies or Homeworlds. ➤ Four to six new stars appear on the edge of the Galactic Space on the first turn.

PRIMAL STATE	SET UP REQUIREMENTS
	<ul style="list-style-type: none"> ➤ Truly Alien position must choose three newly appeared systems where their Colony Transports begin. ➤ Must begin with Generic Stardrive (100 IPs), Ship Systems (45 IPs), Colony Transport (75 IPs), and Scout Ship (75 IPs) Existential Patents. ➤ Must begin with 24 population (24 IPs) on 8 Colony Transports (64 IPs) in each system where the Truly Alien position chooses to start (total 72 population (72 IPs) and 24 Colony Transports (192 IPs)). ➤ May purchase Orbital Shipyard Patent, but cannot purchase an Orbital Shipyard prior to the game (no place to put it!). ➤ Starting locations are not announced, but Primal State is announced. ➤ Receives a special Truly Alien Fundamental Reality Card which counts as a Major Fundamental Reality for all purposes and cannot be discarded. ➤ Minimum Requirement: 591 IPs, must begin with Generic Stardrive Existential Patent, plus 3 other Existential Patents and 5 Applications on the 1st Era Matrix.

Appendix KM – Kairotic Moment Example:

We have fed our sea for a thousand years
 And she calls us, still unfed,
 Though there's never a wave of all her waves
 But marks our English dead:
 We have strawed our best to the weed's unrest
 To the shark and the sheering gull.
 If blood be the price of admiralty,
 Lord God, we ha' paid in full!

There's never a flood goes shoreward now
 But lifts a keel we manned;
 There's never an ebb goes seaward now
 But drops our dead on the sand—
 But slinks our dead on the sands forlore,
 From the Ducies to the Swin.
 If blood be the price of admiralty,
 If blood be the price of admiralty,
 Lord God, we ha' paid it in!

We must feed our sea for a thousand years,
 For that is our doom and pride,
 As it was when they sailed with the Golden Hind,
 Or the wreck that struck last tide—
 Or the wreck that lies on the spouting reef
 Where the ghastly blue-lights flare.
 If blood be the price of admiralty,
 If blood be the price of admiralty,
 If blood be the price of admiralty,
 Lord God, we ha' bought it fair!

- Runyard Kipling, “The Song of the Dead” (1893)¹

On the 21st Turn Cycle of a crazy game, a Kairotic Moment was triggered by five Turn Cycle ‘wins’ of the Aspect ‘sacrifice.’ Two positions, The Lesser Evil and The Greater Good, who had done much sacrificing to their own egos in their mutual hostility had exposed the Aspect repeatedly fueling Writs powered by Fuzzy Group activations. See Critical Mass, 3 Kairotic Moments, p. 1438. Thus, both positions will simultaneously experience a Kairotic Moment.

The obvious *Terra Sancta* for each Kairotic Moment is the starsystem where both long have native colonies and both of which, conveniently, have Sacrifice Aspects in an adjacent Monad on

¹ “The Enemy Stars was originally published in Astounding Science Fiction under the title We Have Fed Our Sea. That title refers to the first stanza of the second part of Rudyard Kipling's poem ‘The Song of the Dead,’ which Anderson quoted at the end of his story. The poem refers to the British sailors who have died at sea in their efforts to give England mastery of Earth's oceans, and [Poul] Anderson discerned an analogous sacrifice that will be made by Terrans in their efforts to reach the stars.” – from Wikipedia article, “The Enemy Stars,” January 3, 2020.

✓ Stanley Kubrick, speaking about the title of 2001: A Space Odyssey said, “[i]t occurred to us that for the Greeks the vast stretches of the sea must have had the same sort of mystery and remoteness that space has for our generation.” – Jerome Agel, The Making of Kubrick's 2001.

their respective owner’s Public Spaces. Thus, the opposing frontier colonies both become permanent *Terra Sancta* for the rest of the game, which might be important in many other matters in the game, e.g., *Terra Sancta* planets are the first tiebreaker for Objective Victory (see Lords Spiritual, 2 Resolution, p. 1474) or some Truly Alien player might find them truly interesting (see the Crack Up Truly Alien Fundamental Reality). They may also be the subject of News Events, Writs, Colleges, and other developments in the game. They are certainly part of the story arc of the game.

The Kairotic Moment cannot fail due to inactive Constructural Elements at each colony (which have both suffered many Disruption Events) because it is not a Power Activation. See Terra Sancta, 1 Kairotic Moments, p. 1420.

The Concierge, perhaps short on anything creative to say in the moment, issues a Special Bulletin using an Intervention Potential, providing the Key Aspect (‘sacrifice’) and perhaps a stanza from the final part of Runyard Kipling’s “Song of the Dead.” See Biblical Blurbs, 1 Kairotic Moments, p. 1421.

*“She said ‘I’ll turn you on sonny to something strong,
play the song with the funky break!’”*

– Manfred Mann’s Earth Band, “Blinded by the Light” (1976)

As soon as the *Terra Sancta* are designated, a blue dot appears on each Terra Sancta, and a red dot appears on the Capital colony of each position. The ‘color dots’ have no ‘effect’ and simply act as a timing mechanism for the Kairotic Moment (like a rhythmic drum beat). See Sojourn, 2 Kairotic Moments, p. 1429. However, there is dismay at the Capital of the Greater Good when a large red dot appears in the sky with no explanation, while consternation is experienced in the Lesser Evil’s capital when a large red dot appears there with equally no explanation.

The color dots in each of the four locations will proceed, as subsequent Regular Turns are processed by each position, along the Monads forming the Pathway connecting each Terra Sancta and Capital Colony to a Government Title on the Public Spaces, passing through the Government Title as if it were one Monad. *Id.* After passing through the Government Title, the red dot from the Capital Colony will move up the Pathway toward the Terra Sancta, and the blue dot from the Terra Sancta will move up the Pathway toward the Capital Colony. *Id.*

The speed at which the dots proceed is determined by the current Intensity Level of the Kairotic Moment, which is set and controlled by the Concierge. In this case, the Concierge decided that The Greater Good would start at a high intensity level of 3 and slowly wind down to 1, while the Lesser Evil does the opposite. See Intensiteit, 2 Kairotic Moments, p. 1430.

After reaching the Capital Colony, the dot passes into each First Space adjacent to the Capital Colony and thence, directly to the opposing First Space, then to each alien Capital Colony where it will remain for one more Regular Turn before disappearing. This has no effect, but symbolically represents the final stages of the timing mechanism about which point the intensity level of the Kairotic Moment should have reached its final stages, either ending in a crescendo or whimper. See Convictions, 2 Kairotic Moments, p. 1430. The Concierge should be able to count the Monads and time the intensity changes so that the ends occur roughly even.

*“Mama always told me not to look into the eyes of the sun
But mama, that’s where the fun is!”*

– Manfred Mann’s Earth Band, “Blinded by the Light” (1976)

At the end of each Regular Turn during the Kairotic Moment, one of three types of Constructural Elements are chosen (Epistemological, Ideological, Symbolic) and a check is made to see if it becomes inactive as a result of the Kairotic Moment. The check will be made at 5% for Intensity Level 1, 10% for 2, and 15% for Intensity 3. If positions have not Cohered well, have a large number of inactive Constructural Elements, the process will be quick: When a Constructural Element is 25% active or less after testing, all of that Constructural Element will be made active, and cannot be made inactive by *any means* (including testing) for one Regular Turn. See Undecidabilities, *et seq.*, 2 Kairotic Moments, p. 1431.

This process ends when all three of the Constructural Elements (the Temporal Constructural Element is never tested) have passed through the fire. An unlucky Constructural Element that previously passed the ordeal by fire may be subjected to testing again after its immunity expires.

Fight or flight is the choice for the authorities before a Kairotic Moment, inactive Constructural Elements can be restored by normal Cohering (see 5 Culture, p. 421), which prolongs the process, but also may be necessary to avoid ‘blackout’ Power Activation failures or getting pounded by hostile positions. *And the rock cried out...*

*“Some brimstone baritone anticyclone rolling stone preacher from the east
Says, ‘Dethrone the dictaphone
Hit it in its funny bone, that’s where they expect it least’”*

– Manfred Mann’s Earth Band, “Blinded by the Light” (1976)

Water leak or tsunami? The current Intensity Level of the Kairotic Moment is added to the normal chance of *apostasy* (see Alieneity Apostasy, 3 Disruption, p. 283 and Wave Motion, 2 Kairotic Moments, p. 1433) for alien ships interacting with any Friendly or Naturalized colony undergoing a Kairotic Moment. Further, the Kairotic Moment position’s ships carry the message to the stars (the stars are not listening, but aliens might be...) possibly bringing *apostasy* to *alien colonies* with which they interact (the colonies are treated as ships for this *apostasy* purpose), turning the Constructural Elements of entire colony worlds inactive. See A Total ‘Gurgler,’ 2 Kairotic Moments, p. 1433.

It may be that the ships were already *en route* when the Kairotic Moment was triggered. It may be they went there out of ignorance. In any event, the glowing green radioactive inactive Constructural Elements cannot be returned to active status (via normal Cohering, see 5 Culture, p. 421), until the Census Power has been activated by their owner (see The Apostasy, 3 Disruption, p. 284). The Census Power *cannot fail* due to inactive Constructural Elements (see Tax Revolt and Revolting Taxes, 1 Taxation & Census, p. 297), but there are losses incurred in the form of Cultural Proficiencies (see And the Cradle Will Rock, 3 Culture, p. 382) for example. See also Don’t Hand Me No Lines & Keep Your Hands to Yourself!, 3 Disruption, p. 284.

Apostasy is ecstasy!¹

*“And some new-mown chaperone
Was standin’ in the corner, watching the young girls dance
And some fresh-sown moonstone
Was messin’ with his frozen zone, reminding him of romance”*
– Manfred Mann’s Earth Band, “Blinded by the Light” (1976)

The calliope crashed to the ground! In addition to the Constructural Elements tests and apostasies, Aspects can be affected by a Kairotic Moment. Aspects on the Public Space belonging to the position undergoing a Kairotic Moment are checked, there is a 25% chance that they will be immediately replaced on their Monad by the Key Aspect of the Kairotic Moment. See *Nine Landings*, 3 Kairotic Moments, p. 1442. This check is made only once immediately when the Kairotic Moment is triggered, so it is probably the only truly momentary part of this mechanic.

Afterward, while the Kairotic Moment is in force, there is a chance (Intensity level x 10%) that newly Exposed Aspects will be the Key Aspect instead of what was intended (see *A Bustle in Your Hedgerow*, 2 Culture, pp. 365-366, and *Rose of the Winds*, 3 Kairotic Moments, p. 1442).

Further ... wait for it ... other position’s Aspects may also be affected if they share a Balkanized colony planet, share the same colony system, are members of the same MegaCorporations, or ships returning with *apostasy* from contact with another position’s Kairotic Moment! Oh, this is gonna be fun like making waves on a full waterbed! The Greater Good and the Lesser Evil share the same starsystem and can affect each other, and potentially, many other positions.

The effects occur both during the initial trigger and during subsequent Regular Turns, the same as for the position undergoing the Kairotic Moment, but at lesser strength. There is a 15% chance that any Aspect next to a Balkanized colony or shared colony system on their owner’s Public Space may be converted to the Key Aspect of the alien Kairotic Moment, or randomly changed to something else or eliminated. And newly Exposed Aspects may also be affected if placed in Monads adjacent to those locations (Intensity Level x 5%) may also fail or convert. And if the alien location is the *Terra Sancta* of the Kairotic Moment, 20% is added ... both *Terra Sancta* of The Greater Good and The Lesser Evil are in the same starsystem! See *Frontier Outpost of Syene*, 3 Kairotic Moments, p. 1443.

Ships returning in *apostasy*, may affect Aspects adjacent to their own colonies by interacting, regardless of location (see *Ship of Fools*, 3 Kairotic Moments, p. 1444), each adjacent Aspect having a 25% chance of changing or being eliminated. Note that the state of *apostasy* is based on inactive Constructural Elements, but the effect on the colony is against adjacent Aspects.

Though it is unlikely that The Greater Good and The Lesser Evil belong to the same MegaCorporation ... that would be funny ... any shared MegaCorporate relationship adds 10% to *any* chance of changing or eliminating Aspects due to contact with the alien Kairotic Moment. See *Diplomacy in the Hive of Scum & Villainy*, 3 Kairotic Moments, p. 1445.

In any event, the involuntary change of any Aspect could destroy Fuzzy Groups, could lead to disruption of Government Titles, but on the other hand, Aspects do ‘age-out’ quickly (see *Between the Candle and the Stars*, 2 Culture, p. 366) and are generally less troublesome than inactive Constructural Elements.

“She got down but she never got tired, She’s gonna make it through the night”

– Manfred Mann’s Earth Band, “Blinded by the Light” (1976)

Finally, weary of revolution, at the end of it all, after the Kairotic Moment has run its course, Aspect Lists of the position’s undergoing the Kairotic Moment (moment of insanity) may be changed, see *After the Fall*, 3 Kairotic Moments, p. 1445. Only positions that had the Key Aspect on their Aspect List are affected. No other position’s Aspect List is affected, regardless of how much of their population was ‘converted’ ... uh, how many Aspects and Constructural Elements suffered *apostasy* as a result of the alien Kairotic Moment.

The chance of change is related to the length of the Kairotic Moment measured in Regular Turn Cycles (3% per Regular Turn Cycle) and each Aspect on the Aspect List is checked to see if it changed to something else. This includes the Key Aspect whose repeated exposure started it all, so the ‘sacrifice’ Aspect for either or both The Greater Good and The Lesser Evil *may* disappear (or they may be at it again!). This change in Aspect Lists can have the effect of short-circuiting other possible Kairotic Moments or adding yet another position exposing an Aspect that is near the ‘critical mass’ to trigger another Kairotic Moment.

- ✓ The Kairotic Moment is the only direct mechanic in the game that can change Aspect Lists (it is possible for an Expose’ News Event to do this also, see *The Little Secret*, 4 Writs, p. 450).
-

*“With a boulder on my shoulder, feelin’ kinda older,
I tripped the merry-go-round.”*

– Manfred Mann’s Earth Band, “Blinded by the Light” (1976)

This appendix describes the step-by-step game-mechanical process of the Kairotic Moment trigger, resolution and effects in GGDM. It lacks specific references to die rolls, permutations, population factors, industry, defenses, named ships, etc. – only vaguely specifying how two hostile positions (both extremes of Graded Absolutism), who have colonies occupying the same system, unknowingly triggered the Kairotic Moment because they had the same Aspect on their secret Aspect Lists, which they repeatedly exposed. Also lacking is any description of the meaning of the Kairotic Moment to the players or to the populations on the ground, or to any characters who may have been involved.

All of this depends entirely on the story circumstances of the game, each game is unique in that regard. To have provided those details would have required creating an ever expanding sphere of game detail and game universe history. This is the color that is filled in by the players and by the story, to the extent they wish to look.

Many people might automatically assume that the end result of a Kairotic Moment whose Key Aspect is ‘sacrifice’ would be some compelling universal peace movement morphing into a religion. And that the two hostiles would stop fighting, maybe take the third alternative. Do you think that happened in this game?

¹ Commentary & Citation: This is a joke based on the title of paintings by Belli and Caravaggio of St. Francis.

Appendix MSM – Meanings & Shared Meanings Examples

- ✓ Meanings are singular interpretations, required to form Shared Meanings.¹
- ✓ Shared Meanings expand the Diplomatic Spaces between two positions.²
- ✓ Shared Meanings can be altered by Special Writ after establishment.³

Meaning of Tu Yu to De Fense

Author: De Fense

Meaning Toward: Tu Yu

Meaning: Our prosperity is consistent with the prosperity of Tu Yu. We share two systems and a colony planet in another system with them, and engage in profitable trade of resources.

Acts Inconsistent with Meaning: Refusal to trade, and/or initiating combat against us.

Meaning of De Fense to Tu Yu

Author: Tu Yu

Meaning Toward: De Fense

Meaning: De Fense are our best friends, they allowed us to share two systems with them, and allowed our Colony Transports to land on their planet when the Transports arrived and found the target planet already colonized and had no where else to land. Our friendship with De Fense grows.

Acts Inconsistent with Meaning: Any act inconsistent with ‘friendship’; any act against the Tu Yu colonies in any place where they share with De Fense.

Shared Meaning between De Fense and Tu Yu

Shared Meanings: A general feeling of friendship and shared prosperity has developed between De Fense and Tu Yu over the past ten turns.

Acts Inconsistent with Shared Meaning: Combat between De Fense and Tu Yu, long term lapse in trade between the two races, failure to assist the other in defense with regard to shared systems and colony planets.

¹ See Between Mars & Venus, *et seq.*, and The Commonality, 3 Diplomacy, pp. 1126, 1131.

² See The Commonality and Creative Sharing, 3 Diplomacy, pp. 1131, 1133 and Shattered Spaces, 2 Diplomacy, p. 1119.

³ See Continental Drift, *et seq.*, 5 Diplomacy, p. 1166.

Appendix NEWS – News Event & Modification Example

Modification of News Events is not as complicated as it may seem, a historical example may help: In 1936 (the year of the Berlin Olympics), German intelligence learned of a plot by a top-ranking Red Army officer to topple Stalin.

Reinhard Heydrich (of later Wansee Conference fame), then the head of the Security Police, which included the Gestapo that he created, and head of Counterintelligence, presented a plan to Himmler and then to Hitler, to expose the plotter to Stalin so that Stalin would purge the Red Army and/or create an air of suspicion in the relationship between Stalin and the Red Army. Hitler approved the plan and Heydrich then had his services create forged documents implicating the officers alleged to be plotting the overthrow of Stalin. These documents were provided to the Soviets. *Heydrich was played by Stalin*. In fact, Stalin had ordered his NKVD agent General Nikolai Skoblin to pass the false information to Heydrich expecting the Germans to do exactly what they did, thus manufacturing evidence for the Red Army Purge of 1936-1938.¹

- ✓ Information for this example was taken from Wikipedia articles, “Reinhard Heydrich” and “Great Purge,” September 27, 2018. Whatever reservations you may have about information from Wikipedia, please just accept these as absolutely true facts for the purpose of this example.

These events might play out as follows in terms of GGDM adverse News Events:

- ✓ *Initial News Event* issued by Red Blok states that the UNA have carried out a purge of their top officers after discovering a plot to overthrow their supreme leader. The effect of the News Event is that the UNA lose one half of the faculties from the Combat College.
 - It is possible that this News Event might have no effect; Red Blok may not actually know if the UNA has a Combat College, that is, many News Events might be ‘shooting in the dark.’ Red Blok and UNA may not have had First Contact. However, adverse News Events that have no effect may still cost the target a Maintenance Shield, see 4 Order, p. 566 *et seq.*, *infra*. Whether an adverse News Event has any effect is never revealed.
- ✓ *First modification* of the News Event issued the Therians, eternal scheming trouble makers, adds that the evidence used by UNA against the alleged plotters was entirely fabricated and passed to them by ONI Corporation (a position, not a GGDM Corporation or MegaCorporation), who is seeking business from Red Blok. The effect of this is that an Intervention Potential Plus (IP+) is assessed against UNA. This mod is not a contradiction of the initial News Event and is a News Event in its own right.
 - Whether IP or IP+ can be assessed in a News Event is unclear and up to the Concierge, but once the precedent is established, it must be followed consistently. It is in effect saying, there will be trouble later because of this (in the historical example, the Red Army lost many of their best officers to the Purge and suffered later in 1941). The Concierge is in no

¹ Commentary: Arguments have been advanced that the German fake documents made no difference, they were not used as evidence during the Moscow Trials. That is beside the point for the purposes of this example.

way required to use the IP+ in relation to the News Event, but can use it freely, emergent narrative can fill the linkage later if necessary.

- ✓ *Second modification* of the News Event issued by UNA states that the evidence against the plotters was solid and that the falsified evidence was irrelevant. The result is that the Intervention Potential Plus (IP+) is reduced to a regular Intervention Potential. Note that this does not directly contradict the Therians' News Event, which is still absolutely true (sort of...). It also does not contradict the initial News Event (which may be irrelevant if UNA doesn't have a Combat College).
 - Hair splitting time: The UNA News Event is not a direct contradiction to the initial News Event by Red Blok because it does not say that the purge never happened, or entirely abrogate the results. It also does not contradict the Therians News Event because it does not say the falsified documents don't exist and it does not abrogate the results. Neither event then is entirely erased by the Second Modification.
- ✓ Finally, the Karmans issue a *third modification* to the News Event stating that the Therians secretly control part of ONI Corporation and their plot has been discovered, causing the Therians to lose one Diplomatic Space with ONI Corporation.
 - Since ONI Corporation is a position in the game, it is not literally true that the Therians control ONI Corporation, here is an example of how the News Event is absolutely true, regardless of what the players in the game know or believe to be the truth. Additionally, the Karmans may not know if the Therians and ONI Corporation share Diplomatic Spaces or anything else, so again, there is possibly no effect. Like IP and IP+ assessments, the game participants will need to decide if Diplomatic Space can be created or lost by News Events, and once the precedent is set, must follow it consistently and try not to abuse it.
- ✓ At this point, it's all becoming kind of convoluted and conspiratorial and the situation has played itself out, UNA has possibly lost some faculties from the Combat College, an Intervention Potential has been added to the game, and the Therians may have lost a Diplomatic Space with ONI Corporation. Other News Events have posted, the players get distracted or move on, eventually posting to this News Event is closed by the end of the Turn Cycle, having become part of the Absolutely True history.
 - Yes, these faction names were all barrowed from the tabletop miniatures wargame, AT-43, solely for amusement purposes. Both AT-43 and its publisher, Rackham Entertainment, are defunct since 2010.

Appendix ORD – Conversion & Pacification Example

The Free Peasant’s Republic of Dithmarschen, Friendly Colony of the Confederacy of the Holy Ramen Empire is finally conquered by the Denmarkate Unity in 1559 after several legendary successful Colony Defense and Ground Combats in 1319, 1403, and 1500. The colony suffers Disruption Events as a result (see *The Burning Sky and Downfall*, 2 Disruption, p. 275) and may lose active Constructural Elements, which will need to be reactivated by Cohering (see 5 Culture, p. 421) later if the colony is to be useful. The victorious warships however, do not suffer any *apostasy* because they were not forced to retreat from a combat (see *The B-Team*, 3 Disruption, p. 281).

The following Regular Turn, the Denmarkate makes a Conversion Attempt against the Dithmarschen Conquered Colony (see *Conversion*, 3 Order, p. 554). Conversion costs one Act and one Scene on the target colony, fortunately a Scene was captured with the colony. The Conversion Attempt cannot fail due to Inactive Constructural Elements at the colony as they are currently irrelevant. The colony has 46 population remaining, which, divided by 10, means that the Denmarkate must have a modified result of greater than 4 (truncating fractions) in the Conversion Attempt (see *Conversion*, 3 Order, p. 554). As nothing else has happened yet, there are no modifiers to apply, so the die is cast, and the result is a ‘1.’ As 1 is not greater than 4 – bad luck – the Conversion Attempt has failed and Dithmarschen remains a Conquered Colony. The Denmarkate did not commit any Enlightenment to the Conversion Attempt, so there is no reroll.

On the next Regular Turn, under pressure to be able to build defenses at Dithmarschen against possible counterattack, or perhaps the need to use it as a Supporting Colony (see 1 Movement, p. 840) because the warfleet is running out of supplies (OSL) (the Log Ships were either delayed or were destroyed in the combats), the Denmarkate orders an Orbital Bombardment of Dithmarschen with one 2nd Era Warship, killing 7 population factors and damaging the planet (see *In This Dust That Was a City*, 2 Combat, p. 961), but instantly Converting the colony (see *Conversion*, 3 Order, p. 554) by an activation of the Combat Power for the purpose of Initiate Combat.

However, there is a 10% chance per active Constructural Element of *apostasy* on the participating ships, and as a result, the only surviving 2nd Era Warship loses its active Epistemological Constructural Element which becomes inactive (see *Alieney Apostasy*, 3 Disruption, pp. 283-284). The choice of which ship did the deed may have been determined by the risk of losing an active Constructural Element. As a result, the 2nd Era Warship can no longer receive the benefits of Enlightenment (see *Skool Tyme*, 2 Constructural Elements, p. 190) and has a greater chance of not obeying future Power Activations (see *Power Off*, 2 Constructural Elements, p. 193). Further still, a Constructural Element inactivated due to *apostasy* cannot be reactivated until the Census Power is activated by the position (see *The Apostasy*, 3 Disruption, p. 284).

Alternate Universe #1

Instead of trying to Convert the Conquered Colony of Dithmarschen, the Denmarkate initiates Combat for the purpose of Pacification Combat using the battered 15 RP Landsknecht Ground Unit that is occupying the colony and supported by warships and fighters. The attacker gets only one chance at this because a colony can only be subjected to one Pacification Combat each time it is conquered (see *Peace in Our Time*, 6 Combat, p. 1021). So go all in for it.

The Suppression Value is calculated as 15 RPs (for the Ground Unit) plus 4 RPs value for the 2nd Era Warship, and half the value of the 20 RPs of supporting Fighters from the accompanying

Carrier (see Resistance is Futile, 6 Combat, p. 1022). The total Suppression Value is **29**. However, one Enlightenment is assigned to support the Pacification Combat because each die rolling situation can only be rerolled once (see Vampire Suicide, 2 Colleges, p. 478).

As mentioned previously, the Dithmarschen Conquered Colony has 46 population remaining, which divided by 10 is 5 (fractions rounded up). The colony also had 20 RPs of remaining Fighters when it was 100% occupied by the Landsknecht Ground Unit and surrendered (see Ground Combat Resolution, 4 Combat, p. 993) for a value of 10. All Ground Bases were destroyed, but two militia Ground Units remained at the time of surrender for .5 each. The Resistance Value of the colony is 4 for the population, plus 10 for the remaining fighters, plus .5 for each of the remaining Ground Units (all vets who may lead an insurgency), for a total of **16** (see You Will be Assimilated, 6 Combat, p. 1022).

To this the Concierge must add a number between 1 and 10 representing the perceived determination of the resistance. Based on cultural factors, such as that the Holy Ramen Empire is a Confederacy Structural Title and the Denmarkate Unity is a Unitary Structural Title (see 2 Government Titles, pp. 595-596), the presence of recent military veterans in the population, and the legendary fierce resistance of the colony, the Concierge assigns a value of 7 to the resistance, making a final Resistance Value of 23. So 29 vs. 23 is the starting point.

The Pacification Combat is a contest of hearts and minds, and policing and order. The Suppression Value of 29 and the Resistance Value of 23 are converted directly to Population Factors at the colony. To automatically Convert the colony, the attacker needs to suppress/convert 31 or more of the 46 population in the Pacification Combat. If the attacker suppresses/converts 15 or less of the 46 population in the final result, there is an insurgency at the colony which remains a Conquered Colony. Any result in between is a Suppression (see Fabrication of Order, 6 Combat, p. 1022), which aids in future Conversion Attempts as described above.

The attacker starts with 29, so they are just short of an automatic Conversion (at 31). The Concierge resolves the Pacification Combat by first rolling a die generating a number between 1 and the Suppression value of 29 (see Occupation of Haiti, 6 Combat, p. 1023). The die roll result is '1.' As this clearly would result in failure, the committed Enlightenment is used for a reroll (see Harsh Mistress, 2 Colleges, p. 478) noting also that unused Enlightenment committed to Combat are not returned at the end of the combat (see Vampire Suicide, 2 Colleges, p. 478). The second roll is a much more pleasing result of '11' which is added to the 29 for a total of **40**.

The resistance has a long uphill battle. A die is rolled for the resistance to generate a value between 1 and the Resistance Value of 23 (see Occupation of Haiti, 6 Combat, p. 1023). The Resistance cannot use Enlightenment as the former owner can no longer supply it (see See-Through Fabric, 6 Combat, p. 1024). The Resistance rolls a 10, almost undoing exactly the gains of the attackers. The 10 is added to the Resistance Value of 23, for a final Resistance Value of 33, and 33 subtracted from the Suppression Value of 40 (*ut supra*) for a final Suppression Value of 7. *Id.* The final value is less than the 31 needed to automatically Convert the colony, and less than 15 also, meaning that the colony has not been Converted and a widespread, determined, fierce Insurgency is active at the colony.¹

¹ To have a reasonable chance of avoiding an Insurgency and possibly obtaining a good result, as a rule of thumb, the initial Suppression Value should be approximately equal to or greater than the current population. The final result is determined by Concierge judgment of the Resistance Level and die rolls.

- ✓ If the Resistance had rolled a ‘1’ or ‘2’ the result would have been a Suppression (final Suppression Value of 15 or 16).

As the Pacification Combat failed to automatically Convert the colony, one will be subtracted from all future Conversion Attempts at that colony (see Conversion, 3 Order, p. 554). Further, it will be difficult to Naturalize the colony in the future as long as there is a significant Insurgency.

Alternate Universe #2

The battered 15 RP Landsknecht Ground Unit is the infamous and disreputable Black Guard commanded by Thomas Slentz, who Loot the Dithmarschen Conquered Colony and commit heinous acts against the population and destructive acts against the colony.

On the Regular Turn after the conquest of Dithmarschen Colony, an empty Denmarkate Unity 1st Era Cargo Ship arrives at the colony and both the Combat Power is activated for Pacification Combat and the Commerce Power is activated for Looting at the colony. Activation of the Combat Power to Initiate Combat costs one Act (see The Combat Power, 1 Combat, p. 941) and activation of the Commerce Power to Load RPs to a Cargo Ship costs one Act and one Scene on the colony (a Scene may have been on the colony before conquest, and would have been unaffected, a luck grab for the Denmarkate Unity). Since the Combat Power Activation costs less, it will be processed first, then the Commerce Power Activation will process (see Clockwork Universe, 3 The Streams of Time, p. 90), regardless of whether the colony is converted or not.

In this alternate universe, Denmarkate did not commit an Enlightenment to the combat, so is stuck with the ‘1’ result (*ut supra*), for a Suppression Value of **30**. When the resistance rolls a 10, which is added to the 23, the total of 33 is subtracted from 30 for a truly epic failure of -3 final Suppression Value. This creates a huge Insurgency at the max end of whatever scale the Concierge is using for Insurgency values in the game, and is something notable enough to perhaps draw Intervention use as well in future turns and become a story arc point for the game (like the Warsaw Resistance in WWII in our world). The legend continues...

... Moving on. Since the Dithmarschen Colony is still a Conquered Colony when the Load RPs action executes, the Load automatically becomes Looting (see Looting, 3 Commerce, p. 1210). The Black Guard doesn’t mind at all, in fact they have proudly been the source of woe, destruction and anguish wherever they have been employed. Thus, 15 RPs (enhanced value) are Loaded to the 1st Era Cargo Ship from the Dithmarschen Conquered Colony and a corresponding number of industry and other installations at the colony are destroyed (see Looting, 3 Commerce, p. 1210), additionally, some population may be killed (at the judgment of the Concierge) in the process with accompanying damage to the planet, *Id.*, p. 1212, resulting in additional Disruption Events at the colony (see Mars Bombing Run and Hagar’s Faucet, 2 Disruption, pp. 274, 278 respectively). When added to the disruptions on the previous turn associated with conquest of the colony, this may be viewed as a collapse of the colony’s civilization (though it will remain technically a Conquered Colony, unless abandoned by the Demarkate).

On the other side, the Ground Unit and all ships that participated the Pacification Combat and the Cargo Ship that participated in the Looting may suffer possible *apostasy* (see Alieney Apostasy, 3 Disruption, p. 283). Additionally, the Pacification Combat and the Looting will combine for a -2 modifier on all future Conversion Attempts at the colony (see Conversion, 3 Order, pp. 554-555), however, there may be somewhat less population to contend with...

Alternate Universe #3

On the Regular Turn following the conquest of Dithmarschen Colony, a Denmarkate Unity 1st Era Cargo Ship arrives at the colony with 15 RPs. The ship arrives at the beginning of the turn and can therefore Unload 15 RPs to the colony on the turn of arrival (see Long Jump, 2 Movement, p. 851 and Downloading, 2 Commerce, p. 1202) at normal, face value (see Conversion, 3 Order, pp. 554-555). The Construction Power is also activated at Dithmarschen Conquered Colony on that turn – sharing a Scene with the Unload RPs from the Cargo Ship in the same turn (see Material Handling, 1 Construction, p. 664) – however, construction is limited to the RPs unloaded in that turn (see Combat Engineers, 1 Construction, p. 664). Still, Construction wasn't exactly the main purpose...

Unload RPs activation of the Commerce Power costs one Act and one Scene on the colony (see Load & Unload Activations, 1 Commerce, p. 1185), fortunately a Scene was on the colony when it was conquered. Conversion activation of the Order Power also costs one Act and one Scene on the target colony, however, because they cost the same, if they happened on the same Regular Turn, the Conversion Attempt would occur first in the sequence of actions processing winning the tie because it Order is listed before Commerce in the Table of Contents of 2 The Sidereal Stage (see Clockwork Universe, 3 The Streams of Time, p. 90). Because the bribe (i.e. Unloaded RPs) must be delivered prior to the Conversion Attempt (see Conversion, 3 Order, pp. 554-555), the two cannot occur in the same turn.

Knowing then that a Conversion will be attempted on the next turn, the Denmarkate Unity places a Scene on the Dithmarschen Conquered Colony at the end of the turn. On the next Regular Turn, the turn *after* the Unload RPs, the Denmarkate Unity activates the Order Power at Dithmarschen for the purpose of Convert Colony. The Denmarkate does not commit any Enlightenment because there is an 80% chance of success.

The Dithmarschen Conquered Colony has 46 population, which divided by 10 and truncating fractions, becomes a 4. Additionally, the Denmarkate Unity receives a +2 modifier for the bribe that was unloaded.² The conversion attempt is successful on a 5 or better modified result, so the Denmarkate Unity only needs to roll a 3 or better... they rolled a '1.' Dithmarschen remains a Conquered Colony for the moment.

Fortunately with the expectation of doing something else there the next turn, Denmarkate placed yet another Scene on the colony, and so can try again to Convert the colony. Further, the bonus for Unloading RPs will remain active until the colony is Converted.

² Assume for the example that the 15 RPs Unloaded are greater than the Taxation Value of the colony, per Conversion, 3 Order, pp. 554-555. Per Resources from Population, 2 Taxation & Census, p. 306, the 46 population on Dithmarschen colony would naturally produce 9.2 RPs during taxation and they could have a maximum of 18 Industry (see Appendix EP – Existential Patents) producing 9 RPs during taxation (for a max of 18 RPs). But likely they didn't...

Appendix PAT1 – Power Activations Tables 1

Each Regular Turn, a position may potentially activate a number of Vital Powers equal to the number of currently undisrupted Government Titles (see Exercise in Vital Powers, 2 The Sidereal Stage, p. 114).

Each Regular Turn, a position receives Acts and Scenes of its choice equal to the number of currently undisrupted Government Titles (see On the Soapbox, 3 The Sidereal Stage, p. 122).

Power Activation Costs

Power Activation	Acts	Scenes	Cost RPs?
Taxation ¹	3 or 2	0 or 1	N
Census ²	2	0	N
Culture ³			
• Exposing Aspects	2	0	N
• Perfecting Proficiencies	2	0	Y
• Cohering	2	0	Y
• Introduce Writs ⁴	2	0	N
• Found College ⁵	3	1	Y
• Amend College Charter ⁶	2	1	?
• Endow Colleges ⁷	1	0	Y
• Develop Doctrinal Template ⁸	1	0	N
Order ⁹			
• Declare/Move Capital	1	1	Y
• Conversion/Naturalization	1	1	N
• Maintenance Shield	1-3	0	Y
• Government Formation ¹⁰	2 or 3	1 or 0	N

¹ Taxation costs three Acts or two Acts and a Scene on the Capital Colony, see Life, Taxes, Death, and Taxes, 1 Taxation & Census, p. 296.

✓ “Failure of the Taxation Power activation at any colony does not count as a Power Activation failure for Government Title Conflict Checks ... unless all eligible sovereign colonies fail Taxation....” See Tax Revolt or Revolting Taxes, 1 Taxation & Census, p. 296.

² The Census Power activation can never fails. See Tax Revolt or Revolting Taxes, 1 Taxation & Census, p. 297.

³ The Acts and Scenes costs for Exposing Aspects, Perfecting Proficiencies and Cohering are found in Gemini Dream, 1 Culture, p. 356.

⁴ See Nothing Fuzzy About It, 1 Writs, p. 436.

⁵ See Foundation, 1 Colleges, p. 457.

⁶ See Amended Charter, 1 Colleges, p. 462.

⁷ See Student Loans, 1 Colleges, p. 460.

⁸ See Brain Trust, 4 Colleges, p. 504. Culture Power activation must be matched by Combat Power activation on the same Regular Turn.

⁹ Acts and Scenes cost for Declare/Move Colony, Conversion/Naturalization, and Maintenance are found in To Insure the Domestic Tranquility, 1 Order, p. 517.

¹⁰ Three Acts may only be used if the position does not have a Capital Colony on which to place a Scene. Positions are required to form the initial government during set-up, which costs nothing. See Forming a Government, 1 Government Titles, p. 582.

Construction ¹¹			
• Colony Enhancement	1	1	Y
• Colony Defense Era Upgrade	1	1	Y
• Laying Keel	1	1	Y
• Shipbuilding	1	1	Y
• Ship Supply ¹²	1	1	Y
• Scrapping	1	1	N
Technology ¹³			
• Basic Research	1	0	Y
• Develop Application ¹⁴	2	0	Y
• Patent Prosecution ¹⁵	2	0	N
• Reverse Engineering ¹⁶	0	1	Y
Movement ¹⁷	1	1	N
Expansion			
• Looking	1	1	N
• Scouting ¹⁸	1	0	N
• Loading Population ¹⁹	1	1	Y
• Transporting Population	1	1	N
• Unloading Population	1	1	Y
• Landing Population	1	1	N

¹¹ Activations of the Construction Power may share a Scene with activation of the Commerce Power in the same location on the same Regular Turn for the purpose of Unload RPs. In this case *only*, the Commerce Power activation will process *before* the Construction Power activation so that the RPs can be used in building. With the exception of Scrapping, the Construction Power may only be activated for one purpose at each location each Regular Turn. See Construction Zone and Material Handling, 1 Construction, pp. 661, 664.

¹² Supplies loaded to Logistical Ships and any *permanent* Enhancements to any ship are considered to be ‘built’ in the same Regular Turn and RPs are subtracted for the cost. *Expendable* Enhancements transferred from the colony to a ship must preexist the turn in which the transfer occurs (i.e. they must have previously been built). See Costly Resupply and Transfers, 3 Construction, pp. 679-680.

¹³ See Technopower, 1 Technology, p. 689 for all Technology Power Activation costs.

¹⁴ Activation of the Technology Power for the purpose of Development only occurs once for each Research Group, and will continue to process each Regular Turn until either successful or completely fails for the current Era. See The Kitty Incident, 2 Technology, p. 708.

¹⁵ Normal, current Era Patent Prosecution does not cost RPs but may require multiple Power Activations. *Advanced Patents* (in the next Era before the current Era is finished) will cost RPs, see Advanced Patents, 1 Eras, p. 763.

¹⁶ See De-conjunction Junction, 3 Technology, p. 713. This is the very first activation resolved in a turn.

¹⁷ See Ad Astra, 1 Movement, p. 839. Scene must be on the star of the origin system.

¹⁸ For Looking and Scouting activation costs, see Exploration, 1 Expansion, p. 876.

¹⁹ For Load, Transport, Unload Populations and Landing activation costs, see Colonization, 1 Expansion, pp. 876-877. Moving population is an intensive three-turn process (two turns if Unloading to another planet in the same system), expensive in Power Activations, Acts, Scenes and RPs and is a Disruption Event. Once Loaded, population can only be Unloaded or Landed.

Combat ²⁰			
• Combat Movement	2	1	N
• Initiate Combat	1	1	N
• Combat Alert	1	1	N
• Seize the Initiative	0	1	N
Diplomacy ²¹			
• Accept Treaty	1	1	N
• Articles of Incorporation ²²	1	1	Y
• Break Treaty	1	1	N
• Form Meanings	1	0	N
• Share Meanings	2	0	N
Commerce			
• Trade Mission ²³	1	1	N
• Load Cargo Ship ²⁴	1	1	Y
• Unload Cargo Ship	1	1	N
• Marketing ²⁵	1	0	N
• Articles of Incorporation ²⁶	1	1	Y
• Trucking Transaction ²⁷	1	1	Y
• Carting ²⁸	0	1	Y
Special Operations ²⁹			
• Reconnaissance	1*	*	N
• Recruit Missions (SOMs)	1*	*	Y
• Lodge Missions (SOMs)	1*	*	Y
• Information Operations	1*	*	Y
• Black-Ops	1*	*	Y
• Treason	1*	*	N
• Train Counter Operations (COMs)	1*	*	Y
• Counter-Operations	1*	*	N

²⁰ The cost for all Combat Power activations is found in The Combat Power, 1 Combat, p. 941.

²¹ See Diplomacy Power, 1 Diplomacy, p. 1095 for activation costs. Unlike other powers, completion of the diplomatic purpose usually depends on the other position reciprocating on their next Regular Turn.

²² For MegaCorporations only. See Commensurate Complexities, 2 Corporations, p. 1255.

²³ See Green Goods, 1 Commerce, p. 1188.

²⁴ See Load & Unload Activations, 1 Commerce, p. 1185. Loading from a Conquered Colony is Looting, see Looting, 3 Commerce, p. 1210. If a Load and Unload RPs occur at the same colony on the same Regular Turn, they may share a Scene. *Id.*

²⁵ See Marketing, 2 Commerce, p. 1193.

²⁶ For Domestic Corporations only. See Articles of Incorporation, 1 Corporations, p. 1246.

²⁷ For Trucking Transaction and Carting activation costs, see The Store of Worlds, 1 Commerce, p. 1186.

²⁸ Multiple Carting activations in the same system may share a Scene, see Donkey Cart, 4 Commerce, p. 1229.

²⁹ All Special Operations Power Activations cost one Act, except when they occur at a sovereign colony, in which case, the activation costs one Scene, an Act cannot be used when a Scene is required, see Acting Lessons, 1 Special Operations, p. 1274. When a sovereign ship is the target, either may be used.

Appendix PAT2 – Power Activations Tables 2

Normal Sequence of Power Activations¹

Power Activations Costing No Acts and One Scene	
1	Reverse Engineering, <i>Technology Power</i>
2	Seize the Initiative, <i>Combat Power</i>
3	Carting, <i>Commerce Power</i>
4	Activations of the <i>Special Operations Power</i> where a Scene is used instead of an Act

Power Activations Costing One Act and No Scene	
5	Endow Colleges, <i>Culture Power</i>
6	Develop Doctrinal Template, <i>Culture Power</i>
7	Maintenance Shield, <i>Order Power</i> , if only one Act is used
8	Basic Research, <i>Technology Power</i>
9	Scouting, <i>Expansion Power</i>
10	Form Meanings, <i>Diplomacy Power</i>
11	Marketing, <i>Commerce Power</i>
12	Activations of the <i>Special Operations Power</i> that use an Act instead of a Scene

Power Activations Costing One Act and One Scene	
13	Declare/Move Capital, <i>Order Power</i>
14	Conversion/Naturalization, <i>Order Power</i>
15	Unload RPs, <i>Commerce Power</i> , in conjunction with any Construction Power activation at the same location, sharing a Scene (see Material Handling, 1 Construction, p. 664) ²
16	All <i>Construction Power</i> Activations
17	<i>Movement Power</i> activation
18	Looking, Loading Population, Transporting Population, Unloading Population, Landing, <i>Expansion Power</i>
19	Initiate Combat and Combat Alert, <i>Combat Power</i>
20	Accept Treaty, Articles of Incorporation, Break Treaty, <i>Diplomacy Power</i>
21	Trade Mission, Load Cargo Ship, Unload Cargo Ship (not in conjunction with Construction Power activation), Articles of Incorporation, Trucking Transaction, <i>Commerce Power</i>

Power Activations Costing Two Acts and No Scenes	
22	<i>Census Power</i> activation
23	Exposing Aspects, Perfecting Proficiencies, Cohering, and Introduce Writs, <i>Culture Power</i>
24	Maintenance Shield costing two Acts, <i>Order Power</i>
25	Develop Application and Patent Prosecution, <i>Technology Power</i>
26	Share Meanings, <i>Diplomacy Power</i>

¹ See Clockwork Universe, 3 The Streams of Time, p. 90.

² The special exception for Unload RPs-Construction Activation processing is destroyed if one Act is added to the activation cost of the Commerce Power due to lack of association with an undisrupted Government Title.

Power Activations Costing Two Acts and One Scene	
27	<i>Taxation Power</i> activation using Scene on Capital Colony
28	Amend College Charter, <i>Culture Power</i>
29	Government Formation, using a Scene on the Capital Colony, <i>Order Power</i>
30	Combat Movement, <i>Combat Power</i>

Power Activations Costing Three Acts and No Scenes	
31	<i>Taxation Power</i> activation using no scenes
32	Maintenance Shield, using three Acts, <i>Order Power</i>
33	Government Formation, <i>Order Power</i> , if position does not have a Capital Colony

Power Activations Costing Three Acts and One Scene	
34	Found College, <i>Culture Power</i>

Government Titles Vital Power Associations: If the *optional rule* of Associations of Vital Powers with Government Titles is used, any activation of any Vital Power not associated with an undisrupted current Social or Estate Government Title costs one more Act than normal. See Associates & Acquaintances, 1 Government Titles, p. 580. The optional rule gives Social and Estate Titles more ‘personality.’

Such situations will always cost more Acts, and will usually change the sequence of processing for that Power Activation. For example, if a position had no undisrupted Government Title associated with the Census Power, activation of the Census Power would cost three Acts and no Scenes instead of two Acts and no Scenes. It would then process *after* any activation of the Taxation Power, even if the Taxation Power used the three Acts and no Scenes option. This could cost the position RPs in taxation.

Another example, Carting normally costs just one Scene, but if the Commerce Power has no associated undisrupted Government Title, Carting then costs an Act and a Scene. This makes it process after Construction Power Activations (because they are tied and Commerce is after Construction in the order of Vital Powers), thus the receiving colony would not be able to use the RPs received from Carting and they would possibly/probably be wasted.

But there are other situations where, other than the extra act cost, no change will be made in the processing sequence. For example, a position that does not have an undisrupted Government Title associated with the Taxation Power (shocking! I know) will pay one more Act to activate that power. However, if the option is taken to use a Scene on the Capital Colony for the activation, the cost will be three Acts and one Scene (instead of two Acts and one Scene). Taxation would in that case still process before the activation of the Culture Power to Found College (which costs three Acts and a Scene), because Taxation processes before Culture, with the tiebreaker (between activations that cost the same in Acts and Scenes) being the sequence in which Vital Powers are listed in the Table of Contents of 2 The Sidereal Stage. See Clockwork Universe, 3 The Streams of Time, p. 90. Thus, the position could still tax before founding the College.

In many situations, the change of processing sequence will make no difference.

Appendix PAT3 – Scenes, Planets & Stars

- Some Power Activations require a pre-placed Scene on a star on the Public Space or on a colonized planet on the Public Space. There is a limit to the number of Scenes in a place.
- Scenes have no ownership and will be seen on the Public Space of any position that has presence in that location.¹
- Scenes can be ‘snitched’ by other positions, permission is not required to use any Scene.
- Scenes that are used are removed *unless* the Power Activation fails due to inactive Constructural Elements.²

Scenes Placed on Stars:

- Movement Power: Scene must be on the star of the origin system to *initiate* normal interstellar movement.³
 - Normal interstellar movement allows any number of ships of the appropriate type to depart the origin system to any number of destination systems.
- Expansion Power: Looking requires a Scene on the star that is being used for Looking.⁴
- Expansion Power: Transporting Population activations require a Scene on the star of the *destination* system.⁵
 - This works the opposite of normal interstellar movement activations; it allows any number of Colony Ships to initiate interstellar movement from any number of origin stars to the destination star. Convergence instead of divergence.
- Expansion Power: Activations for the purpose of Landing requires a Scene on the star where the Landing occurs.⁶
- Combat Power: All Combat Power activations require a Scene on the star where the movement *originates* (Combat Movement) or the activity occurs (all others).⁷
- Commerce Power: Trade Mission requires a Scene on the star where the movement *originates*.⁸
- Commerce Power: Carting can use a Scene on one of the colonies involved or on the star of the system where it occurs.⁹

Scenes Placed on Planets:

- Taxation Power: Can be activated with a Scene on the Capital Colony.¹⁰
- Culture Power: Foundation of a College requires a Scene on the proposed Host Colony.¹¹

¹ See Scene Snitching, 3 The Sidereal Stage, p. 124.

² See ... But Nobody is Home, 2 Constructural Elements, p. 194.

³ See Ad Astra, 1 Movement, p. 839.

⁴ See Exploration, 1 Expansion, p. 876

⁵ See Colonization, 1 Expansion, pp. 876-877.

⁶ See Colonization, 1 Expansion, pp. 876-877.

⁷ See The Combat Power, 1 Combat, p. 941.

⁸ See Green Goods, 1 Commerce, p. 1188 and Donkey Cart, 4 Commerce, p. 1229.

⁹ See The Store of Worlds, 1 Commerce, p. 1186.

¹⁰ See Life, Taxes, Death, and Taxes, 1 Taxation & Census, p. 296.

¹¹ See Foundation, 1 Colleges, p. 457.

- Culture Power: Amending the Charter of a College requires a Scene on the Host Colony.¹²
- Order Power: A Scene is required on the proposed new Capital Colony to Declare/Move Capital Colony.¹³
- Order Power: Conversion/Naturalization of a colony requires a Scene on the colony.¹⁴
- Order Power: Any alteration of the Government (by activation for the purpose of Forming Government) requires a Scene on the Capital Colony if the position has one.¹⁵
- Construction Power: Every activation of the Construction Power requires a Scene on the target colony.¹⁶
 - Activations of the Commerce Power for the purpose of Load/Unload RPs at the same colony in the same turn can share a Scene with Construction Power Activations.¹⁷
- Technology Power: Reverse Engineering requires a Scene at the target location.
 - If the target alien junk is in system space, Scene must be on the star, otherwise, it will be on the target planet where the junk is located.¹⁸
- Expansion Power: Load and Unload Populations require a Scene on the target colony.¹⁹
- Diplomacy Power: Activations to Accept Treaty, Articles of Incorporation for MegaCorporations, or Break Treaty all require a Scene on the Capital Colony.²⁰
- Commerce Power: All Load and Unload RPs activations require a Scene on the target colony (even if it is an **alien colony**).²¹
- Commerce Power: Trucking Transactions require a Scene on one of the two colonies involved. Carting can use a Scene on one of the colonies involved or on the Star.²²
- Commerce Power: Initial formation of a Corporation (via Articles of Incorporation activation) requires a Scene on the proposed Host Colony.²³
 - Renewal of existing Corporations does not require an Articles of Incorporation activation but can still fail at the Host Colony due to inactive Constructural Elements.²⁴
- Special Operations Power: Special Operations Power activations require a Scene on the target colony only if the colony is a sovereign colony of the position. When a Special Operations Power Activation occurs on a sovereign ship, an Act or Scene may be used.²⁵

¹² See Amended Charter, 1 Colleges, p. 462.

¹³ See To Insure the Domestic Tranquility, 1 Order, p. 517.

¹⁴ See To Insure the Domestic Tranquility, 1 Order, p. 517.

¹⁵ See Forming a Government, 1 Government Titles, p. 582.

¹⁶ See Construction Zone, 1 Construction, p. 661.

¹⁷ See Material Handling, 1 Construction, p. 664.

¹⁸ See De-conjunction Junction, 3 Technology, p. 713.

¹⁹ See Colonization, 1 Expansion, pp. 876-877.

²⁰ See Diplomacy Power, 1 Diplomacy, p. 1095.

²¹ See Load & Unload Activations, 1 Commerce, p. 1185.

²² See The Store of Worlds, 1 Commerce, p. 1186 and Donkey Cart, 4 Commerce, p. 1229.

²³ See Articles of Incorporation, 1 Corporations, p. 1246.

²⁴ See Someone Stole the Stage, 1 Corporations, p. 1247.

²⁵ See Acting Lessons and Making a Scene, 1 Special Operations, both p. 1274.

Appendix PAT4 – Power Activation Failure

- **Localized** Power Activations require a check at a ship or colony or both to see if the Power Activation fails due to *inactive* Constructural Elements.¹
 - Power Activation checks *are only made during Regular Turns* (Power Activations are only processed during Regular Turns) and thus, do not apply to Orders during Combat Rounds (i.e. a unit will never fail to execute in a Combat Round due to Power Activation failure).²
 - There is always a 5% chance of Power Activation failure, plus 15% per inactive Constructural Element, to a maximum of 50% (Temporal Constructural Elements are not counted).³
 - Colonies *never fail* to obey the Census Power Activation (it comes naturally).⁴
 - Failure of a Taxation Power Activation cannot cause a Government Title to fail a related Conflict Check unless all colonies failed the Taxation Power Activation (bad when you have only one colony!) on the same Regular Turn.⁵
 - Failure of a Culture Power Activation to Found a College does not cost any RPs (no RPs are lost);⁶ this is true generally of Power Activations costing RPs.
 - Colony Ships ordered to Land when they have expired OSL will *never fail* to obey the Power Activation as long as they can legally Land on the planet.⁷
 - No Power Activation is required to defend in Combat,⁸ against a Probing attempt,⁹ or Blockade Running,¹⁰ or to explore an unexplored system upon arrival,¹¹ or to resupply at a supporting colony (i.e. reset OFL/OSL).¹² Ships in interstellar flight do not require additional activations to move each Regular Turn; they will also not obey new Power Activations until they arrive.¹³
 - When ordered to run a Blockade, ships are checked before the attempt to see if they obey the Power Activation (if they do not, no attempt is made) and if they make it to the colony, then the colony is checked to see if it obeys the Power Activation.¹⁴

¹ See Power Off, 2 Constructural Elements, p. 193.

² See Traitors Will be Shot, 2 Constructural Elements, p. 195.

³ See Power Off and ... But Nobody is Home, 2 Constructural Elements, p. 193.

⁴ See Power Off, 2 Constructural Elements, p. 193 and Tax Revolt or Revolving Taxes, 1 Taxation & Census, pp. 296-297.

⁵ See Tax Revolt or Revolving Taxes, 1 Taxation & Census, pp. 296-297.

⁶ See Bobbing Lights, 1 Colleges, p. 465.

⁷ See Spiffy Spaceman, 4 Expansion, p. 920.

⁸ See Power Off, 2 Constructural Elements, p. 193 and Defend!, 1 Combat, p. 943.

⁹ See Bloody Noses, 2 Information, p. 1347.

¹⁰ See Crashed the Gate Doin' 98, 4 Commerce, p. 1234.

¹¹ See Then Never Comes, 3 Expansion, p. 907.

¹² See Free Resupply, 3 Construction, p. 678.

¹³ See The FTL Missile, 2 Movement, p. 849.

¹⁴ See Blockade Running, 4 Commerce, p. 1233.

- If the Power Activation fails, the activity is not performed; the Power Activation is used for the Regular Turn, but Acts and Scenes (and RPs) are not removed for the failed activation.¹⁵
 - Colonies and Ships may fail to obey Culture Power Activations for Cohering which can cause a snowball effect.¹⁶
 - Units that fail a Combat Power Activation for the purpose of Initiate Combat may be joined (shooed into) to the combat in the second or later rounds, losing their first round attacks.¹⁷
 - No check is made for Combat Power Activation for the purpose of Combat Alert, but a check is made as if the activation was to Initiate Combat when the Combat Alert is used to Initiate Combat.¹⁸
 - Regular Turn Power Activations directed at units engaged in a Combat will fail as a unit cannot do anything else until the combat is won or they successfully retreat.¹⁹
 - Some Power Activations require a ship to be in the system at the beginning of the turn (meaning it must have been there at the end of the previous turn); if this condition is not met, the Power Activation cannot be completed, e.g., Load Cargo activation of the Commerce Power.²⁰
 - Some Power Activations at colonies may fail if the colony is besieged, e.g. Trucking activations of the Commerce Power.²¹ However, a siege has generally no effect on a colony's Constructural Elements or Power Activations.²²
- In cases where an activation requires a check of both the Ship and Colony, if either fails, the activation fails (i.e. will not execute).²³
 - Enlightenment may be applied to any failed Power Activation to cause a reroll if the Enlightenment was assigned to the Power Activation in the Regular Turn Orders. This can be a temporary fix for inactive Constructural Elements.²⁴
- If the Power Activation is to initiate interstellar movement, i.e. Movement Power, Combat Power (Combat Movement), Expansion Power (Transport Population) or Commerce (Trade Mission to **alien colony** systems), and it fails, a second check is made if there is a supporting colony in the system, using the Supporting Colony's Constructural Elements.²⁵ If that does not fail, the movement will be initiated.

¹⁵ See ... But Nobody is Home, 2 Constructural Elements, p. 193.

¹⁶ See Power Off, 2 Constructural Elements, p. 193 and Money Can't Buy You Love, 5 Culture, p. 903.

¹⁷ See Rule 20 Permissive Joinder, 3 Combat, pp. 973-974.

¹⁸ See Jumping the Ditch, 1 Combat, p. 947.

¹⁹ See The Combat Power, 1 Combat, pp. 940-941 and Seize the Initiative, 3 Combat, p. 971.

²⁰ See Uploading, 2 Commerce, p. 1199 and Space Hop, 2 Movement, p. 850.

²¹ See Flea Market, 4 Commerce, p. 1225.

²² See Besieged Colony, 3 The Sidereal Stage, p. 124.

²³ See Power Off, 2 Constructural Elements, p. 193.

²⁴ See Decentralized Resistance, 2 Constructural Elements, pp. 194-195.

²⁵ See Engines Offline, 1 Movement, p. 839, Canned Food, 3 Expansion, pp. 913-914, Spiffy Spaceman, 4 Expansion, pp. 920-921, and Before You Go, 1 Commerce, p. 1189.

- Second checks are also applied to Initiate Combat (Combat Power) and Landing (Expansion Power) activations in the same system as a supporting colony.²⁶
- Location-specific inter-position processes require both positions to execute Power Activations on their respective Regular Turns in succession and failure of either will cause the process to fail, e.g., Transferring RPs between Cargo Ships or at the Host Colony when forming MegaCorporations.²⁷
 - Failure of a Power Activation may complicate Trucking Transactions, e.g., failure to reciprocate, or costing extra Scenes.²⁸
- Game processes will continue regardless of whether a position submits Regular Turn actions during their Turn Period or whether all Power Activations or any Power Activations fail, e.g.:
 - Ships in Interstellar Flight will continue to move and/or arrive.²⁹
 - Acts (not Scenes), RPs, Faculties, Special Operations, Counter Operations Missions will ‘age out.’³⁰
 - Corporations will expire, that is, the clock will continue to run on Articles of Incorporation.³¹
 - Colleges will not operate, however, if the position does not submit Regular Turn Actions.³²
 - Corporations will not operate if the position does not process Regular Turn Actions.³³
- Activation of Writs must be on conjunction with the Power Activation listed on the Writ in the same Regular Turn and requires actualization of a Fuzzy Group matching the Writ.³⁴
 - Failure of Power Activation means that the Writ was never activated and the Fuzzy Group is not removed from the Public Space.³⁵ Writs can also fail to activate by not meeting the Conditions Precedent of the Writ.³⁶

²⁶ See Spiffy Spaceman, 4 Expansion, pp. 920-921 and Initiate Combat, 1 Combat, pp. 944-945.

²⁷ See Change for a Trillion, 1 Commerce, p. 1185, and Gelt’s Casino World, 2 Corporations, p. 1255.

²⁸ See Flea Market and Fairies Wear Boots, 4 Commerce, pp. 1225-1226, 1227-1228 respectively.

²⁹ See The FTL Missile, 2 Movement, p. 849.

³⁰ See Managing Act and Lost Scenes, 3 The Sidereal Stage, pp. 123-124, Aging Resources, 1 Taxation, p. 304, Tuition & Tenure, 2 Colleges, p. 474, and Ralph Wolf & Sam Sheepdog, 2 Special Operations, p. 1296 and Police Pensions, 3 Special Operations, p. 1322.

³¹ See Someone Stole the Stage, 1 Corporations, p. 1247.

³² See Student Loans, 1 Colleges, p. 460.

³³ See Marconi Plays the Mamba, 1 Corporations, p. 1246.

³⁴ See Cost of the Writ, 2 Writs, p. 442.

³⁵ See Actualization, 4 Culture, p. 407 and Cost of the Writ, 2 Writs, p. 442.

³⁶ See Conditions Precedent, 2 Writs, p. 439.

Power Activations – Constructural Elements Table

Power Activation	Ship CE Checked	Colony CE Checked	Both CE Checked	No CE Checked
Taxation ³⁷		X		
Census ³⁸				X
Culture				
Exposing Aspects ³⁹				X
Perfecting Proficiencies ⁴⁰				X
Cohering ⁴¹			X	
Introduce Writs ⁴²				X
Found College (Host Colony) ⁴³		X		
Amend Charter (Host Colony) ⁴⁴		X		
Endow Colleges ⁴⁵				X
Develop Doctrinal Templates ⁴⁶ (req. concurrent Combat Power Activation)				X
Order				
Declare/Move Capital Colony ⁴⁷				X
Conversion/Naturalization ⁴⁸		NA/X		
Maintenance ⁴⁹				X
Government Formation ⁵⁰				X
Construction				
Colony Enhancement ⁵¹		X		
Colony Defense Era Upgrade ⁵²		X		
Laying Keel ⁵³		X		
Shipbuilding ⁵⁴		X		
Ship Supply ⁵⁵			X	
Scrapping ⁵⁶		X		

³⁷ See Tax Revolt or Revolting Taxes, 1 Taxation & Census, pp. 296-297.

³⁸ See Tax Revolt or Revolting Taxes, 1 Taxation & Census, pp. 296-297.

³⁹ See Undersea Glow, 1 Culture, p. 357.

⁴⁰ See Undersea Glow, 1 Culture, p. 357

⁴¹ See Undersea Glow, 1 Culture, p. 357

⁴² See Undersea Glow, 1 Culture, p. 357

⁴³ See Bobbing Lights, 1 Colleges, p. 465.

⁴⁴ See Bobbing Lights, 1 Colleges, p. 465.

⁴⁵ See Bobbing Lights, 1 Colleges, p. 465.

⁴⁶ See Brain Trust, 4 Colleges, p. 504.

⁴⁷ See Gaveling, 1 Order, p. 518.

⁴⁸ See Gaveling, 1 Order, p. 518.

⁴⁹ See Gaveling, 1 Order, p. 518.

⁵⁰ See Gaveling, 1 Order, p. 518.

⁵¹ See An Industrial Action, 1 Construction, p. 661.

⁵² See An Industrial Action, 1 Construction, p. 661.

⁵³ See An Industrial Action, 1 Construction, p. 661.

⁵⁴ See An Industrial Action, 1 Construction, p. 661.

⁵⁵ See An Industrial Action, 1 Construction, p. 661.

⁵⁶ See An Industrial Action, 1 Construction, p. 661.

Power Activation	Ship CE Checked	Colony CE Checked	Both CE Checked	No CE Checked
Technology (all purposes) ⁵⁷				X
Movement (only 1 purpose) ⁵⁸ (supporting colony 2 nd check)	X	(X)		
Expansion				
Looking ⁵⁹				X
Scouting ⁶⁰				X
Loading Population ⁶¹		X		
Transporting Population ⁶² (ignoring population CEs) (supporting colony 2 nd check)	X	(X)		
Unloading Population ⁶³	X	X		
Landing Population ⁶⁴ (unless OSL is expired) (supporting colony 2 nd check)	X	(X)		
Combat				
Combat Movement ⁶⁵ (supporting colony 2 nd Check)	X	(X)		
Initiate Combat ⁶⁶ (no check for Pacification Cmbt.)	X	(X)		
Combat Alert ⁶⁷ (delayed initiate combat)				X
Seize Initiative ⁶⁸				X
Diplomacy				
Accept Treaty ⁶⁹				X
Articles of Incorporation (Host Colony) ⁷⁰		X		
Break Treaty ⁷¹				X
Form Meanings (Capital Colony) ⁷²		X		
Share Meanings (Capital Colony) ⁷³		X		

⁵⁷ See Technopower, 1 Technology, p. 669.

⁵⁸ See Engines Offline, 1 Movement, p. 839.

⁵⁹ See Exploration, 1 Expansion, p. 876.

⁶⁰ See Exploration, 1 Expansion, p. 876.

⁶¹ See Sardine Tins, 3 Expansion, pp. 911-912.

⁶² See Canned Food, 3 Expansion, pp. 913-914.

⁶³ See Opening The Can Of..., 3 Expansion, p. 914.

⁶⁴ See Spiffy Spaceman, 4 Expansion, pp. 920-921.

⁶⁵ See Move Out!, 1 Combat, p. 942.

⁶⁶ See Initiate Combat, 1 Combat, pp. 944-945.

⁶⁷ See Jumping the Ditch, 1 Combat, p. 947.

⁶⁸ See Seize the Initiative, 3 Combat, p. 971.

⁶⁹ See Stood Up, 1 Diplomacy, p. 1096.

⁷⁰ See Gelt's Casino World, 2 Corporations, p. 1255. This is for MegaCorporations only.

⁷¹ See Stood Up, 1 Diplomacy, p. 1096.

⁷² See Stood Up, 1 Diplomacy, p. 1096.

⁷³ See Stood Up, 1 Diplomacy, p. 1096.

Power Activation	Ship CE Checked	Colony CE Checked	Both CE Checked	No CE Checked
Commerce				
Trade Mission ⁷⁴ (supporting colony 2 nd check)	X	(X)		
Load Cargo Ship ⁷⁵			X	
Unload Cargo Ship ⁷⁶			X	
Marketing ⁷⁷				X
Articles of Incorporation (Host colony)		X		
Revoke Articles of Incorporation (Host colony)		X		
Trucking ⁷⁸ (each colony involved)		X		
Carting (sending colony only) ⁷⁹		X		

Special Operations Are Special:

- Special Operations Power Activations require either one Act or one Scene.⁸⁰
- A Scene is required if the action takes place on a sovereign colony.⁸¹ This is mainly the case when training Counter Operations Missions and Conducting Counter-Operations.
- There are some times when the position may choose to use either an Act or a Scene.⁸² For example, Training Counter Operations Missions onboard a ship at the colony.⁸³
- Whenever a Scene is used, whether required or voluntarily, the Power Activation is checked for failure based on the colony's or target unit's Constructural Elements.⁸⁴
- Whenever an Act can be and is used, no Power Activation check is made. Thus, Special Operations outside of the sovereign colonies do not require checks for Power Activation failure. They never check using **alien colonies'** Constructural Elements, for example, or their own Constructural Elements while at an **alien colony**.⁸⁵
- Because of this, the square format of Special Operations Power Activations doesn't fit into the round holes of the table format, above, or it would just be confusing.☺

⁷⁴ See Before You Go, 1 Commerce, p. 1189.

⁷⁵ See Use Two Hands Please, 2 Commerce, p. 1199.

⁷⁶ See Use Two Hands Please, 2 Commerce, p. 1199.

⁷⁷ See Marketing, 2 Commerce, p. 1193. Marketing is the only Commerce Power Activation that cannot fail.

⁷⁸ See Shanzhai Products, 4 Commerce, p. 1225.

⁷⁹ See Golf Cart Handicap, 4 Commerce, p. 1230.

⁸⁰ See Acting Lessons, 1 Special Operations, p. 1274.

⁸¹ See Acting Lessons, 1 Special Operations, p. 1274.

⁸² See Acting Lessons, 1 Special Operations, p. 1274.

⁸³ See Making a Scene, 1 Special Operations, p. 1274.

⁸⁴ See Making a Scene, 1 Special Operations, p. 1274.

⁸⁵ See Making a Scene, 1 Special Operations, p. 1274.

Appendix POQ – Patent Operational Qualities

- ✓ Patent Operational Qualities do not apply to Stardrive Patents.

Physical Item Technologies (PITs): Required for Patents that introduce new major units (game units, combat units) to the game, mainly starships.

- ✓ PIT Patents that create new starships in the game must have at least one Stardrive Application.
- ✓ PIT Patents must have two to seven Applications.
- ✓ PIT Patents have no assigned ‘base cost’ due to the nature of introducing new units.
- ✓ PIT Patents for starships cannot be prosecuted if the position does not have a Stardrive Patent.

Continuous Operational Technologies (COTs): COT Patents represent minor, non-expendable improvements to existing units, e.g., ship speed.

- ✓ COT Patents may not add new capabilities to existing units, only improvements in existing performance.
- ✓ All COT Patents must use only three Applications and must have two Effects.
- ✓ All COT Patents must specify another Patent to which it relates and cannot be prosecuted on the same turn as the Patent to which it relates.
- ✓ Implementation of the effect of the COT Patent on new and existing units may be free or negligible, but time delay may be required, and RP cost may be imposed in some cases.

Enhancement Technologies (ETs): Enhancement Technologies add new capabilities to existing units usually at an ‘upgrade’ cost.

- ✓ Some Enhancements may be expendable (e.g., Ship Missiles) while many others are permanent (e.g., Industry, Fighters).
- ✓ ET Patents must use at least two Applications, and up to four Applications, and has a base cost of 5 RPs times the number of Effects (not Applications).
- ✓ ET Patents for non-colony installations or that improve colony installations must list the PIT Patent on which it is based.
- ✓ ET Patent cannot be prosecuted the same turn as the PIT Patent on which it is based.

Technological Devices (TDs): Technological Devices are the big toys, the singular technological items (but not always monstrously big) of science-fiction imagination, not intended to be mass produced.

- ✓ Technological Devices can sometimes be game units, sometimes enhancements.
- ✓ TD Patents require five to nine Applications with a base cost of 50 RPs per Application (not Effect).
- ✓ There must be a logical game limit to the number of any Technological Device.
- ✓ TD Patents must specify whether it is a PIT-like or an ET-like device.

Appendix PUBS – Expansion of Public Space Selected Summary

From 4 Writs, p. 452: [By Looking Inward]

- **Edge of Reality:** After the Exposé´ is posted, there is a 5% chance that each Fact in the Exposé will add one Monad to the Public or Diplomatic Spaces (see Diplomatic Spaces, 2 Diplomacy, p. 1116, *infra*) of the issuing position and a 3% chance that each Fact will allow one Monad in the issuer’s Public or Diplomatic Spaces to be moved to a new location in the other space (that is, from Public to Diplomatic, *vice versa*).
 - ✓ A separate die roll is made for each fact for both possibilities. So one die roll is made for each Fact for the possibility of adding a new Monad, and one die roll is made for each Fact for the possibility of moving one Monad.
 - ✓ The chances are not added together, each roll to add a new Monad has a separate 5% chance and each roll to be allowed to move a Monad has a separate 3% chance of success. If you had 5 Facts in the Exposé´, the chances *would not be* 25% and 15% for each Fact; they would be 5% and 3% for each of the five rolls.
 - ✓ Adding or moving Monads allows the issuing position to slightly reshape their reality and/or slightly expand their reality that is represented by the Public Space. It is the choice of the issuing position where the Monads are moved or added and whether on the Public Space or on a Diplomatic Space.
 - ✓ New Monads can be placed adjacent to any Monad on any “edge” of the Public or Diplomatic Space and any Monads to be moved must currently be empty and maybe moved to any “edge” location on the Public or Diplomatic Space.

As the edges of the Public Space and Diplomatic Spaces wrap around to meet as discussed above, see also Over the Edge, 1 The Sidereal Stage, p. 108, *supra*, players should be cognizant that they are actually just inserting Monads into a circle at the locations that appear to be edges when seen in a flat top-down projection. Thus, they may inadvertently push things on the Public or Diplomatic Space out of adjacency.

- ✓ See discussions, Shared Spaces, 2 Diplomacy, p. 1118, and Mental Space, 3 Reformation, p. 1402, *infra*. Exposé´, colony Conversion and Naturalization (4 Order), Technological Era advancement (1 Eras), and Reformation (3 Reformation) are the only means to add Monads to the Public Space.

The chance of being able to receive new Monads is nominal in any case. Don’t bet your grocery money on those odds! Thus the possibility of adding or moving Monads should not enter into the Concierge’s judgment about the balance of the Exposé´. When it happens, it’s a bonus. Positions may use Enlightenment for rerolls in this case (see 2 Colleges generally, *infra*).

From 4 Order, p. 574: [By Hegemony]

In Spite of Ourselves: At the end of any Regular Turn in which a position Converted a Conquered Colony, there is a 1% chance, plus 2% per Converted Colony and 3% per Naturalized Colony owned by the position that a Monad will be added to the position’s Public Space adjacent to the location of the colony. A Monad may also be gained each time a colony is Naturalized as above, but the base chance increases to 3% plus modifiers. Additionally, 1% is added to either for every three units currently in *apostasy*. This is an intentional ‘snowballing’ mechanic.

As the edges of the Public Space wrap around to meet, see *Edge of Reality*, 4 Writs, p 452, *supra*, players should be cognizant that they are actually just inserting Monads into a circle rather than expanding a flat plane. Thus, they may inadvertently push things on the Public or Diplomatic Space out of adjacency; Pathways may need adjusted, pieces moved or removed. This is the cost of empire.

From 1 Eras, p. 760: [By Understanding]

- All Things Are in Motion: Upon advancing to the next Era, a roll is made for each Patent completed in the Era to see if a new Monad is added to the position's Public Space. There is a 10% chance x the level of the new Era for each Patent to result in an added Monad, e.g., there are 17 Existential Patents in the 1st Era, each of which has a 20% chance to add a Monad to the position's Public Space (average result would be 3-4 added Monads). The new Monads are randomly inserted into the Public Space. As described in *Over the Edge*, 1 The Sidereal Stage, p. 108 and *Edge of Reality*, 4 Writs, p. 452, *supra*, inserting Monads in the Public Space can push existing pieces out of adjacency and just generally mess things up.

From 3 Reformation, pp. 1401-1402: [By Living Outward]

- Built Spaces: The Reformation process, an Exposé' News Event (see *Edge of Reality*, 4 Writs, p. 451, *supra*), hegemony (see *In Spite of Ourselves*, 4 Order, p. 554, *supra*) and Era progression (see *All Things are in Motion*, 1 Eras, p. 760, *supra*) are the only means in the game to expand the Public Space *directly*; the Diplomatic Space (see *Fourth Direction*, 2 Diplomacy, p. 1117, *supra*) is also an expansion, but is shared with another and traces to the Public Space only through the Capital Colony. After the Reformation is resolved, in addition to the new restrictions of the Collage, the target position may receive additional Monads on the Public Space determined by a yes/no die roll (i.e. 50%) for each Intervention used in the Reformation resolution. Thus, the more Interventions used, the more Monads that can be gained (small consolation...). Enlightenment cannot be applied to this roll because there is no Power Activation involved.
- Mental Space: Because random insertion of new Monads into an active and full Public Space could destroy adjacencies and formations, and distances of colonies from Government Titles, it should/might/will probably be done manually by the Concierge; however, Reformations (Era Progressions and Exposé') do tend to upset existing arrangements and connections, therefore, random insertion by the computer assistant would not be entirely improper. The Concierge should decide initially how this will be handled and be consistent through the game, but knowing human predilections, it is likely that insertions will be done randomly by the computer assistant. As with Diplomatic Spaces (see *Shared Spaces*, 2 Diplomacy, p. 1118, *supra*), insertion of Monads will simply displace everything a space because the edges of the Public Space are considered to wrap around, such that things on the edge may be considered adjacent to things on the other edge.

From 2 Diplomacy, p. 1117: [By Expanding Possibilities]

- Fourth Direction: Diplomatic Spaces are the fifth way to expand the Public Space during the game, the other ways are by Era progression (see *All Things Are in Motion*, 1 Eras, p. 760, *supra*), Reformations (see *Built Spaces and Mental Spaces*, 3 Reformation, pp. 1401-1402, *infra*), hegemony (see *In Spite of Ourselves*, 4 Order, p. 554, *supra*) and an Exposé' News Event (see *Edge of Reality*, 4 Writs, p. 452, *supra*). As mentioned previously, the Public

Space of a position can become somewhat congested and crowded during the game. Diplomatic Spaces are the easiest way to expand the space available for pieces of civilization, but there's a catch....

✓ See also discussion of Monad Imperialism, 3 Order, p. 561, *supra*.

There is a sense in which the Diplomatic Space functions like the fourth direction in a hypercube; in the existence of the sort-of two-dimensional Public Space of civilization, the Diplomatic Space exists in the other direction to which we cannot point due to our limited dimensional existence. Very much like Edwin Abbott's Flatlanders and the interdimensional diplomat who wanted to say Hi! (*see* Carl Sagan's explanation, The Flatlanders excerpt, in Temporal Technology, *supra*). The point that destroys this rough analogy is the game necessary that the Diplomatic Space connect to the Public Space only through the Capital Colony – maybe like a black hole? – which, incidentally, makes the Capital Colony the densest center point of its civilization, which seems appropriate; it would be chaotic to the game to allow true congruity between all points of the Public and Diplomatic Spaces.

Appendix R&D – Research & Development Example

The Dynamics of Research

Position Cheapo Dynamics – consistently rated by Alsos Magazine as the ‘Cheesiest Better Mousetrap Operation in the Galaxy’ – decides to engage in Industrial Research (i.e. the position chose Industry as the Research Area for the attempt, see Research Areas and Research Action, 2 Technology, pp. 701-702). The Technology Power is activated for the purposes of Basic Research (see Technopower, 1 Technology, p. 689), and actions are submitted to the Concierge indicating that 10 RPs have been committed to the research (see Black Hole, 2 Technology, p. 703). Cheapo does not assign any Enlightenment, ‘cause, you know...

The first die roll is to determine if the research is overfunded or underfunded (see Schrödinger’s Cat, 2 Technology, p. 702). Since Cheapo put up 10 RPs for the Research, 10 RPs is divided by 3, with fractions rounded down, the result is three. Therefore, if the die roll (on one ten sided die) is three or less, the research is overfunded. If the die roll is between four and ten, the research is underfunded. *Id.*

The die roll is five, indicating that the research was underfunded. The second die roll, on one ten sided die x 5%, is to indicate by how much the research was underfunded. The result of the second die roll is a 4, indicating that the research was underfunded by 20%. *Id.*

The results of the second die roll then modify the base chance of successful research, reducing it by 20% (because of the underfunding). The adjusted base chance of success is 30% and a final die roll is made to determine the success or failure of the Research. The final die roll must be 30% or less for the research to be successful. See Cure for the Common Cold, 2 Technology, p. 703.

The final die roll, on two ten sided dice, is 45% so the Research failed and no Research Piece is received. *Id.* The final step is to determine the resources expended during the research. Since 10 RPs were committed and the research was determined to have been underfunded by 20%, 12 RPs are removed from the position’s Treasury. See Big Money, 2 Technology, p. 704. Cheapo Dynamics spent 12 RPs and received nothing.¹

Note that by committing only 10 RPs of resources to the Research, Cheapo Dynamics limited their maximum cost (“exposure”) to 15 RPs, since the maximum underfunding percentage is 50%. However, the chance that the research would be underfunded was significant, and that in turn, meant a greatly reduced chance of success of the research because of the adjustment to the base chance, and a greater chance of paying 10 or more RPs for an unsuccessful research result. Conversely, on a couple of good die rolls, had the research been determined to have been overfunded by 50% and had it been successful too, Cheapo Dynamics would have obtained a Research Piece for 5 RPs.

¹ I often find myself wondering how many millions of dollars or man-hours Microsoft spent developing their Word program? I find myself wondering this because as I have worked through GGDM, I have discovered an annoying bunch of bugs and things that don’t work right in MS Word – often arbitrarily or inconsistently. Whatever staggering amount Microsoft spent in developing MS Word, it still doesn’t work right after three decades. I only trust MS Word to screw it up. This is what research is like in GGDM.

Had Cheapo Dynamics committed 20 RPs to the research, they would have had a 60% chance that the research would be overfunded (by 10 to 50%), and a 40% chance that it would have been underfunded (by 10 to 50%). Their chance of successful research would have been greater (but not guaranteed), but their exposure would have been a minimum of 10 RPs (had the research been determined to have been overfunded by 50%) and a maximum of 30 RPs (had the research been determined to be underfunded by 50%). Although they would have a lesser chance of ‘wasting’ their resources, there still exists a significant chance that Cheapo Dynamics could ultimately have spent 30 RPs for nothing.

“It reminds me of one of my husband’s favorite sayings: ‘All your problems have one thing in common: you.’”

– Jan Dunlap, [Saved by Gracie](#) (2014)

Development Hell²

After a Type 5 time ripple event (caused by industrial attempts to invent things before they were invented, but no one will likely remember), Cheapo Dynamics became Development Hell Productions, Inc. Having finally obtained an undisrupted Industrial Research Group on the Public Space, Development Hell attempts to Develop it into an Application on the 1st Era Matrix by activation of the Technology Power for the purpose of Development (see 2 Technology, p. 707).

Development Hell specifies three locations on the 1st Era Matrix which are still open (i.e. unoccupied) and the cost is 3 RPs from the Treasury, which is the current Era times the number of locations specified (see Development Fund, 2 Technology, p. 707). Development is thus, much cheaper than Research, but there are other hazards.

All three target spaces on the Matrix are adjacent to one Application only – essentially, Development Hell is attempting to add an Industry Application to the end of a line of Applications in preparation for a potential Patent Prosecution. The base chance of Development is 50% plus 5% for each adjacent Application, so the base chance is 55%. Development Hell does not assign any Enlightenment to the attempt and the die roll result is 65%, which is a failure – the roll needed to be 55% or less. See Short One Wingnut, 2 Technology, p. 708. The location on the Matrix that was tried in the Development Attempt is now permanently blocked for that Research Group type only.

On the next Regular Turn, the Development attempts continue *automatically* – no further activation of the Technology Power is required, as long as there are open untried spaces or the Research Group has not become disrupted, see The Kitty Incident, 2 Technology, p. 708. Because there is no new Power Activation, there is no opportunity then to assign Enlightenment.

On the second turn development attempt, the die roll is 79%, another failure (you saw that coming, right?) and the second of three spaces is blocked out for all future attempts by any Industry Research Group. See The Kitty Incident, 2 Technology, p. 708.

² “Development Hell” is a film-industry term for a potential, promising, intriguing movie idea that is stuck in development, often times being continuously re-scripted, re-cast, kicked around from one producer or director to another, or languishing for years without progress toward the end-goal.

Alternate Universe #1:

The third location designated was in the meantime, taken by another Research Group that Developed into an application at that location, and thus, the ongoing Industry Application Development attempt automatically fails on the third Regular Turn. Or alternately to the alternately, something happened that caused the Industry Research Group to become disrupted, thus ending the Development attempt. See *The Kitty Incident, 2 Technology*, p. 708.

- ✓ “If it weren’t for bad luck, I’d have no luck at all.” – Buck Owens & Roy Clark, “Gloom, Despair & Agony on Me,” Hee-Haw television show, 1969.

It is possible that multiple Development attempts may be concurrently ongoing directed to the same open Matrix location and with the risk that when one is successful, the others will automatically fail. If the Application that filled the last location was from another Industry Research Group, then Development Hell obtained the desired result; however, if the new Application belongs to another Research Area (e.g., Defense, Stardrive, etc.) then Development Hell may have stepped on its own toes or the player group changed their mind and allowed the ongoing Industry Application Development to fail.

Alternate Universe #2:

How can we fail a third time? On the third turn of continuing Development Attempts – for the last unblocked location, the die roll is 91%, a third failure. At that point, having exhausted all of the designated Matrix locations, the Development attempts cease. The last remaining designated space is permanently blocked from becoming an Industry Application.

Ripples:

The result of this failure (either one) is that the Industry Research Group remains on the Public Space, continuing to occupy two Monads next to a colony. That may or may not be important depending on whether those Monads are needed for something else. The Research Group could become disrupted or could be lost in some situations but there is no provision to remove it voluntarily, other than Development into an Application, see *The Better Mousetrap, 2 Technology*, p. 709.

Further attempts may be made to Develop it into an Industry Application at unblocked, open locations on the Matrix, costing additional Technology Power Activations and some RPs. If all remaining locations become blocked to Industry Applications, the Research Group will remain on the Public Space until it can be Developed in the next Era Matrix (see *The Kitty Incident, 2 Technology*, p. 708).

Appendix REF – A Reformation Example

“I do not like broccoli and I haven’t liked it since I was a little kid and my mother made me eat it. And I’m President of the United States and I’m not going to eat any more broccoli. Now look, this is the last statement I’m going to have on broccoli. There are truckloads of broccoli at this very minute descending on Washington. My family is divided. For the broccoli vote out there: Barbara loves broccoli. She has tried to make me eat it. She eats it all the time herself. So she can go out and meet the caravan of broccoli that’s coming in.” – President George H.W. Bush, March 22, 1990

On the third Regular Turn, the Cauliflower Lover’s Guild made First Contact (see Bump in the Night, 1 Diplomacy, p. 1099) with the Broccoli Grower’s Association when their Scout Ships encountered each other while exploring the Floret starsystem (a Green Stellar Class starsystem, see Looking Through, 2 Expansion, p. 900). Thus, a Diplomatic Space is created (see First Space, 2 Diplomacy, p. 1116) between the positions, which creates the opportunity for issuance of Thesis Statements (see Dialectic Diplomacy, 2 Reformation, p. 1391).

On the fourth Regular Turn of the game, the Broccoli Grower’s Association received a Thesis Statement: “I don’t like broccoli! – signed George H.W. Bush.” Authorship of Thesis Statements is secret, but the Thesis Statement text can be seen by the Broccoli Grower’s Association (see Conspiracies & Counter-reformations, 2 Reformation, p. 1391). If the Broccoli Grower’s Association has not had First Contact with anyone else by turn three, the authorship will be obvious, if they have Diplomatic Spaces with other positions as well, they still may guess that the Cauliflower Lover’s Guild lodged it.

- ✓ This Thesis Statement would have been issued by *someone* before the Broccoli Grower’s Association’s fourth Regular Turn was processed, but *after* the third Regular Turn. In any event, the Thesis Statement is not ‘caused’ by the issuer (see Dissonance, 2 Reformation, p. 1392), but are natural, neutral forces in the game, and thus there should be no in-game retaliation.

The Concierge had decided on an Ontic Scale of 1-10 for the game (see 2 Reformation, p. 1394). In grading the Thesis Statement – that is, assigning an Ontic Number – the Concierge decided that it meets a minimum criteria of expressing vague general dissent in a civilization, but nothing more specific to the game position. Thus, the Thesis Statement is assigned an Ontic Number (‘weight’) of 1. The weights assigned by the Concierge are secret and cannot be seen by the Broccoli Grower’s Association (see Ontic Numbers, 2 Reformation, p. 1394).

- ✓ By deciding on an Ontic Scale of 1-10, the Concierge has abdicated the option of giving a Thesis Statement a ‘weight’ of 0. This is a matter of taste and how frequently Reformations are desired in the game; any properly-issued Thesis Statement will receive a value of at least 1, advancing the chances of Coalescing a Reformation as no dissent will be given zero value.

Everyone is too busy building, exploring, loading, and landing for the next several turns to lob bombs, so at the end of the second and each subsequent Regular Turn processed by the Broccoli Grower’s Association, there is a 10% chance that the Reformation will Coalesce (see Pontic Event, 2 Reformations, p. 1395) as 1 is 10% of the top number 10 on the Ontic Scale of 1-10.

Although something *could happen*, nothing does happen much to the relief of the Concierge who is busy Poking, Pulling, and Pushing the early game along (see Acts of Intervention, *et seq.*, 2 Entropy, p. 235).

On the tenth turn, after establishing Diplomatic Space with multiple players (and fighting a short combat with The Cauliflower Lover’s Guild in Floret system) the Broccoli Grower’s Association received the following Thesis Statement lodged against it: “Ignorant and wicked are the doings of those Broccoli Growers who, in the case of the dying, reserve canonical penances for purgatory.” Recognizing this as a parody of Disputation No.10 of Martin Luther’s 95 Thesis, the Concierge decides that this represents at least a deeper resistance than the first statement, possibly implying tyranny of the Broccoli Growers over the worker population, even after death.

- ✓ Likely, this is a complete ‘shot in the dark’ from a position that knows little or nothing about the target, but it might also relate to News Events (but not in retaliation), e.g., the Broccoli Growers may have activated their Taxation and Order Powers frequently in the first ten turns of the game, constituting an appearance of tyranny. See discussion, Dialectic Diplomacy, 2 Reformation, p. 1391.

Hmmm... the Concierge gives it an Ontic Number weight of 2 after some internal debate. There is little to work with in interpreting the two Thesis Statements should the Reformation Coalesce, which will likely happen in a few turns. The total value of Thesis Statements lodged against the Broccoli Grower’s Association is 3, which is 30% of the top value of the Ontic Scale of 1-10. At the end of the Regular Turn, and each subsequent Regular Turn, there will now be a 30% chance that a Reformation will Coalesce against the Broccoli Grower’s Association.

Up to this point, the Broccoli Grower’s Association has been vegetative about the situation, neither forcing other positions to eat broccoli nor spraying water to keep from being wilted. On Turn 11, the Broccoli Grower’s Association, with an unused Power Activation for the turn, finally lodges a counter-reformation Thesis (i.e. a Thesis against itself) which reads, “Eating Broccoli builds character; George H.W. Bush became president.” This follows a defeat of the Cauliflower Lover’s Guild attack on a Broccoli Grower’s Association colony in Floret system.

The Concierge interprets the counter-reformation Thesis as being an argument directly against the one issued by the Cauliflower Lover’s Guild on Turn 4 and thus assigns it an Ontic Number (‘weight’) of -1 so that the two cancel out. See Conspiracies & Counter-Reformations, 2 Reformation, p. 1394. Although they are clearly at war, since the Thesis was issued as a counter-reformation, the Concierge does not interpret it as ‘retaliation’ against the Cauliflower Lover’s Guild for in-game events (see Dialectic Diplomacy, 2 Reformation, p. 1391).

The -1 value assigned to the counter-reformation Thesis Statement reduces the total value of Thesis Statements to 2 ($-1 + 1 + 2 = 2$) giving a 20% chance for a Reformation to Coalesce each Regular Turn. The Broccoli Grower’s Association continues to avoid the boiling pot; no Reformation coalesces in the eleventh or twelfth turns of the game.

Then the head of broccoli hits the hot water! Between the twelfth and thirteenth turns, a Thesis Statement is issued against the Broccoli Grower’s Association which reads: “The Ester Broccoli Project is symbolic of government corruption and is attempting to manipulate the genetics of the Broccoli-head population without their consent to make them more plastic.” This is a Thesis Statement written by a position that has some knowledge of the Broccoli Grower’s Association position; the Ester Broccoli Project is a Corporation operated by the position with the goal of

maximizing RPs from Taxation Power Activations. The issuer may have learned the name of the Corporation and may have some details of the articles from an Information Operation (see I Spy, 2 Information, p. 1348) or maybe it was mentioned in some informal communication (see Greys Diplomacy, 1 Diplomacy, p. 1097) or in a News Event.

- ✓ With a little tweaking, this last Thesis might have been issued as an adverse News Event, but the issuer cared enough to make sure it got through without being modified or blocked... (see Dissonance, 2 Reformation, p. 1392). When you care, send chocolates!

In any case, this is much different, much more specific than the two previous Thesis Statements that were lodged, so the Concierge issues a ‘weight’ (Ontic Number) value of 3 for this one. Combined with the previous three Thesis Statements, the chance of Coalescing a Reformation is now 50% per Regular Turn ($-1 + 1 + 2 + 3 = 5$). Drumroll please ... A Reformation Coalesces on Turn 13.

- ✓ Counter-reformations are always a step behind because there must first be a reformation to counter – by definition, like move and countermove, otherwise, it’s shadow boxing. In the case of counter-reformation Thesis, there must have been a Thesis Statement lodged, even if not directly being countered. See Conspiracies & Counter-Reformations, 2 Reformation, p. 1391.

Turn the page.

Now that a Reformation has Coalesced, the Concierge has a task to perform. The task of the Concierge is in two parts: First the Concierge must determine how many Interventions to use and fashion a ‘program’ to happen in the next few turns representing chaos of the Reformation. Afterward, the Concierge will need to make a Collage out of the Thesis Statements and otherwise determine the long term outcome of the Reformation on the position.

- ✓ The Concierge is not required to inform the target position that a Reformation is occurring until the end, see The Ink Had Scarcely Dried, 3 Reformation, p. 1399.

A total of four Thesis Statements are lodged before the Reformation Coalesced; three by Cauliflower worshipping aliens (or their purple colored friends) and one counter-reformation thesis issued by the Broccoli Grower’s Association. The values of the Thesis Statements are irrelevant now. This suggests that at least four Interventions be used to ‘resolve’ the Reformation in short order, *Id.*, with priority being given to Intervention Potentials Plus (IP+) against the position which each count as two Interventions.

As it turns out, the Broccoli-heads have two unused Intervention Potentials Plus against their position from two Social or Estate Titles that were disrupted in the last two turns, one each Regular Turn (see Changing of the Gardner, 2 Disruption, p. 271). This is possibly a reason why more aggressive counter-Thesis were not issued, a disrupted Government Title provides no Power Activations (see Foreclosure of a Dream, 3 Government Titles, p. 615) and they needed all of the ones they had to do other things in the game. Or maybe they were just vegetables...

The Concierge decides on a two turn, four Intervention Program. On the first turn of the Reformation, a Pull Intervention is used with a Special Bulletin indicating the continued presence of a secret pre-game *cultivar group* that promised to bring Enlightenment to the Broccoli-head population, and that was thought to have vanished.¹ This is possibly in relation to an IP+ that was

¹ Perhaps similar to another vegetative organization, the Rosicrucian. ☺

caused by the failure of a Government Title that has some relation to the Special Operations Power, police or security. The effect of this Pull Intervention on the position is the inactivation of a Constructural Element on the Homeworld (this is a Homeworld Primal State position). On the same Regular Turn, a Poke Intervention is used as well, inactivating a Constructural Element on the only warship currently protecting the Homeworld system. Maybe a purge occurred, changing the soil?

- ✓ Although only two Constructural Elements have been inactivated, there could be significant ramifications and ripples from this, the least being the necessity of activating the Culture Power for the purpose of Cohering (see 5 Culture, p. 421). If the Homeworld is the Capital Colony, it could lose Capital status with an inactive Symbolic Constructural Element (see Waving the Flag, 2 Constructural Elements, p. 190) or it could fail to pay taxes if the Taxation Power is activated (see Tax Revolt or Revolting Taxes, 1 Taxation & Census, p. 297). The ship could fail to move (even after a second check, see Engines Offline, 1 Movement, p. 839), or be unable to receive Enlightenment (see Skool Tyme, 2 Constructural Elements, p. 190). There are many possible long-term ripples including slowed technological research, sparse College Endowment, disruption of Government Titles. All of which are *irrelevant to the Concierge* in resolving the Reformation...

On the second Regular Turn of the Reformation, the Concierge issues a Push Intervention Special Bulletin suggesting that the pre-game history of the Major Races are not entirely accurate (in the Reformation resolution, this relates generally to the secret pregame cultivar group), giving the game a gentle nudge to develop this as a story-line or a nod to the players (with a sardonic smile) that the Concierge intends to pursue this more broadly. The second Intervention of the second turn of the Reformation is another Poke Intervention causing the loss of two Resource Proficiencies (possibly in relation to the ester) from the Broccoli Grower's Association Public Space.

- ✓ Assuming the Proficiencies were placed there for a purpose, because it costs RPs and a Power Activation of the Culture Power and takes up Monads on the Public Space, this will also likely adversely affect the position down the row a ways.

Now, what actually happened ... the plot of the historical drama that led to these four Interventions, is up to the participants to play or figure out if they choose. GGDM is a game of events without literary characters, see Buzzing Lightyears, *et seq.*, 4 The Streams of Time, p. 101.

Turn the page.

After or during the time that the Reformation is occurring, the Concierge must take the Thesis Statements behind the Reformation and make them into a Collage that will guide the position for the remainder of the game. See Here I Sit, 3 Reformation, p. 1399. The four Thesis Statements are:

1. "I don't like broccoli! – signed George H.W. Bush."
2. "Ignorant and wicked are the doings of those Broccoli Growers who, in the case of the dying, reserve canonical penances for purgatory."
3. "Eating Broccoli builds character; George H.W. Bush became president."
4. "The Ester Broccoli Project is symbolic of government corruption and is attempting to manipulate the genetics of the Broccoli-head population without their consent to make them more plastic."

Hmmm... This is an art, not a science. The Concierge is allowed to consider the Thesis Statements in all parts, and is not required to disregard 1 and 3 because they canceled out. There may also be some in-game history and the overall story arc to consider (which without detailing the entire game, cannot really be addressed here). The central theme of this seems to be a failure of supra-legitimacy, i.e. a failure of security in the form of the government being infiltrated by the Ester Broccoli *cultivar group*, the attempted alteration of the species without consent, and added to this is perhaps a touch of religious indignation over a possible form of slavery or bondage of the population through spiritual means.

Not all issues need to be ‘resolved’ (see Here I Sit, 3 Reformation, p. 1399). The Collage issued by the Concierge reads: “Be on your guard; stand firm in the faith; be Broccoli-heads of courage; be strong. Hath always before you on your Public Space Police and Integrity Proficiencies.”² The Collage is a new rule for the position to which it applies (see A Soul From Purgatory Springs, 3 Reformation, p. 1401), violations of which may lead to assessment of an Intervention Potential Plus (IP+) against the position. In this case, it seems to require diligence (that is, not being a vegetable) and at the least, maintaining one each of Police and Integrity Proficiencies on the Public Space. This occupies two Monads permanently on the Public Space and prevents the position from using all of those Proficiencies at any time (or having them all in Fuzzy Groups), which is kind of a pain in the butt, all to keep the public perception of diligence.

- ✓ News Events are not considered violations of the Collage. *Id.*

Last page...

Finally, along with the Collage, the Broccoli-heads also have an opportunity to gain Monads on the Public Space as a result of the Reformation (see Built Spaces, 3 Reformation, p. 1401). There is a 50% chance for each Interpretation used in resolving the Reformation that a new space will be gained. Luckily, the Broccoli Grower’s Association gained three new Monads from four Interventions used (take that Cauliflower Lover’s Guild!). This can be viewed as a ‘net gain’ of one over the two Monads that now must be permanently occupied by Proficiencies.

The new Monads must be inserted randomly, which will cause movement of pieces already on the Public Space (see Mental Space, 3 Reformation, p. 1402), possibly disrupting Research Groups, Fuzzy Groups, Pathways (which will automatically be re-established even if things have to be moved, see The Claaaw is Our Master, *et seq.*, 2 Government Titles, p. 597). Three Monads being inserted can move a lot of pieces, the earthquake isn’t over until the dishes stop rattling.

At this point, the Thesis Statements that led to the Reformation are ‘expended’ and set aside, they will not count toward the next Reformation (in terms of Ontic Numbers), it’s a clean dinner plate (see A Soul from Purgatory Springs, 3 Reformation, p. 1401).

Broccoli #1: No one likes me, what should I do?

Broccoli #2: Wear some cheese.

² For anyone who is curious, this is a parody of 1 Corinthians 16:13.

Appendix S&P – Surveillance & Probing Example

Headknockers' Reconnaissance Fleet 1 consisting of three Scout Ships arrived in an unexplored system that is the known location of the Crowd-Funded Civilization's Capital Colony (see Capital Colony and Capitol Declaration, 2 Order, pp. 532-533). They are 'looking' for Longcount Colony Transports that 'escaped.' One Scout Ship has an expendable PROD enhancement, a technology developed in-game by Headknockers.¹

Each Scout is required to make a Hazard Roll separately upon entering an unexplored system. The die rolls are 1, 5 and 3, two Scouts are destroyed. However, in anticipation of this danger, Headknockers committed one Enlightenment to the Expansion Power Activation for the purpose of Scouting that initiated the Scouts' movement to the Capital System, so one failed die roll is rerolled, and the result is a 6. Thus, only one Scout is destroyed exploring the system, and two survive. As at least one survived, the system is automatically explored (see Then Never Comes, 3 Expansion, p. 907).

Observation (automatic)

Observation by the Scouts shows two colonies in the system, one is the obvious Capital Colony owned by Crowd-Funded Civilization (probably the clue was the giant flag with the green K) and a colony on another planet owned by Longcount. Ownership shown is not always the same as the Native Population on the planet. Further, the Scouts observe, as expected, ten orbital installations around the Capital Colony, two Orbital installations around the Longcount colony (numbers, but not types), and surprisingly, the only other ship in the system is a Cargo Ship belonging to Crowd-Funded Civilization. See ABBA Arrival, 2 Information, p. 1340.

- ✓ All of this information will be shown on Headknocker's turn results, and of course, Longcount and Crowd-Funded Civilization will see the Headknocker Scouts (and possibly drifting debris) when they receive their next turn results. *Id.*, p. 1341.

Surveillance

No warships protecting the system! Since there is no one to chase us off, Headknockers decides to do a peaceful Surveillance with two Scouts in the system on the next turn, using an activation of the Special Operations Power for the purpose of Reconnaissance with one Act (see Pistols & Posies, Patience, 2 Information, p. 1342). No check is made for Power Activation failure because a Scene was not required or used, see Acting Lessons and Making a Scene, 1 Special Operations, p. 1274.

Both Scouts are eligible to participate in the Surveillance, see Private Eyes, 2 Information, p. 1342, as they are not currently "fighting, running, cowering, cargo, landing or leaving." *Id.* No immediate report will be obtained on the turn of the Surveillance activation, but on the next Regular Turn after results for Headknockers, the report will be available as a snapshot of what happened between Regular Turns (see Taking It All Down, 2 Information, p. 1343). Headknockers also decides that this is very important and activates a Writ related to the Reconnaissance in the same turn, giving all units double chances at Surveillance that turn.

¹ PROD – Probing Residuals of the Dead.

- ✓ The Writ represents a non-technological specialization of Headknockers in Reconnaissance action that is paid for by the actualization and removal of a Fuzzy Group. Headknockers may be doing Surveillance elsewhere in the same Regular Turn; it may also be necessary to free up Monads on the Public Space. All of these could be a factor.
- ✓ Further, activation of the Writ satisfies the Interpretation requirement for the Special Operations Power activation on the same Regular Turn, meaning that no News Event must be published (but one must be provided, just in case), see Writ of Extent, 3 Writs, p. 444. This might be especially useful in this case of snooping on someone...

On the third turn in the system, the two Scouts report that the Cargo Ship departed and another was launched by Crowd-Funded Civilization – Surveillance first reports changes in what is seen by regular Observation and this would have been noted by *regular Observation*. Obviously, Crowd-Funded Civilization constructed a new Cargo Ship at their Capital Colony, which is nothing especially surprising. There are still no other ships in the system.

Normally, each ship involved in Surveillance has a 10% chance to obtain information not available by normal Observation; the more ships involved, the better. Because of the Writ however, each Scout will have two chances at 10% on the turn the Writ was activated with the Power Activation. Probably because of the Writ, one Scout confirms that the Longcount colony has 30 RPs of Fighters, 10 Industry and a 10 RPs Ground Unit, see Field Reports, 2 Information, p. 1343.

- ✓ Information on the Native Population Type of the Longcount colony is still not known, but is highly likely to be Longcount Native Population Type. It is certain however, from basic Observation, that the planet is not Balkanized.
- ✓ The Longcount colony is obviously old; it is much larger than a colony that would have recently been established by the escaped Colony Transports. Thirty RPs of Fighters alone indicates a colony that must be at least 30 population (see *How Big is Your Flight Stick*, 1 Carriers & Fighters, p. 1050). Further, the Colony Transports are not in the system; had they simply Unloaded Population to the colony, they would still exist (see *Opening the Can Of...*, 3 Expansion, pp. 914-915).

On the fourth turn in the system, normal early game Scouts with the Ship Systems Existential Patent would be running out of Operational Supply Limitation (OSL) (see *Imperial Interstellar Scout Service*, 3 Movement, p. 855). Whether or not Headknockers has improved their Ship Systems Existential Patent, they decide to send one Scout to Probe each colony. You know, since nobody seems to mind...

Probing

The Special Operations Power is again activated in the system using one Act for the purpose of Reconnaissance and both Scouts are assigned to Probing (see *Private Eyes*, 2 Information, p. 1342). One Scout is targeted to each colony in the system for a ‘closer’ look, see *Flyby*, 2 Information, p. 1346. Additionally, two Enlightenment are also assigned. Which should we do first?

On the approach to the Longcount colony, there is a 50% chance that each defending unit will be able to execute one normal fire against the Probing unit, see *Bloody Noses*, 2 Information, p. 1346. So the first determination is what is available in defense, and can they fire? The Longcount colony has two orbital facilities (this is known from Observation, see previous), one of which is an Orbital Shipyard and the other is an Orbital Defense Base. It is also known from the previous Surveillance that the colony has 30 RPs of Fighters. The colony has no other defenses

(though it could have unknown defenses) so there is a 50% chance that each of those will be able to fire at the approaching Scout.

The Orbital Defense base is unable to fire (the crafty Scout stayed on the other side of the planet on approach) but the 30 RPs of Fighters catch up. Enlightenment cannot be used here as it cannot be used to affect opposing position's rolls. Further, no Combat Power activation is necessary for the defenders to fire at a Probing ship (see *Bloody Noses*, 2 Information, p. 1346).

Normal Fighter combat ensues with two Sorties attacking the Probing Scout. As two Sorties are attacking one target (a 'concentrated attack'), each Sortie counts at 75% of the 30 RPs strength, so each attacks at 22 RPs (see *Blacksheep*, 2 Carriers & Fighters, p. 1054). The Effectiveness Die roll for each Sortie, however, is horrible, a 1 and a 2 are rolled, converting to .1 and .2 Effectiveness which is multiplied by the RP value and the resulting number is converted directly into a chance to hit expressed in percentages (see *Fighter Combat*, 2 Carriers & Fighters, p. 1054). The first Sortie thus attacks at 2.2 % (22 RPs x .1 = 2.2 converted directly to a hit percentage) and the second at 4.4 %. They are 1st Era Fighters so the chance to hit is multiplied by 1.5 to 3.3% for the first Sortie and 6.6% for the second Sortie. Fractions are truncated, giving the Fighters a 3% and 6% chance to hit the Scout. The Scout has a natural one Defensive Shift in any combat, which subtracts 10% from the chance to hit by the Fighters... neither of them hit.

- ✓ As this was a Probing defense, there was no Power Activation and Enlightenment cannot be used to re-roll the Effectiveness Rolls (see *Bloody Noses*, 2 Information, p. 1346).

The Scout Probing the Longcount colony escaped without a scratch on the Headknockers logo, so has a 15% chance of obtaining information in *each category* of the seven found in *Field Reports*, 2 Information, pp. 1343-1344. As such, the Enlightenment assigned to the Probing action will easily be used to reroll the first two failed category die rolls; there are seven categories to check at 15% chance each. See *The S-2*, 2 Information, p. 1347.

The Probe of the Longcount colony is successful in learning information in two categories: It is confirmed to be a Friendly colony (for Longcount) with an Orbital Shipyard and Orbital Defense Base. This latter information would not have been clear from the defensive fire against the Probing Scout as the Scout would only learn normally the units that fired at it. Taken with the Surveillance information obtained previously, Headknockers has a decent read on the Longcount colony.

- ✓ The Probing does not cause a Disruption Event at either target colony, see *The Burning Sky*, 2 Disruption, p. 275 and *Alien Probes*, 2 Information, p. 1346).

The Scout with the expendable PROD enhancement runs into a fusillade of flak at the Crowd-Funded Civilization Capital Colony. All three 2nd Era Orbital Bases fire at the Probing 1st Era Scout (which has one Defensive Shift against each to offset the Era differential shift, see *Combat Shifts and Civilian Targets*, 3 Combat, both p. 978) and one scores a 'Hit' on the Scout forcing it to turn away (Probing defense is not 'combat,' see *Bloody Noses* and *Results Rolling In*, 2 Information, pp. 1346-1347).

- ✓ Either Crowd-Funded Civilization got lucky or based on average results at 50%, there were three others (Orbital and System Bases, Fighter Complements) which couldn't fire at the Probing Scout.

The PROD Scout which is turned away still has a 5% chance of gaining information on each of the seven categories (see The S-2, 2 Information, p. 1347); however, the PROD expendable enhancement doubles the chances of any Probe discovering information by reading the mental residuals of the recently deceased at the colony. As a result, Headknockers learns that the Crowd-Funded Civilization Capital Colony has currently 193 population factors, including 23 on a 1st Era Orbital City!

- ✓ Wow! How is that possible?

Taking Selfies

Both colony owners, Longcount and Crowd-Funded Civilization, will be informed of the Probing attempt (see Bloody Noses, 2 Information, p. 1346) on their respective colonies (and probably will inform each other) but not what was learned, with a 50% chance of properly identifying the offender. Between the two, it is likely that blame will be properly pinned (if it is not obvious, regardless of the die rolls as Headknockers' Scouts were the only other ships in the system) and what happens subsequently is the game...

- ✓ In addition to the huge – impossible – population of the colony, Headknockers also learned that the Capital Colony has at least three 2nd Era Orbital Defense Bases, an Orbital City, and an Orbital Shipyard (required to build the other orbitals), accounting for five of the ten known orbital installations observed initially at the Capital Colony.

Both Scouts survived the Probing action, but the PROD enhancement is expended. The ostensible purpose of the mission – finding the escaped Colony Transports – has failed here, but a large amount of information has been gleaned and a pair of anthills kicked over. Is it time to leave now? What will Headknockers do with the Scouts next turn? Fly before the cops arrive?

- ✓ Did you bring the selfie-stick?

Appendix SO & IO – Special Operations & Information Operations Example

Zager and Evans are both Lost Colonist positions related to Zooty, thus they share the same Native Population Type biologically, with significant pregame cultural drift (see Lost Colonist, 6 Beginnings, p. 63). The backstory of their ancient pre-game connection has not been much explored in the game, but Zager has First Contact with Zooty (see Bump in the Night, 1 Diplomacy, p. 1099), who is executing a sit-n-spin game (see 2 Taxation & Census, p. 309) and is slightly xenophobic; Evans has not had contact with Zooty, but hasn't gone looking either.

Despite Zager's initial suspicions, the relationship with Evans has been good throughout the game and when the game turned 21, they both had long-established native Friendly colonies in the same system on different planets, and had formed a two-position MegaCorporation (see 2 Corporations, generally) for the purpose of Trucking Transactions (see 4 Commerce, p. 1125) between the colonies using Zagers' Cargo System Boat with Evans' colony Hosting the MegaCorporation.

Recruiting (Turn 21)

On Turn 21, Zager attempts to Recruit ten Special Operations Missions, using one Act and committing 5 RPs per Mission (see Jobs for Jackals, 2 Special Operations, pp. 1290-1291), costing 50 RPs total (that's a serious amount of RPs!). Zager thus has a 45% chance of recruiting each Mission and does not commit any Enlightenment, but luckily, recruits seven SOMs (Special Operations Missions). These SOMs are non-specific, non-locational until Lodged. *Id.*

- ✓ RPs may be committed to each Recruiting attempt, thus the minimum is 1 RPs per attempt, with the minimum chance of success at 37%. There is no, 'let's see what we can get for free' in Recruiting SOMs in GGDM.

Bridge to Nowhere

Having successfully Recruited SOMs on Turn 21, Zager is committed to attempting to Lodge them on Turn 22. Newly recruited SOMs do not 'age-out' on the turn they are Recruited, but will possibly age-out afterward, and thus should attempt to be Lodged immediately in order to obtain a second turn of aging-immunity due to being newly Lodged (see Ralph Wolf & Sam Sheepdog and Punching Time Cards, 2 Special Operations, both p. 1296).

There are two options for 'bridging the gap' from potentials to placement of the Recruited SOMs on the Evans colony: Zager could use the MegaCorp's Cargo Boat, requiring a second turn to re-lodge them on the Evans colony (see Shipping & Freight, 2 Special Operations, p. 1295) or Zager could just try to Lodge them directly at the target colony. There must be a conceptual path to Lodging, see Walking to the Moon, 2 Special Operations, p. 1294.

Any attempt made to Lodge the seven SOMs on the Cargo System Boat (a 'friendly unit') is effectively automatic (perhaps a crew change on the Cargo Boat...), the Concierge does not see any reason to use an Intervention (see French Vanilla, 2 Special Operations, pp. 1292-1293).

- ✓ Zager was able to use an Act for each Special Operations Power Activation, thus avoiding any potential Power Activation failure. The first activation for Recruiting is inherently non-location specific and thus did not require a Scene instead of an Act.
- ✓ *If* the second activation attempted to Lodge the Missions on a Cargo System Boat belonging to a MegaCorporation of which Zager is the other member and the Cargo System

Boat was Zager's sovereign ship and is 'at' his sovereign colony, thus an Act can be used here as well. See Acting Lessons, 1 Special Operations, p. 1274.

Lodging (Turn 22)

Perhaps because time is pressing (not to mention the cost of another Power Activation), Zager decides to try to Lodge the SOMs directly to the Evans colony. The Concierge sees nothing extraordinary about a position that shares a starsystem and MegaCorporation with another trying to Lodge SOMs on the opposing colony, and decides that the situation can be handled by normal Lodging rules and percentages.

The base chance is determined first by the number of Diplomatic Spaces shared by the two positions, which is currently eight, thus the base chance is 24% at 3% per Monad. The two colonies share the same Native Population Type (because they are related as Lost Colonist), thus 6% is added to the chance, making a 30% chance of each SOM being successfully Lodged on the Evans colony. To this, Zager adds 1 RP for each Mission Lodging attempt (costing 7 more RPs, total cost now 57 RPs, plus 2 Power Activations), raising the chance to 45% for each Mission to successfully Lodge. Finally, as the Evans colony also Hosts the Zager & Evans MegaCorporation, 10% is added, for a final of 55% chance for each SOM to Lodge at the Evans colony. See French Vanilla, 2 Special Operations, pp. 1292-1293. Zager also adds 3 Enlightenment to the Lodging operation.

The die rolls for each Mission Lodging attempt are made, the results are 30, 64, 51, 9, 45, 92, and 42. Thus, five of the seven SOMs have successfully Lodged on the Evans colony. There is a 50% chance for each failure that an Enlightenment may be applied to re-roll (see Jobs for Jackals and French Vanilla, 2 Special Operations, pp. 1290, 1292). In this case, both Enlightenment were able to be used, and both re-rolls succeeded in Lodging their Missions, so all seven SOMs were Lodged on the Evans colony on Turn 22.

- ✓ Any Mission that had failed to Lodge would have been lost, see Punching Time Cards, 2 Special Operations, p. 1296.
- ✓ The third Enlightenment is not lost for being unused and is returned to its College, see Jobs for Jackals, 2 Special Operations, pp. 1290-1291, but the two that were used are removed.

Femme Fatales

In between turns, the Concierge exercises an Intervention Potential at the Evans colony, posting a Poke Intervention Special Bulletin telling a story of a sordid affair between femmes fatales at the Evans colony that results in the elimination of a Counter-Operation Mission and two alien Special Operations Mission at the colony (see Acts of Intervention, 2 Entropy, pp. 235-236). Since Zager is sure that theirs are the only SOMs on the target, Zager assumes (which will be confirmed in the subsequent Regular Turn results) that two of their SOMs was eliminated. The good news is, a COM was also eliminated.

- ✓ The Intervention was not 'caused' by the Concierge, it is a neutral event.

Because the SOMs were Lodged this turn, they are still 'immune' from 'aging-out,' e.g. the usual: the guy with the cigar with the encrypted messages inside got stuck in an elevator that happened to free fall 70 floors on a planet whose gravity is 1.2x that of Earth... the other guy got

involved with youth protesters and was shot by police. See *Punching Time Cards*, 2 Special Operations, p. 1296. Anyway...

Information Operation (Turn 23)

With five remaining SOMs Lodged on the Evans colony on Turn 23, Zager decides to look around and see what all the hubbub is about. The Special Operations Power is activated for the purpose of Information Operation using all seven SOMs on the Evans colony (though Zager suspects that there are only five). The question asked is, “Is there a technological device on the Evans colony?” This satisfies the requirements of being a specific question that lists a specific area or location, see *Reliability Rating*, 2 Information, p. 1350.

- ✓ Why would Zager ask this question? Who knows? Maybe it was hinted at by some game event, maybe some birdie whispered in their ear, or maybe one of the position players had a strange dream about the game.

As it turns out, Evans has three Counter-Operations Missions assigned to protect the Technological Device on the colony. Each of these has a 50% chance of ‘soaking off’ (i.e. blocking) one of the Zager SOMs during the Information Operation (see *Secret Services*, 3 Special Operations, p. 1323). Zager was unable to assign Enlightenment to the Information Operation because they are automatically successful unless blocked (see *Information Operations*, 2 Information, p. 1349). Evans is likewise unable to assign Enlightenment because the Target Protection blocking is not a Power Activation, as the assignments had already been previously made during Evans’ Regular Turn.

As a result, three of the five SOMs execute their mission, unblocked. Had only one or two SOMs been used, all would have been blocked. It only takes one unblocked SOM to be automatically successful in an Information Operation. The Concierge looks at the question being asked (a single question, single location) and the number of unblocked SOMs, and decides that it has a high reliability rating of 8. The Turn 23 Information Operation results inform Zager that a Technological Device called *The 2525* exists on the colony, it is complete and operational, and it is rumored to be immensely powerful. Zager assumes it is probably a weapon.

- ✓ The COMs are not affected by the blocking (see *Police Pensions*, 3 Special Operations, p. 1322).

At the end of Turn 23, both sides may age-out (see *Ralph Wolf & Sam Sheepdog*, 2 Special Operations, p. 1296 and *Police Pensions*, 3 Special Operations, p. 1322), and as a result, one COM is lost and two SOMs were lost, leaving three SOMs (probably the children of resistance families carrying on) and 2 COMs Target Protecting *The 2525*.

Information Operations are also subject to Plausible Deniability, see *Information Operations*, 2 Information, p. 1349. As an initial threshold matter, the Concierge determines that there is no reason it would have been automatically noticed, despite two SOMs being blocked by Target Protecting COMs (i.e. no dead bodies). Thus it is left to a 50-50 die roll to see if the operation was noticed and in fact, it was noticed. The SOMs that avoided the blockers weren’t as clever as they thought they were! See *Plausible Deniability*, 3 Special Operations, p. 1314. Although Evans is aware that something happened, the die roll (50% chance) indicates that they are unable to officially blame anyone (though the position players certainly suspect Zager, as the one with the greatest opportunity). See *The Blame Game*, 3 Special Operations, p. 1315.

- ✓ This may result in some informal diplomacy, does Evans contact Zager and ask what WTF pal? Does Zager respond or cut the channel? Maybe Evans pings some other positions, perhaps starts lining up allies?

Black Op (Turn 24)

Much to ponder here on both sides for Turn 24. For reasons not clear, Zager decides to launch a warfleet toward the system using Combat Movement (arriving on Turn 25) and to attempt a Black-Op on the Evans colony on Turn 24. Perhaps the players of the Zager position think there is something important about Turn 25 from the name of the Technological Device, perhaps some are familiar with the song. Perhaps a Government Title change has occurred and the new Title has Conflict Checks that compel Zager to go to war with Evans (because other checks are failing automatically in the short term); perhaps all of the peaceful options in the Zager Foresight (the pool of potential Government Titles) has been exhausted (see Pool of the Abyss, 4 Government Titles, p. 630). Or perhaps the Zager position players are engaging in *groupthink*.

For the Evans position players, it is clear that they must at least perform a Counter-Operation at their colony and fortunately, in anticipation of COMs aging-out, some new COMs were recruited at the colony. The decisions beyond that are what else can or should be done, based on what they think might be the danger, or if there is any danger at all, to *The 2525*. Unable to come to a consensus, and running out of time in their Turn Period (see The Law of Periods, 2 The Streams of Time, p. 84), they submit actions only activating the Special Operations Power at the colony for the purpose of Counter-Operations. And wait to see what happens next.

- ✓ If actions are being *batch processed* by a computer assistant in a way that actions of all positions submitted on the same day or days, are being grouped by sequence of Power Activations (see Clockwork Universe, 3 The Streams of Time, p. 90), Zager's Black-op requiring just one Act will process before Evans Counter-Operation requiring just one Scene. This example will pretend that the Regular Turns of Zager and Evans are being processed at separate times, with Evans going first, without further detail.

On Evans Turn 24, a Counter-Operation at the colony attempts to sweep away all SOMs. Because this is a Special Operation Power activation at a sovereign colony, a Scene must be used instead of an Act, and thus, there is a chance of Power Activation failure (see Acting Lessons and Making a Scene, 1 Special Operations, p. 1274 and Power Off, 2 Constructural Elements, p. 193). The Epistemological Constructural Element is currently the only inactive at the colony, giving a 20% chance of a local Power Activation failure, and Enlightenment cannot be used due to the failed Epistemological Constructural Element (see Skool Tyme, 2 Constructural Elements, p. 190). Evans ducked the problem on Turn 23 and was successful in recruiting new Counter-Operations Missions (COMs), but this time, it bites. There is no Counter-Operation on Evans Regular Turn, and thus, the numbers of COMs don't matter. Turn 24 just fell flat for Evans.

- ✓ Had the Counter-Operation Special Operations Power activation been successful, each Counter-Operations Mission would have had a 50% chance of eliminating one of the three SOMs (not to mention the long-lived and undetected SOM of one other position currently on the planet). See Spy vs. Spy, 3 Special Operations, p. 1323.

On Turn 24, Zager uses two activations of the Special Operations Power at the target colony, fueled by two Acts, for the purposes of Black-Ops. The first Black-Op is an attempt to steal the

Technological Device Patent for *The 2525* using two of the three SOMs on the colony. This information is included in the Profile of the Operation submitted to the Concierge, additionally, 5 RPs is added to enhance the possibility of success, however, no Enlightenment is spared (as that will be needed shortly for other tasks). See Profile in Perfidy, 2 Special Operations, p. 1300. The SOMs used will be lost regardless of the outcome of the Black-Op.

- ✓ Because a Black-Op has been instituted against the Evans colony, regardless of the outcome, an Intervention Potential (not IP+) is attached to the colony. No player entropy was generated for Zager's previous benign Information Operation. Because Evans Counter Operation failed as a Power Activation, no Counter-Operation occurred and thus no Intervention Potential was attached to the Evans colony as a result. See Vortex Manipulator, 1 Special Operations, pp. 1271-1272.

Evans still has two Counter-Operations Missions Target-Protecting *The 2525* on the colony. The first move belongs to the defenders who will each have a 50% chance to block the attacking SOMs (see Secret Services, 3 Special Operations, p. 1323). An average result, one SOM is blocked by the COMs protecting the target, while the other attempts to steal *The 2525* Patent. The base chance of a successful Black-Op is 30% (the second SOM, if not blocked, would have added 5%), and 10% is added due to the 5 RPs committed (see A Heartless Woman's .38, 2 Special Operations, p. 1301) for a total of one 40% chance to steal the TD Patent.

The first resolution roll failed and no Enlightenment was committed, there is no chance of a re-roll (reroll is not automatic, see Murder By Numbers, 2 Special Operations, p. 1302). The Patent was not stolen. However, a second roll is used in resolving the 'degree of success' of a Black-Op regardless of success or failure of the first roll. The Concierge rolls a 1d10 and the result is a 1; when the results are merged together, the operation is a dismal, catastrophic failure that even cyanide pills couldn't save. The Concierge reports to Zager that the operation was totally compromised, and concludes that there is no Plausible Deniability here, Evans automatically noticed (see Plausible Deniability, 3 Special Operations, p. 1314).

- ✓ The two attacking SOMs were eliminated, regardless of the result, see Profile in Perfidy, 2 Special Operations, p. 1300.

Further, the Concierge determines that there is a 50% chance (instead of 25% chance) that Evans will blame officially Zager, thus, there is a 50% chance of not being able to officially blame anyone, but if anyone is blamed, it will be Zager. The die roll is made, the result is 79%, and Evans is informed that their police believe that Zager attempted to steal the Patent.

Treason (Turn 25)

Mmmm, but Zager probably doesn't care at this point, because the warfleet is due to arrive on Turn 25. The second Zager Black-Op for Turn 24 is an activation for the purpose of Treason (see Treason, 3 Special Operations, p. 1310) using the last remaining SOM on the Evans Colony and 5 more RPs. At the end of Turn 24, there is a 50% chance that the SOM will 'age-out' (see Ralph Wolf & Sam Sheepdog, 2 Special Operations, p. 1296) but the SOM survives for another turn (probably down to the grandchildren by now!).

The Evans colony has a single System Defense Base (see Orbital Defense Base, 2 Construction, p. 668, and Colony Defense Bases and Something Here from Somewhere Else, 2 Combat, pp.

954, 960), a fully-loaded behemoth that could hold up the Zager attack fleet. The Profile submitted by Zager is simple: The SOM will seek to blow up the System Defense Base in the beginning of the first Combat Round. No Enlightenment was committed, it was all saved for Combat.

On Turn 25, the Zager attack fleet arrives and initiates combat against the Evans colony. If Evans took their Turn 25 first, they did nothing more in regards to Special Operations, but it is possible that if their Turn Periods overlap, Zager may have got their Turn 25 in first (see Lapping Effect, 2 The Streams of Time, p. 84). Colony Combat is timely initiated after arrival of the warfleet by Combat Movement when Zager submits their Combat Orders within 24 hours (see Run Away!, 1 Combat, p. 944) and a note that the Treason Black-Op should be resolved first.

The base chance of the Black-op against the System Base to succeed is 30%, there is only one SOM attacking, and Evans did not assign any COMs to Target Protect the colony Defense Bases. The additional 5 RPs committed add 10%, bringing the possibility to 40% (see A Heartless Woman's .38, 2 Special Operations, p. 1301).

- ✓ Because of the possibility of destroying the System Base by Black-Op from the target colony, Zager's commander decided on a straight Colony Combat rather than trying to isolate and defeat the System Defense Base in detail (see Rule 20 Permissive Joinder, 3 Combat, p. 973); if successful, there will be nothing to fire at in the first Combat Round and no return fire, other than possibly Colony Fighters (see Something Here from Somewhere Else, 2 Combat, p. 960). Which is a good result on any day.

The Black-Op is resolved in two rolls (see Murder by Numbers, 2 Special Operations, p. 1302) and again, the Black-Op failed (i.e. the System Defense Base was not destroyed). Still, there is a 'degree of success' second roll on a 1d10 and the result is a 9 this time. Putting the two together, the Concierge determines that while the attempt to destroy the System Defense Base failed, the lunatic who got to the command center with a gun and a million flying nanobots caused a lot of damage and distraction in the first Combat Round, preventing the System Defense Base from firing (both normal fire and Ship Missiles, see First Fire, 4 Carriers & Fighters, p. 1079).

- ✓ The System Defense Base will be back online and fully operational in the second Combat Round, but this absence may change the outcome of the entire combat.

In any event the remaining SOM is eliminated by performing the Black-Op (see Profile in Perfidy, 2 Special Operations, p. 1300), though Evans may not know that no enemy SOMs remain and may waste Counter-Operations looking for them.

Sordid Tales

So what exactly was *The 2525 Technological Device*, what was the big to-do? Nobody, except the Evans position players, knows; Zager may never figure it out, and it was not necessary to look or determine for this example. The Evans-Zager Special Operations war cost a lot of time and resources, amounted to almost nothing, and the slapping and hand-fighting led to a Colony Combat crisis. Perhaps that is not an encouraging sort of example for the game (see 'thief in the night' and Alsos Mission in Mission Critical, 2 Special Operations, pp. 1300-1301), but it was sufficient to cover the mechanics and motives.

Appendix T&C – Taxation & Census Example

On the Balkanized planet of PEACE are three unarmed colonies. The original colony was established by the Nation of Nadine for whom the planet is Optimal Habitability with 60 Maximum Habitability for the Nadine Native Population Type (planet habitability information is relative to Native Population Type, see Alien Agenda, 3 Taxation & Census, p. 317). The Nation of Nadine invited The Jenny Jovereignty to Land a trading post colony, which they did, the planet being Optimal Habitability with 40 Maximum Habitability for the Jenny Native Population Type. The Nation of Nadine was responsible for defense of the planet.

- ✓ The Landing of the Jenny Jovereignty colony on the surface of planet PEACE is a Disruption Event to the Nation of Nadine colony, with a 4% base chance plus modifiers (see Interesting Times, 2 Disruption, p. 272) of inactivating each active Constructural Element because permission was communicated to the Concierge before the Landing, see Forced Balkanization, 2 Disruption, p. 273.¹

Unfortunately, Helga Harmony attacked the Nation of Nadine colony and conquered it. But Helga then fell into dis-chord elsewhere with The Butt Sisterhood and had to withdraw all warships, allowing the Conquered Colony to revert to Nation of Nadine (see Conquered Colony, 2 Order, p. 539), Helga never met Gen. Tarkin. The colony was afterward declared a free interstellar trading post (sovereign to Nadine) and the defenses were not rebuilt, but several locals pledged to liberate it if it were attacked (that and \$1.50 will get you a cup of coffee in New York City). Shortly afterwards, a non-guarantor, Tina's Taco Empire Landed on planet PEACE without permission (no one could stop it, no defenses or warships in system), adding a third colony (see Survival & Ethical Dilemmas, 4 Expansion, p. 923). To the Native Population Type of Tina's Taco Empire the planet is Habitable Habitability with 20 Maximum Habitability.

- ✓ Tina's Taco Empire's Colony Transport was out of OSL and had to Land *somewhere*. A Colony Transport out of OSL will never refuse to Land (never fail the Expansion Power Activation for the purpose of Landing). See The Landing, 4 Expansion, p. 920.
- ✓ In order to move to the system via the Transport Population purpose of the Expansion Power Activation, Tina's Taco Empire needed a Scene on the star of the starsystem (see Colonization, 1 Expansion, p. 876) which means that the system must have been on the Tina position's Public Space at the end of a Regular Turn – a sovereign ship (probably a Scout Ship) or colony must have been in the system to place and hold the Scene there while the Colony Ships jumped to the system (see Canned Food, 3 Expansion, p. 913).
- ✓ The rude Landing of Tina's Colony Transport on the surface of planet PEACE was a Disruption Event to both the Nadine and Jenny Colonies, with a base chance of 8% plus modifiers (see Interesting Times, 2 Disruption, p. 272) of inactivating each active Constructural Element because permission was not communicated to the Concierge before the Landing, see Forced Balkanization, 2 Disruption, p. 273. As a result, a Constructural Element at the Jenny colony became inactive.

¹ The Disruption Event may assume xeno-microbes or may not, the game may assume that their medical knowledge is sufficient to overcome the problem (unlike our current knowledge), or the Concierge may choose to make it an issue by use of Intervention Potentials on the PEACE colonies. See Bad Exchanges, 4 Expansion, p. 924.

Time passes... On the Regular Turn that the Jenny Joverignty activates both the Census Power and the Taxation Power, the planet has 28 population factors of the Nation of Nadine, 3 population factors of Tina's Taco Empire (from the Colony Transport). Nadine has occupied 46% of the planet's Maximum Habitability (28/60) and Tina has occupied 15% of the planet's Maximum Habitability (3/20) pro-rated, together they occupy 61% of the planet's Maximum Habitability.

The Jenny Joverignty has a colony of 27 population at the planet, 12 of which are on the ground and 15 more are in an Orbital City (see Orbital City, 2 Construction, p. 667). The Jenny Joverignty brought in enough RPs on Cargo Ships to build an Orbital Shipyard (and had the minimum required population, see Orbital Shipyard, 2 Construction, p. 667) and the Orbital Shipyard constructed from additional Cargo Ship RPs an Orbital City, onto which was Loaded population from the colony (see Sardine Tins, 3 Expansion, p. 911) or Unloaded population from Colony Ships (see Opening the Can of..., 3 Expansion, p. 914). The 15 Jenny population factors on the ground take up 38% of the planet's Maximum Habitability (15/40) and the population on the Orbital City is not more than half of the planet's Maximum Habitability (see Dayworld, 3 Taxation & Census, p. 315), so only 1% of the Maximum Habitability remains for population growth...

- ✓ The Jenny Joverignty has undisrupted Government Titles associated with both Census and Taxation, so the Census Power will occur before the Taxation Power in the normal Regular Turn action processing sequence (see Life, Taxes, Death, and Taxes, 1 Taxation & Census, p. 296). The Jenny Joverignty is required by a Government Title with a single Conflict Check² to activate the Census Power or the Government Title will fail (e.g., ICT1 #2 or #3), so it has to happen regardless of consequences. See Foreclosure of a Dream, 3 Government Titles, p. 615.

Jenny's Census Power Activation processes first. Normally, 15 population on an Optimal Class Planet would grow 3 population factors with each Census Power Activation (see Optimal Planets, 4 Taxation & Census, p. 325), however, there is not room for even one more population on the surface, so population growth fails due to Maximum Habitability limits (Tina has got to go!..., see Dayworld, 3 Taxation & Census, p. 315). Failure to grow population during Census due to Maximum Habitability limits is a Disruption Event at the colony (see Peaches for Mad Molly, 2 Disruption, p. 273) with a 3% base chance of losing each active Constructural Element to inactive status.

- ✓ To this base chance might be added various other modifiers, specifically, 3% is added if the Jenny Joverignty has four Government Titles, and 6% if five Government Titles. Five percent would be added if any Government Title is disrupted, while 2% would be added if the position had a Disruption Event anywhere on the previous Regular Turn, and is 8% added if the PEACE colony suffered a Disruption Event the previous turn. See Interesting Times, 2 Disruption, p. 272.

The two active Constructural Elements at the colony pass the Disruption Check and remain active; the Jenny population is currently in agreement with the local zero-population growth policy, despite the imperatives of the interstellar government.

- ✓ Population on the Orbital City does not grow during the Census, see Cabin Fever, 4 Taxation & Census, p. 326.

² It is possible for a Government Title to have a single Conflict Check, see Foreclosure of a Dream, 3 Government Titles, pp. 615-616.

Unlike the Census Power, the Taxation Power has a chance to fail at the colony (see Tax Revolt or Revolting Taxes, 1 Taxation & Census, p. 297). The chance of a tax revolt (i.e. failure of the Taxation Power activation at Jenny’s PEACE colony) is 20%, which is the normal 5% plus 15% for the one inactive Constructural Element (see Power Off, 2 Constructural Elements, p. 193); it doesn’t matter which one in this case.

- ✓ In this case, activation of the Census Power before the Taxation Power could have been harmful: Taxation was not increased by population growth at the colony because it was at the Maximum Habitability already, and it suffered a Disruption Event which might have inactivated one or both of the other Constructural Elements, increasing the chance of failure of the Taxation Power activation at PEACE colony.

The Taxation Power activation did not fail. These are very PEACEful people. The total population of Jenny’s PEACE colony is 27, including the 15 in the Orbital City – all population of the same type on a planet surface and in Orbital Cities is considered one colony for game purposes (see Lebensraum, 3 Taxation & Census, p. 321). One RP is produced for every 5 population factors, thus, the population produces 5 RPs (fractions truncated). See Resources from Population, 2 Taxation & Census, p. 306. The maximum allowed is 1 Industry installation (a permanent colony enhancement) per 2.5 population factors at the colony (see Industry, 2 Construction, pp. 665-666), thus the PEACE colony could have a maximum of 10 Industry, but not quite enough population for an eleventh Industry.

The PEACE colony has 8 Industry currently which produces 4 more RPs. Industry produces .5 RPs per Industry installation, and the total Industry of a position is pooled during Taxation for maximum benefit (see Resources from Industry, 2 Taxation & Census, p. 306), however, for local purposes, we can say that 8 Industry produces 4 RPs during Taxation, for a total of 9 RPs taxation received by Jenny from the PEACE colony ($5 + 4 = 9$).

- ✓ These RPs from Taxation flow into the position’s Treasury (see 2 Taxation & Census, p. 303), however, theoretical RPs from Taxation also form the local Gross Domestic Product (see 1 Construction, p. 662), which is the limit of what a colony can build during an activation of the Construction Power at the colony, unless RPs are received from other sources prior to the Construction Power activation (e.g., Unloaded from Cargo Ships, see Material Handling, 1 Construction, p. 664, or from Carting Commerce Power activations, see Carting, 4 Commerce, p. 1229).
- ✓ Because the Jenny PEACE colony has industry, the planet received two Pollution Potentials as a result of the dual activation of the Census and Taxation Power. See Pollution Potentials, 3 Taxation & Census, p. 320.

It is important to understand that, while this example focuses only on the PEACE Colony, the Census and Taxation Power activations occur globally for the position (see Tax Revolt or Revolting Taxes, 1 Taxation & Census, p. 297), thus the Census Power activation might have been beneficial in other places owned by the Jenny Jovereignty and RPs from other places may flow into the Treasury (barring tax revolts) for greater effect on the position’s future development.

- ✓ As a result of the Jenny Jovereignty Census and Taxation Power activations at the PEACE colony, the Concierge exercises an Intervention Potential to publish a Push Intervention Special Bulletin (see 2 Entropy, p. 235) suggesting that miners at the PEACE colony found something unusual, alien, ancient and unsettling in a sealed cavern....

Appendix TECH – Technology Progress

General Technology Process in GGDM:

- ✓ Technology is advanced only by activation of the Technology Power. The Technology Power is non-location specific and generally cannot fail Power Activation.
- ✓ Technology advances through three stages in GGDM: Research, Development and Patent Prosecution.
- ✓ Technology advancement in GGDM should be thought of generally as leaps and bounds (e.g., from Babbage’s Analytical Machine to the Quantum Computer) and not as simply developing a new flavor of Kool-Aid to market next summer.
- ✓ Technology in all stages is subject to being stolen or copied by others.

Research Groups:

- ✓ Successful Research results in receiving a Research Piece that is placed on the Public space.¹
- ✓ Research is conducted into one of ten areas:

Energy	Stardrive
Matter	Ships
Information	Weapons
Life	Defenses
Planets	Industry

- ✓ Two adjacent Research Pieces of the same type are required to form a Research Group which is required for Development. Research Groups can overlap and be adjacent.
- ✓ Research Pieces and Groups occupy Monads on the Public Space until advanced or lost. There is generally no way to remove Research Pieces or Groups until they are successfully Developed; though they may sometimes fall victim to shifting Pathways or Concierge Interventions. Thus, placing a Research Piece on the Public Space is a commitment to follow-through to Development.
- ✓ One Research Piece of a Group must be adjacent to a Friendly or Naturalized Colony that has an active Epistemological Constructural Element. If that is not the case, the Research Group is disrupted and not eligible for Development.
- ✓ Research is RP intensive, and may exceed the current Treasury. Research Pieces are not received until fully funded, this may compromise future research.
- ✓ Research is also the most chance-dependent part of the technology progress in GGDM.

Developing Applications:

- ✓ Successful Development results in removing a Research Group from the Public Space and placing a new Application of the same type on the current Era Matrix in a currently open location.²

¹ See generally 2 Technology.

² See generally 2 Technology.

- ✓ By Development, technology is removed from the dangers of disruption or loss on the Public Space to the current Era Matrix where no disruptions or losses occur.
- ✓ One activation of the Technology Power for the purpose of Development is sufficient to develop a Research Group into an Application until such time as it is either successful, or it runs out of open spaces on the current Era Matrix or the Research Group becomes disrupted or lost on the Public Space by other means.
- ✓ Each Development failure permanently blocks the Research Group from being placed in that location on the current Era Matrix, thus unfortunate development chances may block out a Research Group from the current Era Matrix.
- ✓ RP cost of the Development is the number of locations specified times the current Era squared, which is fully deducted from the Treasury on the first turn of Development.
- ✓ Overall, Research is more RP and chance intensive, whereas Development is more time consuming, but probably costs less RPs.

Normal Patent Prosecution:

- ✓ Patents must follow a form and are official Interpretations that create both the physical laws of the game universe for all and a playable technology in the game.³
- ✓ GGDM Patents are different from real-world Patents, they must work because they impose technology and physical laws on the game. One does not have to prove a real-world patent works as long as it does not violate known natural laws; GGDM Patents almost always violate known natural laws as they are currently known.
- ✓ The governor of the Patent is the Operational Quality which describes what the Patent is supposed to do, and the constraints on the Patent.⁴ There are four Operational Qualities: Physical Item Technologies (PITs), Continuous Operational Technologies (COTs), Enhancement Technologies (ETs) and Technological Devices (TD).
 - See Appendix POQ – Patent Operational Qualities.
- ✓ Prospective Patents are subject to Concierge approval for game purposes; the Concierge is both advisory and adversarial to the Patent process, just like the USPTO.⁵
- ✓ Patent Prosecution requires that all of the Applications listed on the Patent be connected on the current Era Matrix and that they appear in the exact order shown on the Patent.⁶ Unconnected Applications will be tested; a Patent could be created solely from already connected Applications or begin with some connected and some not.
- ✓ Connections made are permanent, but a Patent will fail prosecution if any two of its Applications remain unconnected.
- ✓ Patent Prosecution costs no RPs; failed Patents may be altered and/or resubmitted by subsequent Technology Power Activations. A successful Patent is locked however, cannot be changed. Patents cannot be disrupted either.

³ See generally, 1 Patents.

⁴ See generally, 2 Patents.

⁵ See generally, 2 Patents.

⁶ See generally, 3 Patents.

Stardrive Patents:

- ✓ Faster than light travel – Stardrive Technology – is the singular entry point for the game’s civilizations, it is the essential of the setting and the mark of entry to the 1st Era of inter-stellar technology. Generic Stardrive Existential Patent is required for most of the Primal States during game set-up⁷ and no ships may be purchased or constructed without a Stardrive Patent.⁸
- ✓ GGDM allows multiple, competing FTL systems to co-exist in the universe.
- ✓ Stardrive Patent prosecution is different from normal Patent Prosecution in that it depends on the average of the percent of Applications completed and the percent of Application connections on the current Era Matrix.⁹ Stardrive Patent Prosecution is thus has a better chance or is more efficient, late in an Era.
- ✓ Stardrive Patents must describe a formula for how the ship moves.¹⁰
- ✓ Ship speed may be increased in increments of one by use of COT Patents.¹¹
- ✓ Successful Stardrive Patent Prosecution is required to exit the 1st Era for which the Generic Stardrive Patent may serve.¹²
- ✓ Positions are limited to one successful Stardrive Patent prosecution per Era (except in the 1st Era for positions that did not begin with the Generic Stardrive (GSD) Existential Patent) and each ship may have only one type of Stardrive.¹³

Advanced Research & Development:

- ✓ The normal technology progress rules assume Research, Development, and Patent Prosecution are being conducted in the current Era. Era advancement occurs periodically when conditions for advancement are fulfilled, mainly, having filled all locations on the current Era Matrix and connected all Applications at least once.¹⁴
- ✓ It is possible to conduct Advanced Development and Advanced Patent Prosecution in the next Era, which is very expensive and depends highly upon the number of Applications in the current Era.¹⁵ Stardrive Patents can never be prosecuted as Advanced Patents. Further, unless the game will have a 4th Era (which is optional), advanced research is not possible after reaching the 3rd Era; advance research is not possible in whatever is the final Era of the game.
- ✓ Upon advancing properly to the 2nd and 3rd Eras, the position will receive the benefits of the Uber Alles for the position and other possible benefits,¹⁶ but cannot receive them by Advanced Development and Advanced Patent Prosecution.

⁷ See generally 6 Beginnings.

⁸ See Stardriven, 7 Beginnings, p. 72.

⁹ See Stardrive Patent Prosecution, 2 Stardrive, p. 796.

¹⁰ See How it Moves and Blurry Hurry, 2 Stardrive, both p. 794.

¹¹ See generally 2 Stardrive.

¹² See Event Horizon, 1 Eras, p. 760.

¹³ See Exclusion Principle and One Moving Violation, 1 Stardrive, pp. 788-789.

¹⁴ See The Blurry Lines of Progress, *et seq.*, 1 Eras, pp. 759-760.

¹⁵ See Advanced Technology, 1 Eras, pp. 761-763.

¹⁶ See generally, 3 Eras.

Appendix TREX – Treaties Examples

Sample Treaty #1 – Between two positions cohabiting a planet:

This **Treaty** is between the Martian Empire and the Venus Protectorate. The parties hereby agree to share the planet known as Ceron III, which is currently colonized by both Mars and Venus, and no others, equally, such that each population type shall not exceed more than 50% of the planet's Maximum Habitability. If an activation of the Census Power occurs whereby either population would grow to more than 50% of Planet Ceron III's Maximum Habitability, the planet will be exempted from the Census and the populations there will not increase. Additionally, each side agrees not to Unload Populations onto the planet in violation of the sharing agreement, and any such actions will be cancelled by the Concierge with no refund of the Power activation costs.

*Concierge Note: This does not prevent Disruption Events as populations are restrained from reproducing by a Treaty between their governments. Some resentments may arise.*¹

Example Note: This is a Treaty because it requires the Concierge to perform special acts; the parties could simply have agreed without the need for a Treaty, but either side could have simply ignored the agreement when convenient.

Sample Treaty #2 – Between a position and a MegaCorporation:

This **Treaty** between the Crom Empire and Sky Harbor, Inc., a MegaCorporation, is for the safe passage of Sky Harbor, Inc. Cargo Ships through Crom Empire territory for a period of ten turn cycles from the date of delivery of one Cargo Ship load of RPs to the Crom Empire's capital. Upon Unloading RPs at the Crom Empire's capital by one Cargo Ship from Sky Harbor, Inc., the Concierge the Concierge will cancel any attempt to fire at Sky Harbor, Inc. Cargo Ships by units belonging to the Crom Empire.

Example Note: This is a treaty because it requires the Concierge to do something special, and unusual in the game – ignore all orders to fire at Sky Harbor, Inc., owned Cargo Ships by the Crom Empire. Sky Harbor, Inc. doesn't have to do anything if they wish to not honor the treaty, but once Sky Harbor, Inc. has paid, the Crom Empire would have to Break Treaty in order to be able to fire at Sky Harbor, Inc. Cargo Ships in the next ten turns. It would be up to the players to determine when the time has expired and inform the Concierge. Again, the players could simply have made an agreement without a Treaty, but there is no assurance unless there is a Treaty, which requires consecutive activation of the Diplomacy Power by both parties for that purpose.

Is this a good deal? It depends a lot on the game circumstances ... but it certainly is bribery!

¹ See Peaches for Mad Molly, 2 Disruption, p. 273.

Appendix UA – Uber Alles

- An Uber Alles is generated for the 2nd and 3rd Eras each when the first position progresses to the Era of technology. They may also be pre-generated during setup and kept secret.
- Positions are officially informed of and granted access to the Uber Alles for the Era when they progress, not through advanced research or advanced patent prosecution.
- Uber Alles for the Era apply to all positions that reach the Era, they are not subjective, they are objective, though each position may find unique applications for it by prosecuting Patents in the new Era to take advantage of the abilities.
- An Uber Alles is generated by choosing (randomly or consciously, intentionally) one item each from the Technology Uber Alles and the Cultural Uber Alles, forming a pair. There are 100 possible combinations.
- Uber Alles are intended explicitly to create an advantage, to reward technological advance and progress in the game; they are thus unlike Fundamental Realities and Titles.

Technology Uber Alles

1. Information research pieces can be substituted for one Matter or Energy research piece to form Matter and Energy Research Groups, but during Patent Prosecution, each Matter or Energy Application must be paired with and connected to an Information application.
 - This represents the ultimate triumph of information as the underlying ‘constructural element’ of the physical universe.
2. All Patents in this Era may be successful with one unconnected application (does not provide an automatic connection) on the Matrix. No advanced research or development into the next Era is allowed.
 - This is the level at which the physical laws and technology become intuitive to the species, that Patents can be prosecuted without firm knowledge of all of the facts (remember that GGDM Patents are different than real-world patents). It is the intuitive leap, the quantum tunneling. It does not, however, allow automatic Era progression by connecting unconnected dots on the Matrix, you still have to do the work.
3. Interstellar and interplanetary movement of population, cargo, supplies and enhancements is possible without a starship.
 - To the sci-fi fan, this suggests stargates, wormhole travel and beaming. But only if we insist on physical movement, only if we insist that the thing arriving at the other end isn’t some advance virtual copy of what was sent. What if your mind could travel the stars while your body remains on Earth? Be creative with this in new Era Patents and see how the game develops.
4. The rule of physical exclusivity of space (i.e. that two things cannot occupy the same space at the same time) is not quite the rule it used to be.
 - ‘Crowding’ technology; the Fundamental Reality that uses this naturally is only one of many possible ideas. Science-fiction stories have suggested that two things can occupy the same space if they are in parallel universes and the universes overlap at a point. Participants will need to decide how literally to apply this Uber Alles, are we

- casually creating parallel pocket universes to have this effect, or is something different at work in our own singular universe that allows exceptions to the classic rule?
5. Death is not what it was thought to be...sort of, kind of, not exactly.
 - This is one to use if participants want the game to take an occult turn; it does not automatically imply and is not meant to imply zombies or other undead in the game. Be a little more creative, toss the clichés.
 6. An extra Monad is added to all current Diplomatic Spaces next to the First Space upon progression to this Era and can never be lost.
 - This is a one-time effect, and likely will not be useable in Patents in the new Era. The effect depends directly upon the number of First Contacts a position has at the time of progression. It only affects current Diplomatic Spaces. It represents expansion of common reality through increasing knowledge of the universe.
 7. It is physically possible to be in two places at once, regardless of distance.
 - Have fun with this one, everyone has experienced the need to be in two places at once. There are some possible ways to develop these technologies in the game, it might be an Enhancement (permanent or expendable), in any event there should be a cost to obtain and use this ability in advanced Eras. The main question is what happens to one if the other is damaged or destroyed (are they quantum entangled)?
 8. In limited circumstances, something can be made from nothing, but something cannot be made into nothing.
 - The likely application of this, overall, is to resources and manufacturing. It might solve a host of problems, for example, ship supply. It will be a question of cost-benefit analysis and how far it can be pushed with new Era Patent prosecution. It does not, however, allow things to just disappear from the game, like being born, once you are in this universe, you are stuck here until dismissed.
 9. If a position is of a higher current Era than the other in a combat, they execute a second round of combat between the first and second rounds of combat by the other side(s). That is, the highest Era participants will execute the extra round of combat before the combat proceeds to what would normally be the second round; if the two sides are the same current Era, there is no effect. This *includes* Orbital Bombardment and Raid/Strike.
 - Being able to execute twice before the other side gets their second execution is ... Trafalgar. Much of civilization owes to empires founded by military might. The technological reasons for this Uber Alles have already been explored in sci-fi – it could range from local time control to faster power cycling to gravitational control.
 10. Resources received from population during Taxation Power activations increases to 1 per 4 population factors on sovereign native colonies that are currently at 90% or more Maximum Habitability. This also improves the planet's GDP.
 - Perhaps technology of this Era has moved the native population type up just a tick on the Galactic Shelf? Strictly as a technology, this is probably genetic modification, the classic making of a new race from children superior to their parents in attributes. Or maybe quantum mechanics became intuitive?

Culture Uber Alles

1. Activation of the Census Power also includes activation of the Taxation Power at any location that does not currently have a starship in the system, and activation of the Taxation Power also includes an activation of the Census Power in any system where there is not currently a starship. Ownership of the starship is irrelevant, only the presence of a star-drive is important.
 - This is admittedly strange. It makes the presence of any starship a sort of siege condition without combat, but only affecting Census & Taxation. Whatever it is, must have something to do with stardrive, but is not solvable by technological progress during the game. If this occurs in the 2nd Era, however, the Concierge may decide that progression to the 3rd Era negates this effect. There are some interesting twists to this regarding warships guarding colonies and colonies at Maximum Habitability.
2. There is a cumulative 7% chance for each ship in the 2nd Era and an 3% chance for each ship in the 3rd Era at the end of each prime number Regular Turn (i.e. 1, 2, 3, 5, 7, 11, 13, 17, 19, 23, etc.) that something catastrophic will happen in a system where the ships are located. Destroyed ships have a 10% chance of continuing to exert an influence infinitely after their destruction. Only one check is made per prime numbered Regular Turn per system occupied by starships (keels do not count) and the Concierge must decide the nature of the catastrophic event.
 - This is sort of a Luddite ‘Godsfire event’ from stardrives mentioned in 2 Patents, EN 8, p. 745. It is intended to effect mainly the middle part of the game, but the effect may be even if the number of ships in the game continues to increase into the 3rd Era. The potential for catastrophe is great due to the likely number of ships in the game, the check is for each ship. Participants could try to mitigate the effect by having ships in interstellar flight on the turns when the event might happen, but that changes the game just as much by causing positions to do what they would not normally.
3. During each Regular Turn, there is a 50% chance that either the Census Power or Taxation Power will be automatically and randomly activated at no cost in Acts or Scenes and no Power Activation, however, the position cannot now willfully activate either Power.
 - This represents a sort of self-actualizing civilization. Giving up control of Taxation and Census Power activations for a potential gift in extra Power Activations. And of course, this could lead to Disruption Events and other consequences as much as it could be advantageous. It certainly will change how the game is played.
4. Each time the Commerce Power is attempted to be activated, 1-3 RPs are added to the position’s Treasury.
 - This occurs even if the Power Activation fails; the Commerce Power is capable of being activated multiple times in a Regular Turn. This Uber Alles is intended to represent, generally, an exponential generativity from ‘removal of distance’ which should be occurring by the 2nd and 3rd Eras of the game. The effect could also possibly be construed to represent other processes, such as AI-aided human activity or things we cannot yet imagine.
5. ‘Cosmic Music’ is added to the Aspect List and can never be removed.

- This one is less mechanical, it is what the participants make of it in the game.
6. Each Regular Turn, activation of the Culture Power for Exposing Aspects allows an Aspect to be removed and replaced on the Aspect List instead of the normal exposing new Aspects.
 - This mimics somewhat the effect of Kairotic Moments in GGDM, and may become bound up with them if participants use it to cause or avoid triggering Kairotic Moments. But using this Uber Alles also places yet another burden on the Culture Power activations.
 7. Social and Estate Government Titles only fail if two Government Titles are failing at the same time.
 - This represents increased stability as interstellar civilization settles into an established period or plateau, however, ironically, it does not apply to Structural Titles. As noted in *It was the End of History*, 1 Resolution, pp. 1456-1457, stability of Government Titles may eventually signal the end of the game.
 8. A sixth Government Title may be added if no Government Titles have failed for six consecutive turns, a seventh Title may be added after that if no Government Titles have failed for seven consecutive turns.
 - This represents increasing complexity of interstellar civilization, in a Joseph Tainter sort of way. The more Social and Estate Titles a position has, however, the more difficult it will be to satisfy the Conflict Checks. On the other side of it are the added Power Activations and possibly more Acts and Scenes (see *Player Piano*, 2 Eras, p. 770).
 9. A ‘pocket space’ of 3 Monads becomes available adjacent to certain large colonies of the Native Population Type as long as they are controlled by the sovereign position of their Native Population Type.
 - The Concierge will need to determine the threshold for which colonies receive this benefit and when. The threshold may be population, installations, institutes, Colleges, Corporations, or some combination. The pocket space functions exactly as the Diplomatic Space as a ‘table for one,’ the pocket space traces through the colony to the regular Public Space.
 10. An Enlightenment attaches to each Power Activation where applicable; it does not require a College, does not come from a College, does not return to a College if not used.
 - The logical and ultimate end of the print, knowledge and information revolutions. Since rerolls from Enlightenment are mostly localized (i.e. at colonies or specific ships), this might be envisioned by the participants to mean AI computer assistance, global mind networks, or something else from science-fiction trope. However, it also implies a bit of autocratic, coercive, conformity-laden society when the rerolls are applied to Power Activation failure due to inactive Constructural Elements.

**Appendix WA – *Asteres Planetai*
Wanderers Fundamental Realities**

The Wanderers are global Fundamental Realities that act as environmental cards for the game. They primarily affect the physical universe for all positions; Wanderers change the baseline play of the game from the beginning and are revealed to the players when the game begins.

1. The Cold Equations: (planets) The probability of finding Optimal Class Planets is halved and the probability of finding Hospitable Class planets is reduced by one third.
 - Note that this does not need to be a negative, the chances could run the opposite direction, at the discretion of the Concierge.
2. Small Worlds: (planets) The Maximum Habitability of all planets, except Homeworlds, is reduced by 30%.
 - Note that this could also be an increase in Maximum Habitability, at the Concierge's discretion.
3. That's Special: (planets) The probability of Special Planets is increased by 10%.
 - Note, this can also be a 10% decrease in the likelihood of Special Planets at the Concierge's discretion.
4. Blue Shift: (stars) The frequency of Blue Stars is changed significantly.
 - Note that because Blue Stars are rarer than mainline stars, probably this should not become a decrease in Blue Stars.
5. Red Shift: (stars) The frequency of Red Stars is increased by 20 to 50%.
 - Note that because Red Stars are rarer than mainline stars, probably this should not become a decrease in Red Stars.
6. Stellar Neighborhood: (stars) Two is subtracted from the d10 roll to see how many new stars are found when using the Looking purpose of the Expansion Power Activation.
 - Note that, for a more abundant game, the percentage can be increased instead of decreased at the Concierge's discretion.
7. Stop Sign: (stardrive) Generic Stardrive (GSD) does not work until the third to fifth Regular Turn of the game, even if positions begin with the GSD patent and ships (or build new ships).
 - Note, there is no way to reverse this, GSD patents cannot be made to work before time has elapsed! This will slow down the early game expansion, causing positions to focus on development for the first few Regular Turns, instead of exploration and expansion; but that might not be bad because they will explode off the launch pad on T minus zero. This is a one-time only effect.
8. One Way: (stardrive) Generic Stardrive is the only means of FTL travel in this universe. Instead, positions must increase current maximum Speed to 8 and succeed in a Stardrive Patent prosecution attempt to exit the 1st Era and must succeed in a Stardrive Patent prosecution attempt to exit the 2nd Era.

- Note, only the Patent prosecution attempt is necessary (requiring a Technology Power Activation), positions do not submit a proposed Stardrive Patent.
9. Rubber Band: (stardrive) FTL travel is not really possible, it's just an illusion we use. Whenever a ship departs a system, the (ghost) image of the ship remains in the system. Each Regular Turn, there is a 10% chance that each ship will be yanked back to its last point of departure, with an equal chance that if it is occurs, the ship will be destroyed. This occurs whether the ship is in interstellar flight or in a system as long as the image remains in the departure system. There is a 25% chance each turn that each (ghost) image in a departure system will dissipate, freeing the outbound ship from the yank-back risk until it departs again from wherever it is located.
 - Note, think about instantaneous FTL acceleration: the ship is gone, but you are still seeing light that reflected off the ship before it moved. The “rubber band” effect takes this a little further, creating a paradox by enforcing the standard of Einsteinian physics that FTL travel is (literally) impossible. This was an idea I had for a science-fiction role-playing setting many years ago.
 10. Wrinkles in Time: (stardrive/galactic space) All Disturbance Modifiers are temporal.
 - Note, this will slow ships in the game, as ship speed is ineffective against temporal Disturbance Modifiers. The Concierge could decide that all Disturbance Modifiers are spatial instead, allowing ship speed development to triumph.
 11. SlowGo: (galactic space) All ships exploring a new starsystem (including warships) must pass two consecutive Hazard Rolls to succeed, if either roll fails, the ship is destroyed.
 - Note, this universe is one with lots of leftover debris and other unknown hazards, making exploration slower and more costly. There is no way to reverse this effect, that is, the Concierge should not eliminate Hazard Rolls from the game to make exploration painless and fast.
 12. The Centre: (galactic space) At the center of the starting Galactic Space is a super system containing a large number of very nice high Maximum Habitability and Special Planets. Everyone knows the location at the beginning of the game, and obviously, this location will not be occupied initially.
 - Note, this is the Firefly set-up. The Homeworld, Lost Colonist, and Outposter positions will need to be arranged approximately equidistant from the center, and at least three turns distant at the starting Ship Speed, pushing them closer to the edges where the invader Primal States will begin.
 13. Eye of the Void: (galactic space) The center of the starting Galactic Space is a supermassive black hole. ‘Nuff said.
 - Note that there is no ‘center’ in this game, the 30 starting stars are arranged around this black hole, and positions will be Looking outward early. The coordinates of the black hole effect are defined and known to all positions. Any ship that enters the area perishes, there is no other effect, no pull.
 14. With a Bang: (population) All positions receive a free Census and Taxation Power activation (no Acts, Scenes or Power Activations) on the third turn of the game. The

Taxation and Census Powers cannot be voluntarily activated on that turn to create a double effect, so do something else useful.

- Note, this is a one-time only effect – an early game kick in the pants.
15. Franca Lingua: (population) All Major Race positions, except Truly Alien positions – oddly – speak the same language (probably English) and this does not change during the game.
 - Note, this is something difficult to quantify directly in game terms, but it should affect Conversion, Naturalization, Commerce, and all sorts of spying and special operations (think of, for example, a civil war situation). The base game assumes that each species has its own communication forms. Alternatively, participants can imagine or assume that universal language translation is a widespread, unobtrusive pre-game technology (without an Existential Patent) that allowed unification of their species and that works just as well on all species. Or even that some form of universal linguistic psychic talent develops with FTL.
 16. Denial is not a river in Egypt: (population) There is a plentiful or easy to manufacture, universal recreational substance that affects all species in the game powerfully. Each time a Regular Turn is processed, an Intervention Potential Plus is generated against the position instead of an Intervention Potential.
 - Note, this is not Melange from the Dune series, there is benefit to this substance and only harm (Melange extended life and consciousness and was also highly addictive).
 17. Countdown to Extinction: (population) The universe is changing, starting on Turn Cycle 40, there is a 5% chance each Regular Turn that Major Race will simply vanish from the universe.
 - Note, this effectively creates a time limit for the game. Players can choose to end the game before then.
 18. Stupidity Quotient: (population) Enlightenment rerolls do not occur 50% of the time, if they do not occur, the Enlightenment is not used.
 - Note, can you tell me this is not true? This will make the wheels turn a little slower in the game. There is no way really to reverse this one.
 19. Love of Life: (population) Population growth is increased by 30% each Census Power Activation. There is a 30% chance the Census Power will activate automatically each Regular Turn, at no cost, but during the game, the Census Power cannot be voluntarily activated by positions.
 - Note, this one has two parts; the net effect will be to create population pressure. It is possible for the Concierge to decide that population growth will be decreased by 30% instead, making the game slower and more difficult in the opposite way. It is also possible that the Concierge may decide that the Census Power activation fails 30% of the time, though Census Power is the only Power Activation that cannot fail normally. The two parts could also be split for chaotic results, allowing perhaps 30% less growth per activation, but a 30% chance that the Census Power will activate automatically.

20. Chosen Ones: (positions) Each Regular Turn one position will become the “chosen ones” and on the next Regular Turn, they will have one extra Power Activation. Only the “chosen ones” position players will be informed of the extra activation, thus it is secret.
- Note, this event is completely fickle; it will occur whether the position is able to activate an extra power or not, it may occur to the same position on consecutive turns, or the same position may be chosen several times in ten turns or not at all.

Appendix WR – Writ Examples**WRIT**

Issuer: The People of Calvin

Power: Cultural

Aspect: Medical¹

History: Poor hygiene and poor living habits have plagued the People of Calvin for generations (Fundamental Reality) slowing their population growth, draining the talent pool, and costing resources.

Body: The People of Calvin are clean, healthy, productive people (True).

Directive: When activated, each Calvin colony gains 1 extra population factor and each population factor produces .30 RPs the next time the Taxation and Census Powers are activated.

Condition Precedent: Any News Event targeting the People of Calvin in the last turn cycle regarding poor hygiene, disease, or loss of productivity.

**Land Grant WRIT
(Institute)**

Issuer: The People of Calvin

Power: Cultural

Aspect: Medical

History: Poor hygiene and poor living habits have plagued the People of Calvin for generations (Fundamental Reality) slowing their population growth, draining the talent pool, and costing resources.

Body: The People of Calvin are clean, healthy, productive people (True).

Directive: When activated, one Calvin colony may construct Hospital Institutes for 5 RPs. The Hospital Institute reduces any loss of population by 10-50% (except during Orbital Bombardment) on the planet where it is located.

Condition Precedent: Any News Event targeting the People of Calvin in the last turn cycle regarding poor hygiene, disease, or loss of productivity.

¹ An Aspect can have the same name as a Proficiency, see 3 Culture, p. 383.

Militias (Land Grant Writ)**Power:** Combat**Fuzzy Group:**

Proficiencies: Nationhood

Aspect: Xenophobia

College Faculties: Order College (Power College)**Institution:** Upon activation of the Militias Land Grant Writ (by actualization of the Fuzzy Group), a Militia unit may be constructed on any Friendly colony for 5 RPs. Only one Militia Unit may be constructed on each colony.**Maintenance:** Militia units each require one Faculty per turn from the Order College (this necessarily limits the number of militias the position might have, so they are likely only going to be on “frontier colonies”). Militias not supported by Faculties by the Order College for two consecutive turns, are lost. Militias consist of armed population, caches of arms hidden in urban locations, and population trained to use them, and trained in resisting pacification and conversion attempts at all costs. Some might call them terrorist, underground, heroes, or extremist.**Effect:** The purpose of Militia units is to resist pacification and conversion attempts after the colony is conquered. The Militia provides the basis for an armed insurgency. Militias “add” 30 population to the colony for the purposes of Pacification and 15 population to the colony for purposes of conversion. Upon successful conversion or pacification of the colony, the Militia unit is “destroyed”; however, the effect of the Militia unit may provide the basis for future Special Operations.

Hospitals (Land Grant Writ)**Power:** Census**Fuzzy Group:**

Proficiencies: Medical

Aspect: Care

College Faculties: Medical College (Proficiency College)**Institution:** A Hospital may be constructed at any Friendly, Naturalized, or Converted Colony upon activation of the Census and Construction Powers and actualization of the Fuzzy Group to activate this Writ. Hospitals cost 10 RPs each, and each serves up to 50 population Colonies may have multiple hospitals, but not more than needed by the population.**Maintenance:** Each Hospital must be supported by one Faculty each turn from the Medical College. Multiple Hospitals on a colony require multiple Faculties.**Effect:** Hospitals reduce the death rate, and generally improve the health of the population. Whenever the Census Power is activated, for each Hospital on a colony, a unit of 50 population factors grows by an extra 10%, regardless of Habitability Class. Additionally, the loss from each instance of Orbital Bombardment is reduced by 10% if there is a Hospital on the colony.**Historical Society (Land Grant Writ)****Power:** Culture**Fuzzy Group:**

Proficiencies: Education

Aspect: Reverence

College Faculties: Temporal College (Constructural Element College)**Institution:** Historical societies may be placed on any Friendly, Naturalized, or Converted colony for 1 RP each by activation of the Culture and Construction Powers and activation of this Writ by actualization of the Fuzzy Group.**Maintenance:** Every five Historical Societies requires one Faculty each turn from the Temporal College. Historical Societies not supported in any turn are lost.**Effect:** Each turn, one free Temporal Constructural Element is received for each new piece laid, for every five Historical Societies located on Friendly or Naturalized colonies. Historical Societies located on Converted Colonies, add one to all Naturalization die rolls if they were not constructed in the same turn as the Naturalization attempt.

WRIT of NATURALIZATION

Issuer: Mégapole de France

Power: Order

Aspect: Surety

History: Aragorn Colony having converted peacefully to Mégapole de France (no insurgency) three Regular Turns ago, who has since cause the colony to prosper without further incident is now desirous of no other cultural sovereign.

Body: The population of Aragorn Colony wish to fully join Mégapole de France (True)

Directive: On the 11th hour of the 11th day of the 11th month of the year of our lord 1918 (insert flowery language) Aragorn Colony and all populations dwelling thereon, become Naturalized to Mégapole de France.

Condition Precedent: Activation of this Writ by actualization of the appropriate Fuzzy Group on Mégapole de France's Public Space after acceptance by the Concierge.